Georgia Environmental Protection Division
Land Protection Branch
Response and Remediation Program
Response Development Units 1 – 3

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Name of Document:	Voluntary Remediation Program Compliance Status Report
Date of Document:	February 23, 2017
Site Name:	Former Automatic Sprinkler Site, Swainsboro, GA
Site ID Number:	HSI Site No. 10268

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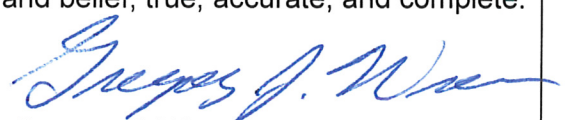
Signature: 

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Receipt Date
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Voluntary Remediation Program Compliance Status Report

Former Automatic Sprinkler Site
162 East Meadowlake Parkway
Swainsboro, Emanuel County, Georgia
HSI Site No. 10268

Prepared for:	Scott Figgie LLC 34407 DuPont Boulevard, Suite 6, Frankford, DE 19945
Date:	February 23, 2017
Prepared by:	Amec Foster Wheeler Environment & Infrastructure, Inc. 1075 Big Shanty Road NW, Suite 100, Kennesaw, Georgia 30144
Project No.:	6125080149

CERTIFICATION STATEMENT

VRP COMPLIANCE STATUS REPORT (FEBRUARY 2017)
Former Automatic Sprinkler Site
162 East Meadowlake Parkway
Swainsboro, Emanuel County, Georgia
HSI Site No. 10268
Tax Parcel No. S12-005

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

Based on my review of the findings of this report with respect to the risk reduction standards pursuant to the Voluntary Remediation Program ("VRP"), I have determined that soil and groundwater on the voluntary remediation property is in compliance with the provisions, purposes, standards, and policies of the Voluntary Remediation Program Act.

Certified By: Date:

Stuart L. Rixman 02/14/17

Name: Stuart Rixman
Title: Program Manager, Scott Figgie LLC

GROUNDWATER SCIENTIST CERTIFICATION STATEMENT

VRP COMPLIANCE STATUS REPORT (FEBRUARY 2017)
Former Automatic Sprinkler Site
162 East Meadowlake Parkway
Swainsboro, Emanuel County, Georgia
HSI Site No. 10268
Tax Parcel No. S12-005

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

Mr. Gregory J. Wrenn, P.E.
Georgia Registration No. 25565

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EXECUTIVE SUMMARY

This Voluntary Remediation Program (VRP) Compliance Status Report (VRP CSR) has been prepared on behalf of Scott Figgie LLC for the former Scott Technologies, Inc. (STI) Automatic Sprinkler Corporation of America (ASCOA) site located in Swainsboro, Georgia (Site) in accordance with the requirements of the Voluntary Remediation Program. The facility consists of two structures, a main manufacturing building with approximately 36,000 square feet under roof and a secondary building with approximately 10,000 square feet under roof, situated on an approximately 6.91-acre parcel. Operations at the Site reportedly began in 1967 and continued to approximately 1992. During this time, the site was used for manufacturing fire control components. In 1994, the property ownership was transferred to the Swainsboro-Emanuel County Joint Development Authority. The Swainsboro-Emanuel County Joint Development Authority currently owns the property, and leases the facility to Kongsberg Automotive. Kongsberg Automotive manufactures engine parts at the facility, and distributes them.

The Site was listed on the Hazardous Site Response Act (HSRA) Hazardous Site Inventory (HSI) (HSI # 10268) in 1999, due to the detection of organic and inorganic regulated substances in soil and groundwater at levels exceeding reportable quantities. A Consent Order for assessment and remediation of the site under the Georgia HSRA was executed in October 1997. Assessment and remediation activities were conducted between 1998 and 2002, including the removal of metal-impacted soil, and two short-term multi-phase extraction events, which removed volatile organic compounds (VOCs) in soil vapor and groundwater from a small isolated area. A Corrective Action Plan (CAP) containing contaminant transport modeling and proposing to address VOC-impacted groundwater via monitored natural attenuation (MNA) was submitted to EPD in December 2002. EPD approved MNA as a potentially appropriate corrective action in August 2003, and requested continued MNA monitoring to evaluate trends in contaminant concentrations. MNA demonstration monitoring was conducted between 2003 and 2010. In April 2011, an initial VRP Application was submitted to the EPD, and in November 2011, an Addendum to the VRP Application was submitted in response to EPD comments received in September 2011. On February 24, 2012, EPD accepted the Site into the VRP.

The objectives of the VRP are to achieve compliance with the provisions, purposes, standards, and policies of the program, and to certify compliance with appropriate cleanup standards. Considering the findings of investigations previously conducted under HSRA, the VRP Remediation Plan proposed additional remediation activities to complete demonstration of compliance with the VRP objectives and to support a request that the Site be removed from the Hazardous Site Inventory. The additional remediation activities implemented were:

- Five years of semi-annual groundwater and surface water monitoring, including submission of 10 semi-annual Status Reports;
- Completion of five high vacuum extraction (HVE) events between April 2013 and September 2016, reported in the VRP Status Report following each event; and,
- Execution of an Environmental Covenant describing activities to maintain control of potential exposures.

These remedial activities are summarized in the following paragraphs. Recommendations for a post-VRP CSR monitoring program are also presented.

In summary, groundwater and surface water sampling has been conducted and reported semi-annually since 2012 under the VRP. Fate and transport modeling of the shallow groundwater and groundwater monitoring indicate that the contaminant plume is stable and decreasing in area, and that contaminants will not affect the nearest point of exposure (POE), the unnamed tributary of Hughes Prong. An Environmental Covenant has been prepared to further manage potential exposures, including:

- Prohibiting future construction over the contaminant plume without further assessment of the potential for vapor intrusion;
- Prohibiting residential use of the property; and,
- Restricting use of Site groundwater.

In accordance with the VRP and the schedule established in 2011, Scott Figgie LLC is submitting the required VRP CSR documenting compliance with the provisions, purposes, standards and policies of the program, and certifying compliance with appropriate cleanup standards. Upon approval of the VRP CSR, Scott Figgie LLC requests that EPD remove the Site from the HSI.

Scott Figgie LLC proposes that post-CSR Site activities include annual groundwater sampling and reporting for a period of five years. More specifically, Scott Figgie LLC proposes to include seven onsite monitoring wells in which chlorinated VOCs have been detected, and two downgradient (non-detect) monitoring wells, in the monitoring network. Additionally, Scott Figgie LLC proposes to limit analysis of the groundwater samples to four chlorinated VOCs in which concentrations have been found to be above RRS. At the end of the five years of post-CSR monitoring, the accumulated results will be reviewed and the requirements/plan for further actions will be evaluated. The annual groundwater monitoring will be conducted in conjunction with a site inspection to document that the provisions of the Environmental Covenant are being complied with.

1.0 INTRODUCTION

The Former Automatic Sprinkler Site is located at 162 East Meadowlake Parkway, Swainsboro, Emanuel County, Georgia. The Georgia Environmental Protection Division (EPD) listed the site on the Hazardous Site Response Act (HSRA) Hazardous Sites Inventory (HSI) due to the detection of organic and inorganic regulated substances in soil and groundwater at levels exceeding reportable quantities.

A Consent Order for assessment and remediation of the site under the Georgia HSRA was executed in October 1997. Assessment and remediation activities were conducted between 1998 and 2002, including the removal of metal-impacted soil, and two short-term multi-phase extraction events, which removed volatile organic compounds (VOCs) in soil vapor and groundwater from a small isolated area. A Corrective Action Plan (CAP) containing contaminant transport modeling and proposing to address VOC-impacted groundwater via monitored natural attenuation (MNA) was submitted to EPD in December 2002. BIOCHLOR (a United States Environmental Protection Agency [EPA] model for predicting potential chlorinated VOC concentrations over time and distance) was used to evaluate the fate and transport of VOCs in groundwater. The EPA MNA Screening Matrix screening score indicated "strong evidence for natural anaerobic biodegradation of chlorinated constituents." EPD approved MNA as a potentially appropriate corrective action in August 2003 and requested continued MNA monitoring to evaluate trends in contaminant concentrations. MNA demonstration monitoring was conducted between 2003 and 2010. In February 2011, based upon a predicted 74-year MNA remedial period, the HSRA program requested evaluation of corrective action enhancements to reduce the clean-up time.

In January 2010, Georgia implemented the Voluntary Remediation Program, which allows for corrective action based on the elimination of exposure through either remediation and/or the use of engineering and institutional controls. An initial VRP Application was submitted on April 29, 2011. An Addendum to the VRP Application was submitted to the EPD in November 2011 in response to EPD comments received in September 2011. On February 24, 2012, EPD accepted the Site into the VRP. In their letter approving the Site for the VRP, EPD requested that a Compliance Status Report (CSR) be prepared and submitted five years after the Site entered the VRP. Also required by the VRP, nine Status Reports were submitted to EPD covering the time period from May 2012 through June 2016. The tenth Status Report (attached as **Appendix A**) documents the tenth semi-annual groundwater and surface water monitoring event completed in December 2016. With submittal of this tenth Status Report, five years of monitoring required under the VRP has been completed. In accordance with Georgia VRP Statue 12-8-107(e), upon completion of corrective action under VRP, the participant shall cause to be prepared a Compliance Status Report confirming consistency of the corrective action with the provisions, purposes, standards and policies of the voluntary remediation program, and certifying the compliance of the relevant voluntary remediation property with the applicable cleanup standards in effect at the time.

2.0 SITE BACKGROUND

2.1 Property Description

The Site is located on approximately 6.91 acres in eastern central Georgia at 162 East Meadowlake Parkway, Swainsboro, Emanuel County, Georgia (**Figure 1**). The Site geographic coordinates are 32º 34‘ 55“ North latitude, 82º 18‘ 46“ West longitude, United States Geologic Survey (USGS) Topographic Quadrangle, Swainsboro, Georgia. The western boundary of the Site has a ground surface elevation of approximately 290 feet (North American Vertical Datum of 1988 [NAVD]) and gently slopes downward to the east to an approximate ground elevation of 280 feet (NAVD) at a drainage ditch along the eastern property boundary.

The majority of the property is developed with two main structures and concrete cover to the east and south of the structures. The main building of approximately 36,000 square feet under roof is constructed on a concrete slab with a steel frame and concrete block walls. A second building of approximately 10,000 square feet under roof is located to the south of the main building. The concrete covered areas to the east and south of the buildings provide Site access, logistics, and parking. The area between East Meadowlake Parkway and the main building is landscaped. Undeveloped areas of the property are wooded, and include the southern portion of the property and the area along the eastern property boundary. A drainage ditch is located along the eastern property boundary.

The property is part of a larger industrial development located southeast of the center of the City of Swainsboro. East Meadowlake Parkway forms the northern boundary of the Site. Approximately 69 acres of undeveloped land are located north of the Site and East Meadowlake Parkway. Commercial property and a publicly owned wastewater treatment plant are located to the northwest. A manufacturing facility (Hawkins, Inc.) occupies property to the east. Commercial and industrial property is located to the west. Space Place Road and another industrial facility (Ogeechee Steel, Inc.) are located to the south.

2.2 Site History of Land Use and Operations

Before 1967, the property was agricultural or lightly wooded land. The property was initially developed by Automatic Sprinkler Corporation of America (ASCOA), a subsidiary of Figgie International, Inc. Figgie International changed its name to Scott Technologies, Inc. (STI). STI Properties, Inc. was the affiliate of Scott Technologies with responsibility for its real estate operations. Due to an organizational change, Scott Figgie LLC is now the legal entity responsible for addressing the historical subsurface environmental issues related to the Former Automatic Sprinkler Site.

The ASCOA operation at 162 East Meadowlake Parkway reportedly began in 1967 and continued until approximately 1992. During this time, the site was used for manufacturing fire control components. In 1994, the property ownership was transferred to the Swainsboro-Emanuel County Joint Development Authority. The Swainsboro-Emanuel County Joint Development Authority currently owns the property and leases the facility to Kongsberg Automotive. Kongsberg Automotive manufactures and stores engine parts at the facility.

2.3 Environmental History of the Site

The environmental history of the site is summarized as follows:

- A Consent Order for assessment/remediation of the site under the Georgia Hazardous Site Response Act (HSRA) was executed between Georgia EPD and Figgie Properties in October 1997.
- Assessment and remediation activities were conducted between 1998 and 2002, including the removal of metal-impacted soil, and two short-term multi-phase extraction events, which removed VOCs in soil vapor and groundwater from a small isolated “hot spot” around groundwater monitoring well MW-8.
- A Corrective Action Plan (CAP) containing contaminant transport modeling and proposing to address VOC-impacted groundwater via monitored natural attenuation (MNA) was submitted to EPD in December 2002. BIOCHLOR (an EPA model for predicting potential chlorinated VOC concentrations over time and distance) was used to evaluate the fate and transport of VOCs in groundwater. The U.S. Environmental Protection Agency (EPA) MNA Screening Matrix screening score indicated “strong evidence for natural anaerobic biodegradation of chlorinated constituents.”
- EPD approved MNA as a potentially appropriate corrective action in August 2003, and requested continued MNA monitoring to evaluate trends in contaminant concentrations.
- MNA demonstration monitoring was conducted between 2003 and 2010.
- In February 2011, based upon a predicted 74-year MNA remedial period, the HSRA program requested evaluation of corrective action enhancements to reduce the clean-up time.
- In April 2011, STI submitted a VRP Application in order to enroll in the Georgia Voluntary Remediation Program. An EPD comment letter dated September 8, 2011 requesting additional information resulted in a VRP Application Addendum submitted by STI on November 14, 2011. EPD letters dated February 24, 2012 accepted STI into the VRP and put forth comments to be addressed during implementation of the VRP.
- VRP Status Report No. 1 and responses to EPD comments (February 24, 2012) were submitted to EPD on August 23, 2012.
- EPD issued comments on the VRP Status Report No. 1 in correspondence dated December 27, 2012.
- VRP Status Report No. 2 and responses to EPD comments (December 27, 2012) were submitted to EPD on February 20, 2013.
- EPD issued comments on VRP Status Report No. 2 in correspondence dated April 9, 2013.
- A 24-hour high vacuum extraction (HVE) event was conducted beginning on April 30, 2013 using monitoring wells MW-8 and MW-19 as extraction wells. Approximately 1,600 gallons of fluid were recovered during the HVE event. The extracted fluids were treated on-site using an air stripper and then transported to the Swainsboro publicly owned treatment works (POTW) for disposal following confirmation of treatment to acceptable levels.
- VRP Status Report No. 3, which addressed EPD comments dated April 9, 2013, was submitted to EPD on August 14, 2013.
- EPD issued comments on VRP Status Report No. 3 in correspondence dated September 13, 2013.

- VRP Status Report No. 4, which addressed EPD comments dated September 13, 2013, was submitted to EPD on February 20, 2014.
- EPD issued comments on VRP Status Report No. 4 in correspondence dated May 23, 2014.
- A 24-hour HVE event was conducted beginning on July 8, 2014 using MW-8 and MW-19 as extraction wells. Approximately 1,250 gallons of fluid were recovered during the HVE event. The extracted fluids were treated on-site using activated carbon and then transported to the Swainsboro POTW for disposal following confirmation of treatment to acceptable levels.
- VRP Status Report No. 5, which addressed EPD comments dated May 23, 2014, was submitted to EPD on August 19, 2014.
- EPD issued comments on VRP Status Report No. 5 in correspondence dated December 4, 2014.
- EPD Status Report No. 6, which addressed EPD comments dated December 4, 2014, was submitted to EPD on February 23, 2015.
- EPD issued comments on VRP Status Report No. 6 in correspondence dated July 27, 2015.
- VRP Status Report No. 7 was submitted to EPD on August 20, 2015.
- A response to the EPD comments on VRP Status Report No. 6 was submitted on September 28, 2015.
- A 24-hour high vacuum extraction (HVE) event was conducted beginning on November 10, 2015 using MW-8 and MW-19 as extraction wells. Approximately 1,300 gallons of fluid were recovered during the HVE event. The extracted fluids were treated on-site using activated carbon and then transported to the Swainsboro publicly owned treatment works (POTW) for disposal following confirmation of treatment to acceptable levels.
- VRP Status Report No. 8 was submitted to EPD on February 16, 2016.
- A biodegradation study consisting of sampling and analysis of dechlorinating bacteria and a key reductive dehalogenase genes study was conducted on March 17, 2016 using groundwater samples collected from wells MW-8 and MW-19.
- A 24-hour HVE event was conducted beginning on May 16, 2016 using MW-8 and MW-19 as extraction wells. Approximately 975 gallons of fluid were recovered during the HVE event. The extracted fluids were treated on-site using activated carbon and then transported to the Swainsboro POTW for disposal following confirmation of treatment to acceptable levels.
- EPD issued comments on VRP Status Report No. 8 in correspondence dated June 14, 2016.
- EPD comments dated June 14, 2016 were addressed in Status Report No 9, including revised logs.
- VRP Status Report No. 9 was submitted to EPD on August 23, 2016.
- An 8-hour HVE event was conducted beginning on September 28, 2016 using MW-8 and MW-19 as extraction wells. Approximately 485 gallons of fluid were recovered during the HVE event. The extracted fluids were treated on-site using activated carbon and then

transported to the Swainsboro POTW for disposal following confirmation of treatment to acceptable levels.

- EPD issued comments on VRP Status Report No. 9 in correspondence dated December 20, 2016.
- EPD comments dated December 20, 2016 are addressed in VRP Status Report No. 10 (included in **Appendix A**).

2.4 Summary of Constituents Detected in Soil and Groundwater

Early environmental investigations (1997 through 2000) were focused on metal (lead and zinc) impacts to soils. Soils with lead and zinc impacts were excavated and disposed of properly. Confirmation sampling indicated that the formerly metal-impacted areas complied with Type 3 Risk Reduction Standards (RRS). However, during the course of those investigations, chlorinated volatile organic compounds (VOCs) were detected in the subsurface. The VOC impacts have been the primary focus of the subsequent environmental work at the site. A summary of applicable RRS is included as **Table 1**.

2.4.1 Soil Delineation

Soil concentrations were delineated under the HSRA program. Impacted soils were excavated in 1997 and in 1999, with confirmation samples being collected after each excavation event. The confirmation samples indicated no remaining metals impacts above the Type 3 RRS. The excavated soils were disposed of properly offsite. The excavation activities are documented in the Compliance Status Report (EMCON, May 1998) and the Compliance Status Report Addendum (EMCON, July 1999).

2.4.2 Groundwater Delineation

Groundwater has been investigated using monitoring wells installed across the Site (**Figure 2**). Permanent monitoring wells were installed and sampled in two groundwater zones, shallow and deep. Chlorinated VOCs were detected in the groundwater samples and have been monitored semi-annually since entry into the VRP **(Table 2)**. Impacts to groundwater in the shallow zone above the applicable standards are present to the east and southeast of the manufacturing building, and are contained within the Site property boundaries (**Figure 3**). No impacts to groundwater in the deep zone have been detected since monitoring began under the VRP. As such, the horizontal and vertical extent of VOCs in groundwater has been delineated.

2.4.3 Monitoring of Surface Water

Generally, surface drainage runoff flows to the east where it intersects a small swampy area along the property line between the Site and the adjacent property to the east. The swampy area drains to the north into a culvert which crosses under East Meadowlake Parkway and drains into an unnamed tributary of Hughes Prong. The swampy area is thought to be a shallow groundwater recharge area, rather than a groundwater discharge boundary.

Surface water samples are collected from the unnamed tributary of Hughes Prong (which serves as the nearest discharge boundary for shallow groundwater) as well as the drainage ditch along the eastern property boundary. No impacts have been detected in surface water samples since monitoring began under the VRP (**Table 3**).

3.0 CONCEPTUAL SITE MODEL

A Conceptual Site Model (CSM) has been prepared using the data obtained during investigative activities at the Site, from the previous reports, and from reviews of published literature. The CSM is graphically presented in **Figures 4, 4A, 4B, 4C and 4D**.

3.1 Geology

Recent and previous well boring data indicate that the site is underlain by a formation that is predominantly clay. Near surface site geology consists of brown to orange to gray fine sand or clayey sand that grades into silt or clay intermixed with stringers of sand. The shallow groundwater aquifer resides in this zone, and shallow monitoring wells are screened in this zone. Underlying the clayey silts and sands is a predominantly gray clay formation, which extends from 10 feet to more than 65 feet below ground surface (bgs) near MW-20D. This clay layer is intermixed with varying amounts of sand and silt. Based on the number of blow counts recorded during well installation, its cohesiveness and consistency can be characterized as stiff to very stiff.

A zone of clay containing sand and gravel within the gray clay formation was encountered between 25 feet and 29 feet bgs. The deep monitoring wells are screened within this zone. Historical studies have misinterpreted this zone as a confined sand and gravel aquifer. The September 2009 well log data indicate that this zone is not an aquifer because the split spoon samples from this layer show the gravel and sand are bound by a clay matrix that makes it very difficult for this zone to yield groundwater. This observation is supported by well development and well purge data for MW-20D, which is screened within this zone. Field data indicate that this monitoring well was pumped dry during development and was purged dry during groundwater sampling due to the low water yield of this zone. Similar low yields are experienced in MW-16D during purging and sampling.

The site hydrogeology consists of a shallow groundwater zone comprising alluvial sands and dense, thinly interbedded silty sand, sandy clay, and clay, which are referred to as the Hawthorn Group Sediments. Underlying the soil/alluvium and Hawthorn sediments is a predominantly clay unit with partially cemented calcium carbonate which functions as an aquitard. Shallow zone groundwater at the site flows predominantly to the north-northeast. Based upon the topography and drainage patterns at the site, surface drainage runoff flows to the east where it intersects a small swampy area along the property line between the Site and the property to the east (184 East Meadowlake Parkway). That swampy area drains to the north into a culvert which crosses under East Meadowlake Parkway and drains into a tributary of Hughes Prong. The swampy area is thought to be a shallow groundwater recharge area, rather than a groundwater discharge boundary.

3.2 Hydrological Results

Recent and historical water level measurements are presented in **Table 4**. Shallow and deep zone aquifer potentiometric surface maps have been prepared and included in semi-annual status reports. The most recent shallow and deep zone potentiometric maps (November 2016) are presented as **Figure 5a** and **Figure 5b**, respectively. This shallow zone potentiometric map indicates that the shallow groundwater flow direction across the Site is to the northeast, which is consistent with previous evaluations of groundwater flow direction. The shallow groundwater flow

direction across the adjacent 184 East Meadowlake Parkway property is to the north-northwest. The deep zone potentiometric surface map suggests that deep zone groundwater is generally flowing to the east or east-northeast.

The impacts to the Site groundwater likely originate from chemical use during historical manufacturing operations. VOCs have been detected in the shallow groundwater to the east of the site structures (**Figure 3**). There are no impacts to groundwater in the deep zone, nor to surface water. The horizontal and vertical extent of VOCs in groundwater have been delineated, and are contained within the Site property boundaries.

4.0 EXPOSURE PATHWAYS

The following five potential exposure routes generally exist at impacted facilities:

- Inhalation
- Ingestion
- Contact with impacted soil
- Contact with impacted groundwater
- Contact with impacted surface water

All exposure pathways are incomplete, as described in the following sections.

4.1 Potential Receptors and Exposure Pathways

4.1.1 Water Usage

The general topography and drainage patterns can be seen in **Figure 1**. An EDR GEOCHECK® report was obtained in April 2011 to update water well information. A total of fifteen wells are listed in the EDR report, but several wells are listed more than once. Three public water supply wells are listed within ¼ to ½-mile of the Site. Eleven community or public water supply wells are also reported within a ½ to 1-mile radius of the site. One well is located approximately one-mile southwest of the site. The other 13 wells are located northwest of the site. None of the wells is located within approximately 2,500 feet of the site. Based on the demonstrated impacted groundwater area, as shown in **Figure 3**, and the contaminant fate-and-transport modeling conducted to date, the potential exposure to potable drinking water wells is regarded as low.

4.1.2 Environmental Receptors

The Site is located in an industrial developed area in which human health exposure on the Site is limited to industrial worker exposure. Accordingly, the Site is generally surrounded by industrial and commercial property. Tracts of undeveloped vegetated land are present to the north across East Meadowlake Parkway and are potentially subject to further industrial development. Drainage features are located on the south end of the Site and along the east property line of the facility and include drainage ditches, swampy areas and culvert systems. The undeveloped, vegetated area north of the site and the drainage features are suitable for plant life.

Based upon the topography and drainage patterns at the site, surface drainage flows to the east where it intersects a small swampy area along the property line between the Site and the184 East Meadowlake Parkway property. The swampy area drains to the north into a culvert which crosses under East Meadowlake Parkway and drains east into an unnamed tributary of Hughes Prong, which is a tributary of Canoochee Creek. The unnamed tributary lies just north of East Meadowlake Parkway (approximately 530 feet down-gradient of MW-8, the source area) and serves as the nearest discharge boundary for the shallow groundwater.

Based upon the existing analytical data, depth to groundwater and the distance to potential groundwater and surface water receptors, exposure pathways to environmental receptors above applicable standards currently appear incomplete and likely to remain so for the foreseeable future with the establishment of institutional controls. Additionally, the data indicate that off-site groundwater is not impacted above drinking water criteria and there is minimal risk to potential environmental receptors.

4.2 Soil Exposure Pathway

Impacted soils at the Site were excavated in 1997 and in 1999, with confirmation samples being collected after each excavation event. The confirmation samples indicated no impacts above the Type 3 RRS remained onsite. The excavated soils were properly disposed of offsite. The excavation activities are documented in a *Compliance Status Report* (EMCON, May 1998) and a *Compliance Status Report Addendum* (EMCON, July 1999).

Because soils impacted above RRS at the site have been removed, contact with soil does not present an unacceptable exposure. Removal of the soils also reduces or eliminates potential inhalation and ingestion pathways from soil at the site.

4.2 Groundwater Exposure Pathway

VOCs that were monitored in groundwater at the site include:

- 1,1-dichloroethane (1,1-DCA)
- 1,1-dichoroethene (1,1-DCE)
- 1,2-dichloroethane (1,2-DCA)
- 1,1,1-trichloroethane (1,1,1-TCA)
- 1,1,2-trichloroethane (1,1,2- TCA)
- 1,1,2,2-tetrachlororethane (1,1,2,2-TCA)
- Chloroethane (CE)
- cis-1,2-dichloroethene (cis-1,2-DCE)
- trans-1,2-dichloroethene (trans-1,2- DCE)
- Trichloroethene (TCE)
- Vinyl chloride (VC)

RRS were calculated for the site and are presented in **Table 1**. Because the property usage will be restricted to non-residential, the higher of the Type 3 or 4 RRS apply.

Impacted groundwater is contained within the Site property boundaries, and data show that the plume appears to be generally degrading and shrinking. Down gradient monitoring wells MW-9R and MW-11 are non-detect or below RRS at the property line. Down gradient offsite monitoring wells MW-15 and MW-7 are also non-detect. The land surrounding the site is industrial or undeveloped, and is supplied with public water.

The groundwater exposure pathway is incomplete, and will be maintained through an environmental covenant restricting the use of groundwater at the site in conformance with the Georgia Uniform Environmental Covenants Act. The environmental covenant is included in **Appendix B**. An evaluation of vicinity water usage will also be conducted as part of future post-VRP CSR annual site inspections.

4.3 Surface Water Exposure Pathway

Surface water complies with Georgia In-Stream Water Quality Criteria. No surface water impacts have been detected since monitoring commenced under the VRP. Additionally, based on the groundwater flow direction and depth to groundwater measurements, the onsite surface drainage ditch and swampy area appears to be a groundwater recharge area, rather than a discharge boundary. Therefore, direct groundwater discharge to surface water does not appear to occur

because groundwater impacts are limited to the property. As such, contact with surface water does not present unacceptable exposure.

4.4 Vapor Intrusion Exposure Pathway

The potential impact of subsurface groundwater contamination on current and future indoor air quality in on-site structures was evaluated. This evaluation for potential indoor air exposure to workers in the buildings from groundwater contamination underlying the buildings was conducted in accordance with the USEPA “Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils” including the use of the Johnson and Ettinger model. The evaluation concluded the resulting estimated hazards and risks indicate no unacceptable risk for occupational receptors potentially exposed via indoor air vapor emissions. The environmental covenant contains a provision restricting future construction in the area of the contaminant plume without additional evaluation of potential vapor intrusion exposure and implementation of appropriate mitigation measures as approved by the EPD.

5.0 VOLUNTARY REMEDIATION PROGRAM ACTIVITIES

The Former Automatic Sprinkler Site was accepted into the VRP in February 2012. Several investigative and corrective action tasks have been implemented at the Former Automatic Sprinkler Site as required by the VRP. These tasks are described below.

5.1 Investigative Tasks

Several administrative and investigative tasks were conducted as required by the VRP and to obtain data for use in a fate-and-transport model for plume migration. These activities were previously documented in the VRP Application and Addendum and in Status Reports Nos. 1 through 10, and are summarized below.

5.1.1 Administrative Tasks

Documentation of financial assurance for implementation of the VRP at the site was submitted to EPD on May 30, 2012. The financial assurance mechanism is an irrevocable letter of credit for $525,000. The letter of credit automatically renews each year on March 25. The activities covered under the approved VRP have been completed. However, financial assurance will remain to cover future site activities, as outlined in this VRP Compliance Status Report (CSR). Upon EPD review and approval of the CSR, Scott Figgie LLC may lower the financial assurance amount accordingly.

5.1.2 Monitoring Activities

In accordance with the VRP Remediation Plan, monitoring activities were conducted to obtain data for fate-and-transport modeling. Semi-annual sampling and analysis of groundwater and surface water has been conducted per the VPR Remediation Plan from May 2012 through December 2016.

- The following 15 monitoring wells were sampled and analyzed, usually in June and December: MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9/9R, MW-11, MW-12, MW-15, MW-18, MW-19, MW-20, MW-20D, and MW-21. Low flow/low stress purging methodology employing a peristaltic pump was used to purge and sample the monitoring wells in general accordance with USEPA Region 4 Science and Ecosystem Support Division (SESD) Groundwater Sampling Procedure SESDPROC-301-R3. The groundwater samples were analyzed for the site-specific list of VOCs. Water levels were measured in 21 permanent monitoring wells.
- Surface water samples were collected at four locations in the Hughes Prong (provided sufficient water was present for sampling) and analyzed for the site-specific list of VOCs.

The results of the 10 VRP sampling events are presented in VRP Status Reports Nos. 1 through 10, and are summarized on **Tables 2** and **3** in this CSR. VRP Status Report No. 10 is included in **Appendix A.**

5.2 VRP Corrective Actions

Corrective actions were implemented under the VRP to eliminate exposure to VOC concentrations in groundwater that do not meet RRS values. For the Site, a combination of engineering and institutional controls constitute the corrective actions. The corrective actions include high vacuum extraction (HVE) events, modeling to demonstrate that VOC-impacted groundwater will not migrate off the property at concentrations above regulatory levels, and application of an environmental covenant to the property. These actions are described in the following sections.

5.2.1 High Vacuum Extraction

Five HVE events were conducted between April 2013 and September 2016 using monitoring wells MW-8 and MW-19 as extraction wells. The extraction was conducted with drop tubes initially set approximately 2-3 feet into water. A vacuum of was applied to each well to extract vapors and entrained liquids. The drop tubes were lowered as the water level dropped during the event to maintain fluid recovery and to induce a cone of depression, thus increasing the zone of influence. The details and results of each HVE event are presented in the VRP Status Report that followed the respective event. The estimated total quantity of VOCs removed during those five HVE events is 1,072 pounds.

5.2.2 Groundwater Modeling

The future fate and transport of the constituents of concern (COCs) in the shallow groundwater underlying the Site was modeled using the software program BIOCHLOR. This model was used because of the clear evidence of biodegradation, namely a decrease of chlorinated solvent concentrations downgradient of the source area and presence of the degradation products of TCE, DCE, and VC. The model predicts the maximum extent of dissolved-phase plume migration, which may then be compared to the distance to potential points of exposure (e.g., drinking water wells, groundwater discharge areas, or property boundaries). The BIOCHLOR predictions do not indicate that contaminants will affect the nearest point of exposure (POE), the unnamed tributary of Hughes Prong. The BIOCHLOR predictions indicate an estimated cleanup timeframe of approximately 74 years before MNA would reduce on-site concentrations to drinking water levels. Contaminant concentrations exceeding drinking water levels appear to be confined to a small portion of the Former Automatic Sprinkler Site. The most recent evaluation of the model is included in VRP Status Report No. 10 (**Appendix A**).

5.2.3 Environmental Covenant

An environmental covenant (**Appendix B**) has been prepared, in accordance with the Georgia Uniform Environmental Covenants (UEC) Act, as an institutional control to further control exposure to contaminants at the Site. Specifically, the environmental covenant functions to limit exposure in the following ways:

- Prohibiting residential use of the property.
- Requiring EPD approval before any new construction can occur above the impacted plume.
- Restricting the use of site groundwater for all but remediation-related purposes.

A copy of the draft environmental covenant was mailed, via certified mail, on October 11, 2016 to the abutting property owners, the current property tenant (Kongsberg Automotive), the City of Swainsboro Mayor, and Emanuel County Administrator and Board of Commissioners. Return receipts are included in **Appendix B**. Comments from the Emanuel County JDA and Kongsberg Automotive have been incorporated. No other comments were received. The final covenant was signed by the Emanuel County JDA (Grantor) and Scott Figgie LLC (Grantee) in February 2017, and was forwarded to EPD for signature. Signature of the covenant by EPD and final execution with the Emanuel County recorder of deeds are pending.

6.0 RESULTS OF VRP CORRECTIVE ACTIONS AND PATH FORWARD

6.1 Fate and Transported Modeling of Flow in the Shallow Groundwater Zone

Analysis of samples collected from wells installed in the shallow groundwater zone have been conducted twice a year through the 5-year period following acceptance of the Site into the VRP on February 24, 2012. Sampling data from as far back as 1998 is also available from some wells. Site investigations have shown that groundwater flow in the shallow zone is generally to the northeast. The primary constituents of concern are TCE, 1,1-DCE, cis-1,2-DCE, and VC. Figures in Status Report No. 10, **Appendix A** of this CSR, show trends in constituent concentrations. Overall, total VOC concentrations are generally decreasing with time.

Fate and transport modeling was conducted (using conservative assumptions and input values) to evaluate whether or not constituents in the shallow groundwater will migrate off-property before the plumes begin to retreat (See Section 5.2.1 of this CSR and **Appendix A**). The model predictions do not indicate that contaminants will affect the nearest POE (an unnamed tributary of Hughes Prong), and indicate an estimated timeframe of approximately 74 years until natural attenuation would reduce on-site concentrations to drinking water levels.

6.2 Groundwater Sampling

Groundwater sampling from 2012 through 2016 indicated the presence of four chlorinated VOCs (TCE; 1,1-DCE; cis-1,2-DCE; and VC) at concentrations above RRS in the shallow groundwater zone at the Site. Overall, the concentrations of chlorinated VOCs in groundwater samples have been relatively stable to decreasing during this period.

Impacted groundwater is limited to the shallow groundwater zone and contained within the Site property boundaries. Chlorinated VOCs have been detected in seven onsite monitoring wells (MW-3, MW-4, MW-6, MW-8, MW-19, MW-20, and MW-21). The most recent VOC concentrations in groundwater (November-December 2016) are shown in **Figure 3**.

Accordingly, Scott Figgie LLC proposes to monitor these seven monitoring wells, as well as two downgradient monitoring wells (MW-9R and MW-11), by annually collecting groundwater samples for analysis of the four VOCs identified above RRS for five additional years, to further evaluate concentration trends and to confirm that the plume continues to naturally attenuate and does not migrate off-site at levels exceeding drinking water standards. At that time, the accumulated results will be reviewed and the requirements/plan for further actions will be evaluated.

The groundwater samples will be collected using low flow/low stress purging methodology employing a peristaltic pump to purge the monitoring wells in general accordance with USEPA Region 4 Science and Ecosystem Support Division (SESD) Groundwater Sampling Procedure SESDPROC-301-R3 (March 2013). The samples will be collected using a peristaltic pump by means of the “soda-straw” method as described in SESD 4.3.1.2.7, shipped overnight to an approved environmental laboratory under chain of custody protocols, and analyzed for the chlorinated VOCs listed above using USEPA Method 8260B. Prior to collecting groundwater samples, the depth to water will measured in all accessible site monitoring wells.

6.3 Institutional Controls - Environmental Covenant

As part of the corrective actions, an environmental covenant will be executed on the property to eliminate exposure pathways by:

- Prohibiting future construction over the contaminant plume without further assessment of potential vapor intrusion;
- Prohibiting residential use of the property; and,
- Restricting the use of site groundwater.

Compliance with the provisions of the environmental covenant will be verified by an annual site inspection (see form in **Appendix C**).

6.4 Financial Assurance

Scott Figgie LLC currently has financial assurance already in place for the implementation of VRP corrective measures in the form of a revolving letter of credit in the amount of $525,000. Scott Figgie LLC will maintain financial assurance through the next five years (post-VRP period) to provide for the monitoring and reporting of groundwater monitoring results and site inspections. **Table 5** shows proposed monitoring and reporting schedule for the post-VRP period. **Table 6** shows the estimated cost for post-VRP CSR monitoring and reporting, which is considerably less than the current financial assurance amount of $525,000. Therefore, upon EPD approval of the VRP CSR, Scott Figgie LLC may lower the financial assurance amount.

6.5 Summary

In the five years following acceptance into the VRP, the following have been achieved:

1. Monitoring of constituents in groundwater and surface water has been conducted semi-annually for the 5-year VRP period, and reported in 10 VRP Status Reports.
2. Corrective action comprising five HVE events has been conducted between April 2013 and September 2016, reported in the VRP Status Report following each event.
3. Fate and transport modeling of contaminants in the shallow groundwater zone using conservative assumptions and input parameters has been conducted. Model predictions and subsequent groundwater monitoring indicate that contaminants will not affect the nearest point of exposure (POE), the unnamed tributary of Hughes Prong.
4. An Environmental Covenant will be executed for the Site that will further control potential exposure pathways (see Section 6.3).

Based on the above results, Scott Figgie LLC requests that groundwater monitoring in the shallow zone be reduced to annual sampling of select VOCs in select monitoring wells, and that groundwater monitoring in the deep zone be terminated. Existing data and conservative evaluations of fate and transport demonstrate that it is only necessary to monitor the shallow groundwater in the source area and surface water at the nearest POE (Sections 4.2 and 5.2).

The following actions are proposed to implement the remedy:

1. Groundwater Sampling: Annual groundwater sampling will be conducted to monitor constituent concentration trends and to confirm that concentrations continue to decrease and/or remain non-detect (Section 6.2).
2. The Environmental Covenant presents the land use restrictions to be implemented on the Site to eliminate exposure to site contaminants and are as follows:
    - Prohibiting future construction over the contaminant plume without further assessment of potential vapor intrusion.
    - Prohibiting residential use of the property.
    - Restricting the use of site groundwater for all but remediation-related purposes.
    - Conducting a documented inspection of the Site annually to confirm the land uses and restrictions are in compliance with the environmental covenant.

Table 5 presents the Post-VRP (next five years) schedule for continuing these activities.

With the successful completion of the objectives of the VRP, the Site is in compliance with the provisions, purposes, standards, and policies of the program. Upon approval of the VRP CSR, Scott Figgie LLC requests that EPD remove the Site from the Hazardous Site Inventory.

TABLES

Former Automatic Sprinkler Site
Swainsboro, GA

Table 1
Summary of Delineation Criteria and Cleanup Standards

February 2017

Soil Constituents	Delineation Criteria	Type 3 Surface Soil Cleanup Value	Type 3 Subsurface Soil Cleanup Value	RRS Data Source
	mg/kg	mg/kg	mg/kg	
Arsenic	20	38	41	Type 3, Jan 2000 CAP
Barium	1000	1000	1000	Type 3, Jan 2000 CAP
Cadmium	2	39	39	Type 3, Jan 2000 CAP
Chromium	100	110	1200	Type 3, Jan 2000 CAP
Copper	100	1500	1500	Type 3, Jan 2000 CAP
Lead	75	400	400	{Revised per HSRA Rule Change}
Mercury	0.5	17	17	Type 3, Jan 2000 CAP
Nickel	50	420	420	Type 3, Jan 2000 CAP
Silver	2	10	10	Type 3, Jan 2000 CAP
Vanadium	100	100	100	Type 3, Jan 2000 CAP
Zinc	100	2800	2800	Type 3, Jan 2000 CAP
1,1,1-Trichloroethane	20	20	20	Type 3, VRP Appl Addendum, Appendix C
1,1,2,2-Tetrachloroethane	0.13	0.5	0.5	Type 3, VRP Appl Addendum, Appendix C
1,1,2-Trichloroethane	0.5	0.5	0.5	Type 3, VRP Appl Addendum, Appendix C
1,1-Dichloroethene	0.7	0.7	0.7	Type 3, VRP Appl Addendum, Appendix C
1,2-Dichloroethane	0.5	0.5	0.5	Type 3, VRP Appl Addendum, Appendix C
cis-1,2-Dichloroethene	7	7	7	Type 3, VRP Appl Addendum, Appendix C
Trichloroethene	0.5	0.5	0.5	Type 3, VRP Appl Addendum, Appendix C
Vinyl Chloride	0.2	0.2	0.2	Type 3, VRP Appl Addendum, Appendix C
Groundwater Constituents	**Delineation Critieria mg/L**	**Groundwater Cleanup Value mg/L**		
Cadmium	0.005	0.005		Type 3, Jan 2000 CAP
Chromium	0.1	0.1		Type 3, Jan 2000 CAP
Copper	1.3	1.3		Type 3, Jan 2000 CAP
Lead	0.015	0.015		Type 3, Jan 2000 CAP
Zinc	2	2		Type 3, Jan 2000 CAP
Mercury	0.002	0.002		Type 3, Jan 2000 CAP
1,1,1-Trichloroethane	0.2	13		Type 4, VRP Appl Addendum, Appendix C
1,1,2,2-Tetrachloroethane	0.001	0.005		Type 3 {Reporting Limit}, VRP Addendum, Appendix C
1,1,2-Trichloroethane	0.005	0.005		Type 3, VRP Appl Addendum, Appendix C
1,1-Dichloroethene	0.007	0.52		Type 4, VRP Appl Addendum, Appendix C
1,2-Dichloroethane	0.005	0.005		Type 3, VRP Appl Addendum, Appendix C
cis-1,2-Dichloroethene	0.07	0.2		Type 4, VRP Appl Addendum, Appendix C
Trichloroethene	0.005	0.0052		Type 4, VRP Appl Addendum, Appendix C
Vinyl Chloride	0.002	0.0033		Type 4, VRP Appl Addendum, Appendix C

mg/kg milligrams per kilogram
mg/L milligrams per liter

Revised by: LMS 7-26-12
Checked by: MKB 7-27-12

Former Automatic Sprinkler Site
Swainsboro, GA

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

February 2017

Sample Location		MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4
Date Sampled	TYPE 3/4 RRS mg/L	Jul-98	Dec-00	Dec-03	May-04	Nov-04	May-05	Jun-06	Dec-06	May-07	Jun-08	Apr-09	Dec-09	Dec-09	May-10	Nov-10	Jun-16	Nov-16	Jul-98	Dec-00	Dec-03	May-04	Nov-04	May-05	Jun-06	Dec-06	May-07
														DUP-2													
VOCs (mg/L)																											
Chloroethane	---	0.015	<0.010	0.0096	0.0034	0.0038	0.0028	0.0013	0.0011	0.0018	<0.001	0.0014	0.0011	<0.001	0.002	0.0009 J	<0.010	<0.010	0.029	0.022	0.040	0.0024	0.021	0.0045	0.003	0.0029	0.0034
1,1,2,2-Tetrachloroethane	0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	13	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethylene	0.0052	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	0.0016	<0.001	<0.001	<0.001
1,1-Dichloroethene	0.52	0.006	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	---	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	0.018	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis -1,2-Dichloroethene	0.2	ND	<0.005	<0.001	<0.001	<0.001	0.0014	<0.001	0.00091 J	<0.001	0.00094 J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	0.0021	<0.001	<0.001	<0.001
trans -1,2-Dichloroethene	---	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	0.0033	**0.140**	**0.052**	**0.022**	**0.024**	**0.027**	**0.027**	**0.014**	**0.020**	**0.021**	**0.0173**	**0.0168**	**0.0094**	**0.0093**	**0.0172**	**0.0104**	**0.0057**	**0.0054**	**0.300**	**0.093**	**0.058**	**0.018**	**0.045**	**0.037**	**0.031**	**0.040**	**0.042**
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	NA	5.94	5.7	5.64	5.51	5.28	5.37	5.63	5.57	5.54	5.85	6.04	6.04	5.7	6.21	5.57	5.68	NA	6.37	6.24	6.12	6.16	6.13	6.18	6.18	6.12
Specific Conductance (mS/cm)	---	NA	0.14	0.19	0.197	0.222	0.212	0.208	0.199	0.263	0.222	0.239	0.421	0.421	0.278	0.255	0.121	0.184	NA	0.21	0.33	0.183	0.376	0.452	0.437	0.391	0.474
Temperature (deg. C)	---	NA	16.94	19.3	19.94	21.48	22.53	24.65	21.99	24.24	26.59	19.17	20.45	20.45	22.38	22.98	25.06	24.19	NA	17.91	18.22	21	20.3	24.86	25.03	20.35	23.66
Dissolved Oxygen (mg/L)	---	NA	0.00	0.48	0.34	0.78	0.62	0.40	0.43	0.42	0.50	0.34	0.27	0.27	0.23	0.48	0.20	0.12	NA	0.00	0.24	0.12	0.76	0.57	0.32	0.39	1.19
ORP (mV)	---	NA	-13.00	-17.6	-29.7	12.9	53.5	87.9	30.3	0.4	-35.3	-10.8	-60.1	-60.1	-7.2	-72.3	18.6	55.3	NA	-32.00	-43.1	-110	-59.9	-49.5	-37.1	-214.8	-71.8
Turbidity (NTU)	---	NA	6.40	45	24.1	12.8	13.7	5	1.6	8.5	4.1	4	32.2	32.2	67.2	30.8	4.57	9.88	NA	5.40	12.5	8	10.0	0.0	4.5	6.5	2.3
Iron II (mg/L)	---	NA	4.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.40	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	13.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.60	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	4.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.70	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.10	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	74.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	120.00	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	NA	0.001	0.0012	0.00081	0.0014	0.0013	0.0012	0.00084	0.000890	0.001300	0.000450	0.000210	0.000660	0.0004 J	0.00039	<0.007	<0.007	NA	0.0026	0.0027	0.001	0.0019	0.0016	0.0019	0.0016	0.0014
Ethane	---	NA	<0.000005	0.000009	0.000014	0.000065	0.000130	0.000052	0.000033	0.000050	0.000180	0.000021	<0.00001	0.000140	0.000009 J	0.000018	<0.009	<0.009	NA	<0.000005	<0.000005	<0.000005	<0.000005	<0.00001	<0.00001	<0.00001	<0.00001
Methane	---	NA	9.10	7.6	7.7	9.4	7.2	9.2	8.3	6.7	8.2	7.4	5.8	13.0	4.2 J	7.6	6.7	4.8	NA	8.10	8.3	5.6	5.0	7.4	9.5	7.9	9.7
Hydrogen (nmol/L)	---	NA	<0.030	2.7	3.9	1.6	1.4	3.0	27.0	1.7	2.2	1.1	1.5	NA	2.0	1.2	NA	NA	NA	0.16	2.6	2.7	1.2	7.7	3.8	2.0	2.7

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5
Date Sampled	TYPE 3/4 RRS mg/L	Jun-08	Apr-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Nov-16	Oct-98	Dec-00	Dec-03	May-04	Nov-04	May-05	Jun-06	Dec-06	May-07	Jun-08	Apr-09
VOCs (mg/L)																											
Chloroethane	---	0.0029	<0.001	0.0014	0.0016	0.0013	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	13	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethylene	0.0052	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	0.001	<0.001	0.0022	0.0011	0.0020	0.0011	0.0013	0.0012
1,1-Dichloroethene	0.52	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	0.015	0.015	0.013	0.011	0.011	0.0081	0.0098	0.0087	0.0074	0.0068
1,1-Dichloroethane	---	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.007	0.015	0.011	0.0096	0.0077	0.0075	0.0069	0.0065	0.0054	0.0053	0.0045
1,2-Dichloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis -1,2-Dichloroethene	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	0.0016	<0.001	0.0012	<0.001	<0.001	<0.001
trans -1,2-Dichloroethene	---	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	0.0033	**0.034**	**0.0047**	**0.022**	**0.0288**	**0.0241**	**0.028**	**0.024**	0.0031	**0.036**	**0.02**	**0.028**	**0.020**	**0.018**	**0.0077**	**0.014**	ND	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	0.00035 J	0.00033J	0.00026 J	<0.001
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	5.54	6.73	6.65	5.89	5.97	6.18	6.16	6.3	6.19	5.72	6.01	6.18	6.27	6.34	6.16	NA	4.84	4.95	4.99	4.67	4.75	5.08	4.90	4.80	4.95	5.00
Specific Conductance (mS/cm)	---	0.422	0.237	0.402	0.401	0.349	0.447	0.416	0.156	0.463	0.478	0.406	0.414	0.360	0.264	0.385	NA	0.03	0.03	0.033	0.036	0.033	0.035	0.037	0.08	0.036	0.03
Temperature (deg. C)	---	25.95	18.54	21.78	24.8	23.35	25.46	18.26	23.47	21.94	26.81	21.91	26.24	20.23	26.05	24.00	NA	18.50	18.83	21.65	22.97	20.25	21.96	20.87	20.22	21.54	18.4
Dissolved Oxygen (mg/L)	---	0.53	1.23	0.28	0.27	0.80	0.30	0.96	1.52	3.78	0.73	0.31	0.46	0.47	0.19	0.12	NA	0.00	0.51	0.32	0.19	0.38	0.28	0.28	0.29	0.52	0.23
ORP (mV)	---	-36.2	-39.6	-82.9	-33.5	-325.1	-56.6	-18.4	-3.8	-63	-27.4	-66.8	-59.9	-45.4	-51.6	-40.1	NA	210.00	234.10	133.2	130.9	200.8	135.1	171.5	175.1	-77.9	180
Turbidity (NTU)	---	2.2	6.0	16.2	-3.2	14.2	3.0	9.1	8.3	0.0	0.7	2.80	5.70	2.70	1.97	2.62	NA	0.00	39.50	1.4	0.0	0	3.5	4.1	5.2	1.8	0.0
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.80	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.20	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.60	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.0012	0.00012	0.00054	0.00074 J	0.00076	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	0.000016	0.000009	0.000011	0.000011	0.000009	0.000008 J	0.000006 J	0.000007J	0.000012	0.000006J
Ethane	---	0.00001	0.000004J	<0.00001	0.000004 J	0.000008 J	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	<0.000005	<0.000005	0.0000024 J	0.0000061	0.000004	0.000002 J	0.000002 J	0.000005J	0.000006 J	0.000004J
Methane	---	11.0	0.68	5.9	7.9 J	4.5	NA	6.0	1.7	6.2	3.8	5.9	7.0	5.9	4.5	4.2	NA	0.52	0.63	0.56	0.83	0.57	0.51	0.4	0.28	0.24	0.2
Hydrogen (nmol/L)	---	4.8	3.0	25.0	2.6	2.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.030	1.2	1.7	1.6	2.3	7.2	11	4	15	7.7

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6
Date Sampled	TYPE 3/4 RRS mg/L	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Oct-98	Dec-00	Dec-03	May-04	Nov-04	May-05	Jun-06	Dec-06	May-07	Jun-08	Apr-09	Sep-09	Dec-09
VOCs (mg/L)																										
Chloroethane	---	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.002	<0.010	0.014	0.0032	<0.001	0.0072	0.002	0.0016	0.0017	0.0013	<0.001	0.0017	0.001
1,1,2,2-Tetrachloroethane	0.005	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	13	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	0.0016	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	0.005	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethylene	0.0052	0.0011	<0.001	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	0.0036	<0.001	**0.0079**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	0.52	0.0071	0.0051	0.0045	0.0064	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	0.0022	<0.001	0.0048	0.0017	<0.001	<0.001	0.0010	<0.001	0.00060J	<0.001	<0.001
1,1-Dichloroethane	---	0.0046	0.0032	0.0028	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	0.0011	0.0018	0.0021	0.0036	0.0014	0.0020	0.0028	0.0023	0.0016	0.0015	0.0013
1,2-Dichloroethane	0.005	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis -1,2-Dichloroethene	0.2	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	0.0018	<0.001	0.0045	0.0029	0.00090 J	0.0012	0.0014	0.0014	0.0010	0.0015	0.0012
trans -1,2-Dichloroethene	---	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	0.0033	0.0003J	0.00088 J	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	**0.010**	<0.010	**0.010**	**0.0096**	**0.0092**	**0.0094**	**0.0055**	**0.0051**	**0.0065**	**0.0052**	**0.0035**	**0.0054**	**0.0035**
SVOCs (mg/L)																										
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0211	NA	NA
Field Parameters																										
pH (std. Units)	---	4.93	4.72	4.88	4.57	4.95	4.56	5.01	4.72	4.38	4.75	4.98	4.50	4.88	NA	6.14	5.84	5.81	5.81	5.84	5.54	5.82	5.85	4.91	5.98	5.84	5.84
Specific Conductance (mS/cm)	---	0.071	0.044	0.036	0.042	0.15	0.079	0.037	0.037	0.045	0.043	0.031	0.034	0.034	NA	0.12	0.18	0.167	0.182	0.15	0.152	0.160	0.191	0.152	0.231	0.192	0.211
Temperature (deg. C)	---	21.61	19.17	22.69	21.23	19.86	19.98	21.28	21.2	20.94	22.13	20.56	21.51	21.99	NA	17.27	20.83	24.92	23.92	24.64	27.16	22.16	23.75	27.25	20.24	31.27	21.83
Dissolved Oxygen (mg/L)	---	0.51	0.17	0.33	0.96	2.83	0.59	3.99	0.57	0.41	1.40	0.76	0.28	0.33	NA	0.00	0.26	0.07	0.35	0.64	0.4	0.24	0.42	0.41	1.73	0.28	0.39
ORP (mV)	---	195.6	207.6	213.5	205.2	180.4	81.7	233.4	161.5	267.2	206.7	162.6	247.6	196.1	NA	-92.00	-11.6	-78.8	-22.0	-6.0	30.3	-216.5	-39.4	292.7	4.9	-12.7	-7.7
Turbidity (NTU)	---	0.0	4.0	3.0	5.7	7.9	1.8	8.6	1.2	7.41	9.71	9.60	323	2.04	NA	0.00	7.3	2.4	5.6	4.9	3.5	4.5	2.2	0.7	3.5	6.1	8.0
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																										
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.000065	0.000011 J	0.000007 J	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	0.00014	0.00043	0.00016	0.00029	0.00013	0.0002	0.000066	0.000068	0.00011	0.000038	0.000092	0.000042
Ethane	---	0.000008J	0.000015 J	0.000002 J	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	<0.000005	<0.000005	<0.000005	0.000011	<0.00001	<0.000010	<0.00001	0.000006J	0.000009J	0.000006J	0.000003J	0.000002J
Methane	---	0.27	0.21 J	0.048	NA	0.059	0.053	0.078	0.054	0.09	0.260	0.150	0.320	0.011	NA	6.10	5.9	3.8	5.4	3.7	4.6	5.1	2.9	3.2	3.8	1.8	1.2
Hydrogen (nmol/L)	---	11.0	8.8	3.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.20	2.2	2.4	4.1	3.3	3.8	1.7	3.2	2.8	0.71	330	18

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-8	MW-8	MW-8
Date Sampled	TYPE 3/4 RRS mg/L	May-10	Nov-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Nov-16	Oct-98	Jul-00	Dec-00
VOCs (mg/L)																											
Chloroethane	---	<0.001	0.0012	0.0012	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.041	<1	<0.1
1,1,2,2-Tetrachloroethane	0.005	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.001	<0.5	<0.05
1,1,1-Trichloroethane	13	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**53**	6.2	0.67
1,1,2-Trichloroethane	0.005	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.052**	<0.5	<0.05
Trichloroethylene	0.0052	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**140**	**14**	**1**
1,1-Dichloroethene	0.52	0.0014	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**45**	**8.7**	**0.9**
1,1-Dichloroethane	---	0.002	0.0015	0.0015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.94	<0.5	0.13
1,2-Dichloroethane	0.005	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.03**	<0.5	<0.05
cis -1,2-Dichloroethene	0.2	0.0014	0.0016	0.0019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**4.5**	**4.5**	**1.1**
trans -1,2-Dichloroethene	---	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.5	<0.05
Vinyl Chloride	0.0033	0.0028	**0.0043**	**0.0044**	**0.0036**	0.003	<0.002	<0.002	<0.002	**0.0042**	<0.002	<0.002	<0.002	**0.0044**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	**0.93**	**1.6**	**0.99**
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	5.56	5.56	5.56	5.78	5.85	5.70	5.90	4.93	5.40	5.83	5.92	5.74	5.80	5.06	5.18	5.05	5.28	4.67	4.61	5.19	5.52	5.45	5.45	NA	NA	6.04
Specific Conductance (mS/cm)	---	0.156	0.169	0.169	0.169	0.188	0.195	0.157	0.146	0.142	0.180	0.215	0.149	0.198	0.057	0.082	0.170	0.196	0.157	0.086	0.097	0.075	0.083	0.090	NA	NA	0.17
Temperature (deg. C)	---	24.00	25.56	25.56	28.05	21.69	25.53	23.19	27.11	23.85	27.72	22.61	26.82	23.73	20.63	16.08	18.95	17.20	20.83	17.76	22.09	16.99	21.31	19.76	NA	NA	17.02
Dissolved Oxygen (mg/L)	---	0.82	0.52	0.52	0.21	0.93	0.48	0.21	0.28	0.22	0.30	0.66	0.22	0.47	0.24	0.68	0.58	0.23	0.32	2.25	0.71	0.35	0.27	0.56	NA	NA	0.00
ORP (mV)	---	-1.6	-387.7	-387.7	-6.6	-8.7	-83.6	-33.2	-23.8	-101.8	-18.5	-6.0	-17.9	7.9	131.9	224.2	-37.0	52.4	4.9	260.40	52.1	108.0	34.1	74.2	NA	NA	-49.00
Turbidity (NTU)	---	11.5	11.5	11.5	4.6	7.3	2.1	9.2	8.47	8.63	4.9	0	5.88	8.66	60.8	161.4	7.3	455.9	7.6	10.20	5.3	7.0	4.15	9.20	NA	NA	10.50
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.00
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.00
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.00
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.90
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	59.00
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.16
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.000053 J	0.000084	0.000084	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	NA	0.23
Ethane	---	0.000006 J	0.000003 J	0.000003	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	NA	0.00
Methane	---	2.8 J	3.4	3.4	NA	3.4	2.2	3.5	1.8	2.1	2.8	3.8	4.1	2.8	NA	0.17	0.94	0.95	1.3	0.006	1.1	0.81	0.650	0.430	NA	NA	7.70
Hydrogen (nmol/L)	---	5.2	2.6	2.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.03

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8
Date Sampled	TYPE 3/4 RRS mg/L	Apr-01	Dec-03	Dec-03 Dup	May-04	May-04 Dup	Nov-04	May-05	May-05 Dup	Jun-06	Jun-06 Dup	Dec-06	Dec-06 Dup	May-07	May-07 DUP	Jun-08	Jun-08 Dup	Oct-08	Oct-08 Dup	Apr-09	Apr-09 DUP	Sep-09	Sep-09 DUP	Dec-09	May-10	DUP-1	Nov-10
VOCs (mg/L)																											
Chloroethane	---	0.046	0.38	0.37	<0.05	<0.05	0.04	<0.1	0.03	<0.050	0.025 J	<0.020	0.02	<0.020	<0.020	<0.1	<0.05	<0.025	<0.025	<0.005	<0.005	0.0595	0.0556	<0.01	0.0134	<0.025	0.0905
1,1,2,2-Tetrachloroethane	0.005	<0.002	<0.050	<0.05	<0.05	<0.05	<0.025	<0.1	<0.001	<0.050	<0.025	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.025	<0.025	<0.005	<0.005	<0.04	<0.025	<0.01	<0.01	<0.025	<0.02
1,1,1-Trichloroethane	13	2.5	1.3	1.3	0.75	0.95	2.0	1.9	1.9	2.2	1.7	0.55	0.65	0.74	0.87	5.55	5.27	0.217	0.194	0.32	0.32	1.1	0.802	0.296	1.1	0.96	1.65
1,1,2-Trichloroethane	0.005	<0.002	<0.050	<0.05	<0.05	<0.05	<0.025	<0.1	0.0019	<0.050	<0.025	<0.020	<0.020	<0.02	<0.02	<0.1	<0.05	<0.025	<0.025	<0.005	<0.005	<0.0400	<0.0250	<0.01	<0.01	<0.025	<0.02
Trichloroethylene	0.0052	**4**	**2.4**	2.4	**1.6**	**1.8**	**3.3**	**4.6**	**4.7**	**5.3**	**4.4**	**0.71**	**0.8**	**1.3**	**1.6**	**11.9**	**11.1**	**0.532**	**0.529**	**0.577**	**0.594**	**1.54**	**1.05**	**0.396**	**1.87**	**1.68**	**3.56**
1,1-Dichloroethene	0.52	**2.3**	**2.4**	**2.2**	**1.2**	**1.3**	**3.6**	**3.3**	**3.5**	**4.9**	**3.2**	**2.1**	**2.3**	**1.7**	**1.9**	**8.34**	**7.86**	**0.567**	**0.541**	**0.611**	**0.587**	**3.17**	**2.26**	**1.17**	**1.99**	**1.75**	**4.19**
1,1-Dichloroethane	---	0.17	0.28	0.27	0.17	0.2	0.19	0.23	0.24	0.28	0.23	0.18	0.19	0.15	0.18	0.43	0.428	0.0797	0.0834	0.0442	0.0472	0.397	0.38	0.0789	0.128	0.127	0.252
1,2-Dichloroethane	0.005	<0.002	<0.050	<0.05	<0.05	<0.050	<0.025	<0.1	<0.001	<0.050	<0.025	<0.020	<0.020	<0.020	<0.020	<0.100	<0.05	<0.025	<0.025	<0.005	<0.005	<0.0400	<0.0250	<0.01	<0.01	<0.025	<0.02
cis -1,2-Dichloroethene	0.2	**1.4**	**2.3**	**2.1**	**2.1**	**2.3**	**3.6**	**2.7**	**3**	**4.2**	**3.4**	**3.4**	**3.7**	**1.9**	**2.2**	**5.86**	**5.66**	**0.875**	**0.815**	**0.808**	**0.783**	**4.19**	**3.36**	**1.82**	**2.02**	**1.87**	**4.1**
trans -1,2-Dichloroethene	---	NA	<0.050	<0.05	<0.05	<0.05	<0.025	<0.1	0.01	<0.050	<0.025	<0.020	<0.020	<0.020	<0.020	<0.100	<0.05	<0.025	<0.025	0.0051	0.0064	<0.0400	<0.0250	<0.01	<0.01	<0.025	<0.02
Vinyl Chloride	0.0033	**0.37**	**1.8**	**1.8**	**0.73**	**0.85**	**0.73**	**1.1**	**1.2**	**1.4**	**0.89**	**0.81**	**0.78**	**0.69**	**0.67**	**1.32**	**1.22**	**0.421**	**0.372**	**0.219**	**0.23**	**2.4**	**2.09**	**0.589**	**0.902**	**0.802**	**1.89**
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA		NA		NA	NA		NA		NA		NA		NA		NA		<0.0200	<0.0200	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	5.23	6.09	NA	5.81	NA	6.14	5.88	5.88	5.75	5.75	5.86	5.86	5.76	5.76	5.72	5.72	NA	NA	6.41	NA	5.87	5.87	6.40	5.94	5.94	5.67
Specific Conductance (mS/cm)	---	0.14	0.48	NA	0.33	NA	0.524	0.384	0.384	0.419	0.419	0.403	0.403	0.371	0.371	0.489	0.489	NA	NA	0.29	NA	0.482	0.482	0.442	0.400	0.40	0.404
Temperature (deg. C)	---	NA	18.53	NA	20.95	NA	20.71	19.16	19.16	21.15	21.15	19.27	19.27	19.54	19.54	24.25	24.25	NA	NA	17.77	NA	24.82	24.82	19.80	20.16	20.16	21.70
Dissolved Oxygen (mg/L)	---	NA	0.24	NA	0.33	NA	0.65	0.93	0.93	0.46	0.46	0.33	0.33	0.88	0.88	0.61	0.61	NA	NA	0.3	NA	0.08	0.08	0.31	0.22	0.22	0.48
ORP (mV)	---	NA	-47.4	NA	-70	NA	-82.2	-19.1	-19.1	-12.1	-12.1	-45.2	-45.2	-8.5	-8.5	-131.4	-131.4	NA	NA	7.4	NA	-14.6	-14.6	-100.7	8.0	8.0	-428.8
Turbidity (NTU)	---	NA	6.7	NA	0.5	NA	5.6	4.9	4.9	3.9	3.9	1.7	1.7	4.5	4.5	4	4	NA	NA	0.1	NA	5.3	5.3	4.6	20.1	20.1	0
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	9.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	76	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	NA	0.32	NS	0.11	0.12	0.053	0.054	NA	0.13	0.13	0.051	0.064	0.046	0.063	0.062	0.057	NA	NA	0.0021	0.0045	0.074	0.08	0.016	0.023 J	0.048	0.078
Ethane	---	NA	0.00022	NS	0.00072	0.0013	0.0014	0.0012	NA	0.0038	0.0037	0.0018	0.003	0.0021	0.0042	0.0025	0.0024	NA	NA	0.00013	0.00032	0.0018	0.0019	0.00093	0.00077 J	0.003	0.00072
Methane	---	NA	7.3	NS	7.7	11	4.1	8	NA	12	12	4.3	7.1	7.7	9.6	8.2	11	NA	NA	0.42	1.2	4.1	4.4	2.4	3.0 J	12.0	1.7
Hydrogen (nmol/L)	---	NA	2	NS	1.6	NA	2.0	1.2	NA	0.87	NA	18	NA	1.2	NA	7.3	NA	NA	NA	2.8	0.0019	56	61	1.5	2.1	NA	0.92

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-9/9R
Date Sampled	TYPE 3/4 RRS mg/L	Nov-10	May-12	Dec-12	Dec-12	Jun-13	Jun-13	Dec-13	Dec-13	Jun-14	Jun-14	Sep-14	Nov-14	Dec-14	Dec-14	Jun-15	Jun-15	Dec-15	Dec-15	Mar-16	Jun-16	Jun-16	Sept-28-16	Sept- 29-16	Dec-16	Dec-16	Oct-98
		DUP-1			DUP-1		DUP-1		Dup-1		Dup-1				DUP-1		Dup-1		Dup-1			Dup-1				Dup-1	
VOCs (mg/L)																											
Chloroethane	---	0.0632	<0.01	0.025	0.026	<0.010	<0.010	0.067	0.078	0.016	0.016	0.013	NA	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0082	0.030	0.011	0.012	ND
1,1,2,2-Tetrachloroethane	0.005	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.005	ND
1,1,1-Trichloroethane	13	1.36	0.740	2.5	2.6	0.470	0.520	0.74	0.79	0.49	0.55	3.90	1.20	4.60	4.80	0.29	0.26	3.00	2.90	0.77	0.17	0.17	0.39	0.15	0.87	0.91	ND
1,1,2-Trichloroethane	0.005	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00079	<0.001	<0.005	<0.005	ND
Trichloroethylene	0.0052	**2.99**	**1.5**	**4.6**	**4.8**	**0.73**	**0.82**	**1.5**	**1.6**	**1.5**	**1.7**	**8.6**	**1.9**	**9.7**	**9.6**	**0.41**	**0.39**	**4.6**	**5.1**	**1.9**	**0.46**	**0.49**	**0.63**	**0.19**	**1.4**	**1.5**	ND
1,1-Dichloroethene	0.52	**3.21**	**2.2**	**6.2**	**6.5**	**1.9**	**1.9**	**2.1**	**2.2**	**1.1**	**1.2**	**5.3**	**3.2**	**4.3**	**4.3**	**0.94**	**0.91**	**2.9**	**2.8**	**1.3**	**0.72**	**0.70**	**1.30**	0.44	**1.8**	**1.8**	ND
1,1-Dichloroethane	---	0.247	0.170	0.250	0.250	0.110	0.110	0.28	0.28	0.12	0.12	0.17	0.18	0.034	0.042	0.11	0.110	0.065	0.051	0.066	0.050	0.051	0.160	0.100	0.160	0.160	ND
1,2-Dichloroethane	0.005	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.058	<0.005	<0.005	ND
cis -1,2-Dichloroethene	0.2	**3.54**	**2.7**	**7.0**	**7.1**	**2.1**	**2.0**	**2.2**	**2.2**	**1.5**	**1.5**	**3.4**	**2.8**	**0.370**	**0.400**	**1.20**	**1.00**	**1.10**	**1.10**	**1.30**	**0.76**	**0.74**	**1.70**	**0.61**	**2.2**	**2.3**	ND
trans -1,2-Dichloroethene	---	<0.02	<0.005	**8.6**	**9.1**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0055	0.0027	<0.005	<0.005	NA
Vinyl Chloride	0.0033	**1.56**	**0.47**	**2.1**	**2.2**	**0.86**	**0.82**	**2.6**	**2.6**	**0.90**	**0.99**	**0.78**	**0.89**	**0.100**	**0.160**	**0.640**	**0.590**	**0.350**	**0.330**	**0.580**	**0.40**	**0.40**	**0.79**	**1.30**	**0.92**	**1.00**	0.003
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	5.67	6.02	6.05	6.05	5.41	5.41	6.01	NA	5.76	NA	5.64	NA	6.12	NA	6.00	NA	6.07	NA	NA	6.24	NA	5.70	5.46	5.71	NA	NA
Specific Conductance (mS/cm)	---	0.404	0.499	0.669	0.669	0.288	0.288	0.311	NA	0.320	NA	0.27	NA	0.407	NA	0.353	NA	0.390	NA	NA	0.319	NA	0.269	0.192	0.255	NA	NA
Temperature (deg. C)	---	21.70	23.12	17.50	17.50	20.19	20.19	19.98	NA	21.93	NA	25.22	NA	18.72	NA	24.66	NA	21.51	NA	NA	23.88	NA	25.51	76.80	19.38	NA	NA
Dissolved Oxygen (mg/L)	---	0.48	0.85	2.22	2.22	0.53	0.53	3.89	NA	0.87	NA	1.37	NA	0.44	NA	0.62	NA	0.18	NA	NA	0.76	NA	2.4	2	0.20	NA	NA
ORP (mV)	---	-428.8	4.5	-52.6	-52.6	-32.8	-32.8	-21.7	NA	-65.4	NA	-3.6	NA	-25.5	NA	-30.1	NA	79.8	NA	NA	-10.2	NA	27.3	88.0	23.8	NA	NA
Turbidity (NTU)	---	0	10.1	7.4	7.4	2.7	2.7	5.3	NA	3.84	NA	5.76	NA	5.10	NA	4.1	NA	0.2	NA	NA	4.61	NA	NA	4.70	3.3	NA	NA
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.078	NA	0.067	0.067	0.01	0.014	0.049	NA	0.024	0.023	<0.007	NA	<0.007	<0.007	<0.007	<0.007	0.0085	0.0078	0.0089	0.0086	0.0086	NA	NA	0.016	0.016	NA
Ethane	---	0.00072	NA	<0.009	<0.009	<0.009	<0.009	<0.0090	NA	<0.009	<0.009	0.02	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	NA	<0.009	<0.009	NA
Methane	---	1.7	NA	6.4	6.4	7.9	8	6.8	NA	4.8	4	6.5	NA	0.440	0.410	4.40	4.30	3.40	3.10	6.50	2.50	2.50	NA	NA	5.80	6.00	NA
Hydrogen (nmol/L)	---	0.92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-10	MW-10	MW-10
Date Sampled	TYPE 3/4 RRS mg/L	Dec-00	May-04	Nov-04	May-05	Jun-06	Dec-06	May-07	Jun-08	Apr-09	Sep-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Oct-98	Dec-00	Dec-03
VOCs (mg/L)																											
Chloroethane	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.001
1,1,2,2-Tetrachloroethane	0.005	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001
1,1,1-Trichloroethane	13	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001
1,1,2-Trichloroethane	0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001
Trichloroethylene	0.0052	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.002	<0.005	<0.001
1,1-Dichloroethene	0.52	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	0.0017
1,1-Dichloroethane	---	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.003	<0.005	0.0023
1,2-Dichloroethane	0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001
cis -1,2-Dichloroethene	0.2	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001
trans -1,2-Dichloroethene	---	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001
Vinyl Chloride	0.0033	<0.010	<0.001	0.0021	0.0013	0.00067 J	0.00056 J	0.00066J	0.0014	<0.001	<0.001	0.00068J	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	ND	<0.010	<0.001
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	<0.0208	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	6.51	6.33	6.34	6.26	6.26	6.39	6.29	6.21	6.52	6.56	6.52	6.44	6.04	6.33	6.37	6.37	6.33	6.05	5.93	6.34	6.39	6.55	5.97	NA	4.98	5.37
Specific Conductance (mS/cm)	---	0.24	0.328	0.459	0.484	0.413	0.384	0.396	0.415	0.306	0.294	0.351	0.186	0.227	0.323	0.216	0.337	0.402	0.316	0.609	0.317	0.233	0.269	0.266	NA	0.04	0.05
Temperature (deg. C)	---	15.77	24.44	20.82	23.91	25.2	18.71	21.52	23.54	18.35	27.1	19.88	23.55	22.06	24.91	18.99	21.54	20.49	26.07	20.44	26.55	20.54	24.72	21.85	NA	14.36	16.48
Dissolved Oxygen (mg/L)	---	0	3.85	0.22	4.07	0.41	0.37	0.34	0.41	2.85	0.21	1.12	4.8	0.86	0.82	3.31	1.49	0.24	0.37	0.42	0.40	0.63	23.9	0.96	NA	0.00	0.38
ORP (mV)	---	-62	31	-53.9	-113.1	-12.5	-52.9	-86.2	-128.6	34.6	28.6	-31.4	110	202.1	30.5	46.0	-27.4	-25.0	-27.8	-90.5	-3.9	71.1	67.6	45.7	NA	-35.00	2.8
Turbidity (NTU)	---	0.7	0	3.8	1.1	0	3.8	0.3	0	10.6	0.3	2	9.7	4.6	4.12	8.3	9.6	9.2	8.07	8.63	8.7	8.6	2.96	6.16	NA	0.20	0.7
Iron II (mg/L)	---	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.80	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	4.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.40	NA
Chloride	---	1.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.80	NA
Nitrate	---	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	NA
Sulfate	---	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.10	NA
Total Alkalinity	---	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.00	NA
Total Sulfide	---	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0	0.000053	0.00033	0.00018	0.00023	0.00017	0.000078	0.00014	0.000009J	0.000002J	0.000042	0.000025 J	0.000041	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	<0.000005	<0.000005
Ethane	---	<0.000005	0.0000054	0.000032	0.00001	0.000008 J	0.000006 J	0.000008J	0.000019	<0.00001	0.000027	0.000002J	<0.00001	0.000004 J	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	<0.000005	<0.000005
Methane	---	2	0.48	2.5	1	1.5	0.74	1.1	2	0.087	0.062	0.094	0.0081 J	0.21	NA	0.084	0.24	1.8	0.2	0.10	0.38	0.17	0.17	0.29	NA	0.08	0.3
Hydrogen (nmol/L)	---	0.38	4501	0.71	1.1	1.5	2.1	3.7	1.4	0.65	210	28	14	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.28	1.1

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11
Date Sampled	TYPE 3/4 RRS mg/L	May-04	Dec-04	May-05	Jun-06	Jun-13	Jun-14	Oct-98	Dec-00	Dec-03	May-04	Dec-04	May-05	Jun-06	Dec-06	May-07	Jun-08	Apr-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14
VOCs (mg/L)																										
Chloroethane	---	<0.001	<0.001	<0.001	<0.001	<0.010	NA	ND	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1,2,2-Tetrachloroethane	0.005	<0.002	<0.001	<0.001	<0.001	<0.005	NA	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	13	<0.003	<0.001	<0.001	<0.001	<0.005	NA	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	0.005	<0.004	<0.001	<0.001	<0.001	<0.005	NA	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	0.0052	<0.005	<0.001	0.001	0.00057 J	<0.005	NA	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.52	0.0014	<0.001	<0.001	0.00099 J	<0.005	NA	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0016	<0.001	0.0016	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	---	0.0024	0.0012	0.0015	0.0015	<0.005	NA	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.005	NA	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis -1,2-Dichloroethene	0.2	<0.001	<0.001	<0.001	<0.001	<0.005	NA	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00083 J	0.0026	<0.001	0.0028	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans -1,2-Dichloroethene	---	<0.001	<0.001	<0.001	<0.001	<0.005	NA	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	0.0033	<0.001	<0.001	<0.001	<0.001	<0.002	NA	ND	<0.010	<0.001	<0.001	<0.001	<0.001	0.00036 J	<0.001	<0.001	<0.001	0.00095J	0.00031J	0.0025	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
SVOCs (mg/L)																										
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																										
pH (std. Units)	---	5.22	5.20	4.74	4.44	5.07	3.38	NA	5.18	5.54	5.51	5.41	5.44	4.28	5.16	5.2	4.2	5.62	5.51	5.17	5.21	5.09	4.93	4.85	5.52	5.33	4.69
Specific Conductance (mS/cm)	---	0.038	0.048	0.039	0.038	0.051	0.053	NA	0.43	0.06	0.06	0.06	0.058	0.111	0.044	0.047	0.1	0.038	0.038	0.06	0.059	0.047	0.185	0.101	0.056	0.061	0.112
Temperature (deg. C)	---	19.22	18.05	19.63	19.02	17.11	19.78	NA	8.47	10.95	21.2	14.54	18.48	20.2	11.85	18.55	20.49	15.61	14.14	20.18	17.22	22.36	14.32	20.97	14.82	21.37	16.39
Dissolved Oxygen (mg/L)	---	0.33	0.21	0.48	0.58	0.55	0.49	NA	0.00	0.27	0.36	0.19	0.45	0.39	0.29	0.33	0.53	0.19	0.20	0.13	0.40	1.10	3.15	0.94	4.75	0.65	0.67
ORP (mV)	---	61.2	5.9	103.0	36.2	119.7	38.5	NA	137.00	141.7	90.1	85.9	72.1	290.6	-221.7	200.6	462.2	92.5	143.3	115.2	156.0	190.1	264.6	58.7	155.9	136.1	279.1
Turbidity (NTU)	---	3.5	2.0	0.0	2.3	101.6	7.77	NA	4.50	10.3	10.8	2.5	5.8	8.6	5.5	5.4	1.5	3.7	29.5	9.1	8.8	9.04	9.8	3.1	3.9	6.51	11.9
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	2.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																										
Iron II	---	NA	NA	2.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	1.2	NA	NA	NA	NA	6.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	2.5	NA	NA	NA	NA	4.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	<0.10	NA	NA	NA	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	<1.0	NA	NA	NA	NA	1.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	7.5	NA	NA	NA	NA	9.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	<0.10	NA	NA	NA	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.000004 J	<0.000005	<0.00001	<0.00001	NA	NA	NA	0.00040	0.000092	0.000025	0.00019	0.00012	0.00017	0.000008 J	0.000032	0.000015	0.00021	0.000042	0.00075 J	0.000042	NA	<0.007	<0.007	<0.007	<0.007	<0.007
Ethane	---	0.0000021 J	0.000018	0.000005	0.000002 J	NA	NA	NA	<0.000005	<0.000005	<0.000005	0.0000018 J	<0.00001	0.000003 J	<0.00001	<0.00001	0.000002 J	0.000003J	<0.00001	0.000008 J	0.000004 J	NA	<0.009	<0.009	<0.009	<0.009	<0.009
Methane	---	0.16	0.18	0.15	0.22	NA	NA	NA	0.07	0.16	0.15	0.30	0.38	0.14	0.084	0.450	0.100	0.34	0.037	0.430 J	0.0064	NA	0.004	0.052	0.11	0.74	0.007
Hydrogen (nmol/L)	---	1.8	0.63	1.2	24	NA	NA	NA	<0.030	0.94	1.3	1.4	1.1	4.4	1.4	1.2	1.3	19	6.9	1.7	1.1	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-11	MW-11	MW-11	MW-11	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12
Date Sampled	TYPE 3/4 RRS mg/L	Jun-15	Dec-15	Jun-16	Nov-16	Oct-98	Dec-00	May-04	Dec-04	May-05	Jun-06	Apr-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Nov-16
VOCs (mg/L)																								
Chloroethane	---	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1,2,2-Tetrachloroethane	0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	13	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	0.0052	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.52	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	---	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis -1,2-Dichloroethene	0.2	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans -1,2-Dichloroethene	---	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	0.0033	<0.002	<0.002	<0.002	0.0025	ND	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
SVOCs (mg/L)																								
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																								
pH (std. Units)	---	5.19	5.49	5.04	4.86	NA	4.97	4.98	5.07	4.94	4.97	5.15	5.47	5.09	5.05	4.79	5.45	4.73	5.23	2.93	4.75	4.66	5.07	5.05
Specific Conductance (mS/cm)	---	0.052	0.052	0.03	0.061	NA	0.02	0.027	0.03	0.028	0.026	0.033	0.029	0.032	0.026	0.031	0.029	0.57	0.026	0.041	0.036	0.031	0.034	0.030
Temperature (deg. C)	---	23.38	13.45	23.56	20.47	NA	15.32	19.62	18.38	19.31	21.4	17.26	17.66	18.48	19.9	20.94	15.27	19.33	19.19	20.11	18.67	21.16	20.30	21.93
Dissolved Oxygen (mg/L)	---	0.70	0.40	0.13	2.44	NA	2.80	2.46	4.20	2.23	3.06	3.05	3.47	1.41	5.40	1.39	6.89	1.91	1.42	0.90	3.59	0.82	0.60	4.16
ORP (mV)	---	168.7	119.0	206.5	190.8	NA	280.00	160	269.0	275.5	325.6	144.1	246.9	283.9	-175.3	307.4	215.3	237.0	75.9	53.4	33.7	262.9	208.0	244.3
Turbidity (NTU)	---	3.6	5	17.0	519.0	NA	1.20	2.5	10.2	10	11.7	7.7	7.5	14.3	82.9	41.9	80.8	8.6	8.4	4.5	5.04	5.1	0.0	106.0
Iron II (mg/L)	---	NA	NA	NA	NA	NA	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																								
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	2.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	1.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	2.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	<0.007	<0.007	<0.007	<0.007	NA	0.00003	0.0000085	0.0000081	<0.00001	<0.00001	NA	NA	NA	NA	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007
Ethane	---	<0.009	<0.009	<0.009	<0.009	NA	<0.000005	<0.000005	<0.000005	<0.00001	<0.00001	NA	NA	NA	NA	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Methane	---	0.62	0.29	0.11	0.0054	NA	0.01	0.0034	0.0059	0.0022	0.000086	NA	NA	NA	NA	NA	<0.004	<0.004	<0.004	<0.004	<0.004	0.06	0.039	<0.004
Hydrogen (nmol/L)	---	NA	NA	NA	NA	NA	<0.030	NA	0.58	1.5	1.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D
Date Sampled	TYPE 3/4 RRS mg/L	Jun-99	Dec-00	Jun-06	Dec-06	May-07	Jun-08	Apr-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	May-07	Jun-08	Apr-09	Dec-09	May-10	Nov-10
VOCs (mg/L)																										
Chloroethane	---	NA	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	0.005	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	13	ND	<0.0050	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	0.005	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethylene	0.0052	ND	<0.0050	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	0.52	NA	<0.0050	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	---	NA	<0.0050	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	0.005	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis -1,2-Dichloroethene	0.2	ND	<0.0050	<0.001	<0.001	0.0011	0.0011	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
trans -1,2-Dichloroethene	---	ND	<0.0050	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	0.0033	ND	<0.01	0.0012	0.0022	0.0014	0.0012	0.00045J	<0.001	0.0015	0.0015	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	<0.0211	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	NA	6.47	5.92	6.06	6.06	5.25	5.96	5.80	6.07	5.81	5.45	5.97	6.07	5.96	5.84	5.10	5.70	5.95	5.22	5.94	11.1	9.79	12.09	11.51	11.48	12.67
Specific Conductance (mS/cm)	---	NA	0.23	0.251	0.243	0.375	0.193	0.109	0.072	0.243	0.197	0.047	0.198	0.219	0.11	0.136	0.074	0.082	0.172	0.044	0.209	0.444	0.294	4.56	0.705	1.58	1.581
Temperature (deg. C)	---	NA	17.29	26.5	20.68	22.36	24.42	19.2	17.94	21.82	23.77	25.66	19.8	21.32	21.78	24.38	21.64	25.56	23.14	24.98	20.91	20.73	21.83	19.82	18.18	20.54	16.99
Dissolved Oxygen (mg/L)	---	NA	0.00	0.35	0.28	0.4	0.35	1.22	0.74	0.19	0.42	0.44	0.70	0.39	0.42	0.38	0.49	0.34	0.35	0.13	0.57	0.71	0.75	4.64	5.95	5.89	5.47
ORP (mV)	---	NA	-62.0	4.8	-262.9	-48.7	33.6	45.8	28.3	-33.9	-319.2	61.9	-20.8	-41.5	20.7	-41.7	-95.6	40.2	-32	151.5	7.4	138.9	272.3	-55.9	-59.2	120.4	6.5
Turbidity (NTU)	---	NA	1.0	0	0.9	0	0.2	9.7	2.7	4.8	1.8	2.68	8.0	4.3	7.1	3.8	2.00	4.90	0.00	1.71	5.76	12	5.8	6.2	18.9	2.6	12.6
Iron II (mg/L)	---	NA	4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	9.90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	3.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	NA	0.0002	0.000088	0.000033	0.00009	0.000049	0.000004J	0.000004J	0.000053 J	0.000024	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	NA	NA	NA	NA	NA
Ethane	---	NA	0.00011	0.00002	0.000046	0.000095	0.000028	0.000014	<0.00001	0.000055 J	0.000006 J	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	NA	NA	NA	NA	NA
Methane	---	NA	9.4	8.8	8.5	8.6	6.2	2.4	0.54	7.7 J	1.9	NA	7.5	6.9	5.3	3.5	0.58	3.3	4.9	2.2	5.4	NA	NA	NA	NA	NA	NA
Hydrogen (nmol/L)	---	NA	2	2.5	3	3.1	69	0.62	11.0	2.2	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19
Date Sampled	TYPE 3/4 RRS mg/L	Sep-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Sep-09	Dec-09	May-10	DUP-2	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Sep-14	Nov-14
VOCs (mg/L)																											
Chloroethane	---	0.0011	0.0012	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.659	0.314	0.735	0.727	0.344	0.31	0.28	1.3	0.340	0.270	0.022	NA
1,1,2,2-Tetrachloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	13	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0501	0.0486	<0.005	<0.005	<0.005	0.033	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.020	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	0.0052	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0172 J**	**0.0171 J**	**0.0961**	**0.550**	**0.20**	**0.14**	**0.280**	**0.450**	**4.10**	**4.20**
1,1-Dichloroethene	0.52	0.0025	0.0022	0.0019	0.0019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0118	0.0044 J	0.123	0.123	0.0682	0.500	0.12	0.45	0.200	0.270	**2.00**	**2.90**
1,1-Dichloroethane	---	0.00085J	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0381	0.0129	0.264	0.258	0.0212	0.050	0.018	0.21	0.012	0.044	0.018	0.035
1,2-Dichloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0019J	<0.005	<0.020	<0.020	.0011 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis -1,2-Dichloroethene	0.2	0.0021	0.0019	0.0013	0.0020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0243	0.007	0.196	0.186	0.0543	**0.4**	0.11	**0.65**	0.087	**0.220**	**0.250**	**0.740**
trans -1,2-Dichloroethene	---	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.020	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	<0.05	<0.005
Vinyl Chloride	0.0033	**0.0051**	**0.0038**	**0.0035**	**0.0038**	**0.0033**	0.0028	0.0032	**0.0038**	0.0029	0.003	<0.002	<0.002	<0.002	<0.002	**0.502**	**0.113**	**2.02**	**2.01**	**0.198**	**0.83**	**0.33**	**2.9**	**0.300**	**0.420**	**0.120**	**0.370**
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	5.32	5.76	5.70	5.63	5.72	5.91	5.58	5.72	5.61	5.51	5.61	5.72	5.94	5.67	5.85	6.19	5.66	5.66	6.27	5.55	5.87	5.85	6.3	5.73	5.36	NA
Specific Conductance (mS/cm)	---	0.173	0.221	0.361	0.276	0.355	0.354	0.291	0.241	0.239	0.28	0.218	0.188	0.266	0.233	0.408	0.413	0.477	0.477	0.374	0.315	0.364	0.434	0.397	0.338	0.176	NA
Temperature (deg. C)	---	28.05	20.6	23.25	23.11	24.61	20.48	23.55	21.47	24.74	21.9	26.69	22.66	24.75	22.72	23.76	17.84	18.52	18.52	18.54	20.36	16.78	17.61	18.42	20.72	26	NA
Dissolved Oxygen (mg/L)	---	0.28	0.29	0.45	0.63	1.2	0.78	0.5	0.12	0.72	0.25	0.56	0.39	0.70	0.17	0.26	0.26	0.27	0.27	0.44	1.3	0.70	0.37	4.06	0.35	0.43	NA
ORP (mV)	---	138.9	-30.8	12.5	-313.2	6.9	0.4	-39.1	8.6	-36.6	-21.4	27.0	14.6	0.3	33.3	-36.6	-49.2	-14.0	-14.0	-12.1	36.4	-22.8	-28.4	-38.8	16.6	130.3	NA
Turbidity (NTU)	---	9.7	10.1	21.4	6.9	7.49	7.1	4.4	8.2	2.23	2.23	4.2	3.1	5.62	8.57	6.3	9.7	10.0	10.0	23.0	33.0	9.3	33.6	8.6	3.2	45	NA
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.00066	0.00045	0.00065 J	0.00028	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	0.78	0.37	0.99 J	1.4	0.77	NA	0.47	0.37	0.38	0.26	0.028	NA
Ethane	---	0.00033	0.0015	0.00099 J	0.00063	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	0.022	0.014	0.049 J	0.1	0.029	NA	0.081	0.063	0.041	0.037	<0.009	NA
Methane	---	3.7	3.8	2.5 J	3.8	NA	6.8	7.2	6.9	4.1	7.1	5.3	5.9	6.2	4.9	3.7	1.4	6.9 J	15	5.8	NA	7.0	5.3	5.4	4.8	0.9	NA
Hydrogen (nmol/L)	---	27	5.8	0.98	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11	26	0.97	NA	1.5	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

40000

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20D	MW-20D	MW-20D
Date Sampled	TYPE 3/4 RRS mg/L	Dec-14	Jun-15	Dec-15	Mar-16	Jun-16	Sept-28-16	Sept-29-16	Nov-16	Sep-09	Dec-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Sep-09	Dec-09	May-10
												DUP-1														
VOCs (mg/L)																										
Chloroethane	---	0.180	0.027	0.014	0.083	<0.010	0.0069	0.015	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	13	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0053	<0.001	<0.001
1,1,2-Trichloroethane	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
Trichloroethylene	0.0052	**1.10**	**0.89**	**0.50**	**0.37**	**0.68**	**1.30**	**0.12**	**0.71**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.012**	<0.001	<0.001
1,1-Dichloroethene	0.52	**0.59**	**0.59**	0.27	0.23	0.33	0.51	0.04	0.29	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0191	<0.001	<0.001
1,1-Dichloroethane	---	0.046	0.015	0.0069	0.026	0.007	0.0079	0.0065	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00099 J	<0.001	<0.001
1,2-Dichloroethane	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
cis -1,2-Dichloroethene	0.2	0.180	0.190	0.070	0.092	0.110	0.110	0.015	0.080	0.0016	0.0032	0.0031	0.0027	0.0020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0152	<0.001	<0.001
trans -1,2-Dichloroethene	---	<0.005	<0.005	<0.005	<0.005	<0.005	0.002	0.0065	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
Vinyl Chloride	0.0033	**0.240**	**0.490**	**0.052**	**0.330**	**0.061**	**0.080**	**0.058**	**0.031**	**0.0102**	**0.0115**	**0.0116**	**0.0083**	**0.0067**	**0.0068**	**0.0051**	<0.002	**0.0046**	**0.0048**	**0.0037**	**0.0039**	**0.0055**	**0.0042**	**0.0041**	**0.0071**	<0.001	<0.001
SVOCs (mg/L)																										
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																										
pH (std. Units)	---	4.77	5.21	5.77	5.77	5.74	5.79	5.54	5.77	5.67	5.87	5.87	4.93	5.62	5.66	5.95	5.62	5.76	5.77	5.81	5.57	5.83	5.70	5.81	6.14	5.80	4.95
Specific Conductance (mS/cm)	---	0.141	0.180	0.193	0.193	0.165	0.256	0.176	0.218	0.306	0.311	0.311	0.326	0.313	0.294	0.459	0.369	0.274	0.328	0.305	0.329	0.331	0.25	0.341	0.145	0.084	0.053
Temperature (deg. C)	---	19.65	22.14	18.45	18.45	20.87	23.75	24.66	21.32	24.03	18.94	18.94	19.8	20.8	22.50	18.65	20.28	20.38	24.10	16.87	24.26	19.98	22.15	20.63	23.21	19.25	21.2
Dissolved Oxygen (mg/L)	---	0.29	0.28	0.31	0.31	0.74	2.8	23.1	0.47	0.37	0.35	0.35	0.29	0.48	0.83	2.15	0.53	0.09	1.38	0.5	0.7	0.37	0.18	0.36	1.79	2.08	2.09
ORP (mV)	---	-61.3	119.1	23.1	23.1	82.6	14.0	68.5	60.4	7.5	-23.3	-23.3	44.1	64.9	6.1	-58.9	-42.5	-23.4	17.3	6.7	1.9	-3	9.7	7.5	40.2	181.5	262.6
Turbidity (NTU)	---	7.43	6.1	44.0	44.0	30.9	NA	9.5	26.0	9.5	14.1	14.1	3.9	9.8	3.85	12.6	2.9	16.7	1.27	10.1	46.7	7	0.86	9.97	364.3	73.8	5.6
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																										
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.065	0.130	0.095	0.300	0.040	NA	NA	0.034	0.0022	0.0019	0.0054	0.00081 J	0.00048	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	NA	NA
Ethane	---	0.01	0.015	0.0099	0.034	<0.009	NA	NA	0.011	0.00082	0.0005	0.0021	0.00019 J	0.00014	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	NA	NA
Methane	---	1.2	2.2	2.0	5.6	1.8	NA	NA	1.6	7.3	4.4	13	7.2 J	5	NA	5.8	8.9	6.1	5.4	3.2	4.9	5.9	6.6	5.0	NA	NA	NA
Hydrogen (nmol/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	5.4	1.1	NA	0.93	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 2: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21
Date Sampled	TYPE 3/4 RRS mg/L	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16
VOCs (mg/L)																						
Chloroethane	---	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1,2,2-Tetrachloroethane	0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	13	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	0.0052	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.52	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	---	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis -1,2-Dichloroethene	0.2	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans -1,2-Dichloroethene	---	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	0.0033	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	**0.0075**	**0.005**	**0.0071**	**0.0082**	**0.006**	<0.002	0.0025	0.0027	**0.0062**	**0.004**
SVOCs (mg/L)																						
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																						
pH (std. Units)	---	4.36	4.38	4.84	4.43	5.12	4.55	4.44	4.51	4.62	4.74	4.70	5.93	6.05	5.95	6.42	5.04	5.95	5.76	6.09	6.18	5.92
Specific Conductance (mS/cm)	---	0.043	0.050	0.153	0.093	0.051	0.048	0.062	0.053	0.049	0.044	0.042	0.398	0.472	0.476	0.462	0.424	0.342	0.175	0.269	0.416	0.402
Temperature (deg. C)	---	20.83	22.27	19.69	20.98	21.04	23.57	18.52	23.44	18.73	21.66	20.42	20.98	17.32	18.03	17.64	21.62	18.39	21.24	18.28	21.41	18.85
Dissolved Oxygen (mg/L)	---	0.41	1.01	2.11	0.76	5.27	1.9	0.79	1.12	0.57	1.39	0.20	1.79	0.71	2.46	4.18	0.32	0.42	0.29	0.42	0.81	0.34
ORP (mV)	---	-305.3	266.7	241.8	143.9	4.04	229.3	230.1	330.9	275	254.5	272.1	-20.6	-34.5	-50.2	-27	-6.7	-88.8	23.2	-31.8	-1.0	-6.6
Turbidity (NTU)	---	200.1	9.40	19.7	9.7	9.0	9.5	7.09	4.5	8.0	13.1	22.3	25.8	7.7	2.2	9	6.37	9.90	6.20	4.90	5.06	9.92
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																						
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	NA	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007
Ethane	---	NA	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Methane	---	NA	NA	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0077	<0.004	NA	7.1	7.5	8.4	3.4	2.3	3.2	5.5	7.3	5.3
Hydrogen (nmol/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Prepared by: GW 12/28/2016

Checked by: MHA 1/5/2017

Checked by: NJM 1/30/2017

Table 3
Summary of Surface Water Analytical Results

Sample Location	SW-1	SW-2											SW-3
Date Sampled	4/13/2009	4/13/2009	5/17/2010	5/30/2012	12/13/2012	6/6/2013	12/5/2013	6/5/2014	12/3/2014	6/18/2015	12/9/2015	6/16/2016	4/13/2009
VOCs (mg/L)													
Chloroethane	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.001
1,1,2,2-Tetrachloroethane	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
1,1,1-Trichloroethane	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
1,1,2-Trichloroethane	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
Trichloroethylene	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
1,1-Dichloroethene	<0.001	<0.001	0.0006[J]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
1,1-Dichloroethane	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
1,2-Dichloroethane	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
cis -1,2-Dichloroethene	0.00096[J]	<0.001	0.00098[J]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
trans -1,2-Dichloroethene	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
Vinyl Chloride	0.00044[J]	0.00048[J]	0.00042[J]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001

Notes:
J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the method detection limit. Concentration reported is estimated
NA = not analyzed

Table 3
Summary of Surface Water Analytical Results

Sample Location	SW-4									
Date Sampled	5/17/2010	5/30/2012	12/13/2012	6/6/2013	12/5/2013	6/5/2014	12/3/2014	6/18/2015	12/9/2015	6/16/2016
VOCs (mg/L)										
Chloroethane	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1,2,2-Tetrachloroethane	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis -1,2-Dichloroethene	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans -1,2-Dichloroethene	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Notes:
J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the method detection limit. Concentration reported is estimated
NA = not analyzed

Table 3
Summary of Surface Water Analytical Results

Sample Location	SW-5										SW-6									
Date Sampled	5/30/2012	12/13/2012	6/6/2013	12/5/2013	6/5/2014	12/3/2014	6/18/2015	12/9/2015	6/16/2016	12/2/2016	5/30/2012	12/13/2012	6/6/2013	12/5/2013	6/5/2014	12/3/2014	6/18/2015	12/9/2015	6/16/2016	12/2/2016
VOCs (mg/L)																				
Chloroethane	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1,2,2-Tetrachloroethane	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis -1,2-Dichloroethene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans -1,2-Dichloroethene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Prepared by: GW 12/28/2016
Checked by: MHA 1/20/2017

Notes:
J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the method detection limit. Concentration reported is estimated
NA = not analyzed

Table 4
Summary of Groundwater Elevations June 2008 Through December 2016

Well ID	TOC Elevation (FT MSL)	Depth to Water 6/4/2008 (FT BTOC)	Groundwater Elevation 6/4/2008 (FT MSL)	Depth to Water 4/14/2009 (FT BTOC)	Groundwater Elevation 4/14/2009 (FT MSL)	Depth to Water 9/17/2009 (FT BTOC)	Groundwater Elevation 9/17/2009 (FT MSL)	Depth to Water 11/30/2009 (FT BTOC)	Groundwater Elevation 11/30/2009 (FT MSL)	Depth to Water 5/17/2010 (FT BTOC)	Groundwater Elevation 5/17/2010 (FT MSL)	Depth to Water 11/18/2010 (FT BTOC)	Groundwater Elevation 11/18/2010 (FT MSL)	Depth to Water 5/30/2012 (FT BTOC)	Groundwater Elevation 5/30/2012 (FT MSL)	Depth to Water 12/13/2012 (FT BTOC)	Groundwater Elevation 12/13/2012 (FT MSL)
Shallow Aquifer																	
MW-1	292.71	NM	NM	6.49	286.22	10.68	282.03	9.62	283.09	9.21	283.50	11.56	281.15	NM	NM	12.63	280.08
MW-2	285.70	6.11	279.59	4.64	281.06	5.53	280.17	4.90	280.80	4.93	280.77	6.29	279.41	5.14	280.56	6.14	279.56
MW-3	281.17	3.30	277.87	1.86	279.31	2.70	278.47	2.35	278.82	2.31	278.86	3.58	277.59	2.31	278.86	3.03	278.14
MW-4	281.84	2.40	279.44	0.92	280.92	1.87	279.97	1.50	280.34	1.61	280.23	2.81	279.03	1.71	280.13	3.11	278.73
MW-5	286.71	6.57	280.14	4.00[1]	282.71	6.22	280.49	6.29	280.42	6.18	280.53	7.86	278.85	*6.65	280.06	8.42	278.29
MW-6	281.00	4.51	276.49	2.52	278.48	4.34	276.66	3.85	277.15	3.68	277.32	5.04	275.96	4.40	276.60	5.32	275.68
MW-7	281.33	4.19	277.14	2.56	278.77	3.48	277.85	2.99	278.34	2.83	278.50	4.21	277.12	2.71	278.62	3.33	278.00
MW-8	281.28	3.69	277.59	1.82	279.46	3.24	278.04	2.73	278.55	2.64	278.64	3.96	277.32	2.13	279.15	3.20	278.08
MW-9R	278.31	3.70	274.61	1.74	276.57	3.41	274.90	3.00	275.31	2.25	276.06	4.40	273.91	2.51	275.80	3.16	275.15
MW-10	289.37	6.89	282.48	2.54	286.83	6.17	283.20	5.42	283.95	5.30	284.07	7.76	281.61	4.28	285.09	7.15	282.22
MW-11	281.77	4.50	277.27	3.11	278.66	4.06	277.71	3.58	278.19	3.39	278.38	4.75	277.02	3.27	278.50	3.93	277.84
MW-12	288.04	4.62	283.42	0.97	287.07	4.34	283.70	3.50	284.54	3.57	284.47	5.94	282.10	2.85	285.19	5.04	283.00
MW-15	280.22	6.87	273.35	6.04	274.18	6.63	273.59	6.36	273.86	6.30	273.92	7.12	273.10	6.47	273.75	7.05	273.17
MW-18	281.27	NI	NI	NI	NI	3.55	277.72	2.64	278.63	2.87	278.40	4.16	277.11	2.64	278.63	3.43	277.84
MW-19	281.80	NI	NI	NI	NI	4.13	277.67	3.23	278.57	3.00	278.80	2.81	278.99	*3.27	278.53	3.64	278.16
MW-20	282.99	NI	NI	NI	NI	5.15	277.84	4.77	278.22	4.53	278.46	5.78	277.21	4.45	278.54	5.24	277.75
MW-21	284.12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	*4.96	279.16	5.44	278.68
Deep Aquifer																	
MW-1D	282.95	8.34	274.61	7.14	275.81	7.55	275.40	7.35	275.60	7.53	275.42	7.71	275.24	7.91	275.04	8.04	274.91
MW-2D	280.01	8.70	271.31	7.50	272.51	8.02	271.99	7.96	272.05	8.11	271.90	8.26	271.75	8.47	271.54	8.74	271.27
MW-16D	279.91	6.30	273.61	4.70	275.21	5.66	274.25	5.93	273.98	5.85	274.06	5.45	274.46	6.32	273.59	6.54	273.37
MW-20D	281.21	NI	NI	NI	NI	6.59	274.62	6.08	275.13	7.35	273.86	6.79	274.42	7.57	273.64	7.19	274.02

Notes:
BTOC: Below top of casing
FT MSL: Feet mean sea level
NM: not measured
NI = Not Installed
[1] Water level measurement collected on 4/15/2009
* Water level measurements collected on 5/31/2012

Table 4
Summary of Groundwater Elevations June 2008 Through December 2016

Well ID	TOC Elevation (FT MSL)	Depth to Water 6/5/2013 (FT BTOC)	Groundwater Elevation 6/5/2013 (FT MSL)	Depth to Water 12/3/2013 (FT BTOC)	Groundwater Elevation 12/3/2013 (FT MSL)	Depth to Water 6/2/2014 (FT BTOC)	Groundwater Elevation 6/2/2014 (FT MSL)	Depth to Water 12/1/2014 (FT BTOC)	Groundwater Elevation 12/1/2014 (FT MSL)	Depth to Water 6/16/2015 (FT BTOC)	Groundwater Elevation 6/16/2015 (FT MSL)	Depth to Water 12/7/2015 (FT BTOC)	Groundwater Elevation 12/7/2015 (FT MSL)	Depth to Water 6/14/2016 (FT BTOC)	Groundwater Elevation 6/14/2016 (FT MSL)	Depth to Water 11/29/2016 (FT BTOC)	Groundwater Elevation 11/29/2016 (FT MSL)
Shallow Aquifer																	
MW-1	292.71	9.74	282.97	10.58	282.13	8.82	283.89	9.61	283.10	8.66	284.05	8.40	284.31	9.24	283.47	11.77	280.94
MW-2	285.70	5.83	279.87	4.91	280.79	4.94	280.76	4.88	280.82	5.21	280.49	4.50	281.20	5.34	280.36	6.52	279.18
MW-3	281.17	2.98	278.19	2.70	278.47	2.51	278.66	2.98	278.19	2.87	278.30	2.32	278.85	3.02	278.15	4.45	276.72
MW-4	281.84	2.25	279.59	2.02	279.82	1.40	280.44	2.43	279.41	1.55	280.29	1.30	280.54	1.79	280.05	3.48	278.36
MW-5	286.71	6.49	280.22	7.51	279.20	5.78	280.93	7.29	279.42	5.58	281.13	5.63	281.08	6.21	280.50	8.27	278.44
MW-6	281.00	4.16	276.84	4.72	276.28	3.59	277.41	4.69	276.31	3.41	277.59	3.50	277.50	3.78	277.22	5.60	275.40
MW-7	281.33	3.50	277.83	3.24	278.09	3.53	277.80	3.50	277.83	3.75	277.58	2.90	278.43	2.90	278.43	5.45	275.88
MW-8	281.28	3.36	277.92	3.05	278.23	3.06	278.22	3.21	278.07	3.40	277.88	2.62	278.66	3.44	277.84	5.05	276.23
MW-9R	278.31	3.00	275.31	3.48	274.83	2.70	275.61	3.14	275.17	2.84	275.47	2.50	275.81	2.70	275.61	4.37	273.94
MW-10	289.37	6.47	282.90	6.65	282.72	5.46	283.91	5.48	283.89	5.05	284.32	4.19	285.18	5.49	283.88	7.99	281.38
MW-11	281.77	4.10	277.67	3.79	277.98	3.95	277.82	4.11	277.66	4.30	277.47	3.54	278.23	4.33	277.44	5.98	275.79
MW-12	288.04	4.71	283.33	4.51	283.53	3.62	284.42	3.33	284.71	3.28	284.76	2.32	285.72	NM	NM	5.98	282.06
MW-15	280.22	6.59	273.63	6.72	273.50	6.31	273.91	6.19	274.03	6.37	273.85	6.27	273.95	6.41	273.81	7.61	272.61
MW-18	281.27	3.17	278.10	3.11	278.16	3.01	278.26	3.33	277.94	3.30	277.97	2.72	278.55	3.35	277.92	5.04	276.23
MW-19	281.80	3.83	277.97	3.45	278.35	3.49	278.31	3.65	278.15	3.92	277.88	3.04	278.76	3.92	277.88	5.45	276.35
MW-20	282.99	5.18	277.81	5.08	277.91	5.04	277.95	5.25	277.74	5.15	277.84	4.73	278.26	5.25	277.74	6.90	276.09
MW-21	284.12	5.46	278.66	4.96	279.16	4.86	279.26	5.26	278.86	5.26	278.86	4.66	279.46	5.25	278.87	6.87	277.25
Deep Aquifer																	
MW-1D	282.95	8.17	274.78	8.01	274.94	7.95	275.00	7.80	275.15	8.00	274.95	7.54	275.41	7.80	275.15	8.02	274.93
MW-2D	280.01	8.83	271.18	7.61	272.40	8.07	271.94	8.24	271.77	8.14	271.87	7.87	272.14	8.27	271.74	9.54	270.47
MW-16D	279.91	5.85	274.06	5.52	274.39	5.50	274.41	6.88	273.03	5.39	274.52	4.86	275.05	5.83	274.08	5.96	273.95
MW-20D	281.21	7.31	273.90	6.65	274.56	6.75	274.46	7.44	273.77	6.80	274.41	5.61	275.60	6.94	274.27	7.31	273.90

Notes: **Notes:**

BTOC: Belc BTOC: Below top of casing

FT MSL: Fe FT MSL: Feet mean sea level

NM: not me NM: not measured

NI = Not Ins NI = Not Installed

[1] Water leve [1] Water level measurement collected on 4/15/2009

* Water leve * Water level measurements collected on 5/31/2012

Prepared by: MHA 1/4/2017

Checked by: NJM 1/30/2017

Table 5

POST-VRP CSR MONITORING, INSPECTION, AND REPORTING SCHEDULE

FORMER AUTOMATIC SPRINKLER, SWAINSBORO, GEORGIA

Year	Task	Task Name	Date to be Completed
Year 1	Task 1	Groundwater Sampling	December 2017
	Task 2	Activity and Use Limitations Inspection	December 2017
	Task 3	Annual Reporting	February 2018
Year 2	Task 1	Groundwater Sampling	December 2018
	Task 2	Activity and Use Limitations Inspection	December 2018
	Task 3	Annual Reporting	February 2019
Year 3	Task 1	Groundwater Sampling	December 2019
	Task 2	Activity and Use Limitations Inspection	December 2019
	Task 3	Annual Reporting	February 2020
Year 4	Task 1	Groundwater Sampling	December 2020
	Task 2	Activity and Use Limitations Inspection	December 2020
	Task 3	Annual Reporting	February 2021
Year 5	Task 1	Groundwater Sampling	December 2021
	Task 2	Activity and Use Limitations Inspection	December 2021
	Task 3	Annual Reporting	February 2022

Prepared by: KEN 2/13/2017
Checked by: GJW 2/14/2017

Table 6
ESTIMATED COST FOR POST-VRP CSR MONITORING AND REPORTING
FORMER AUTOMATIC SPRINKLER, SWAINSBORO, GEORGIA

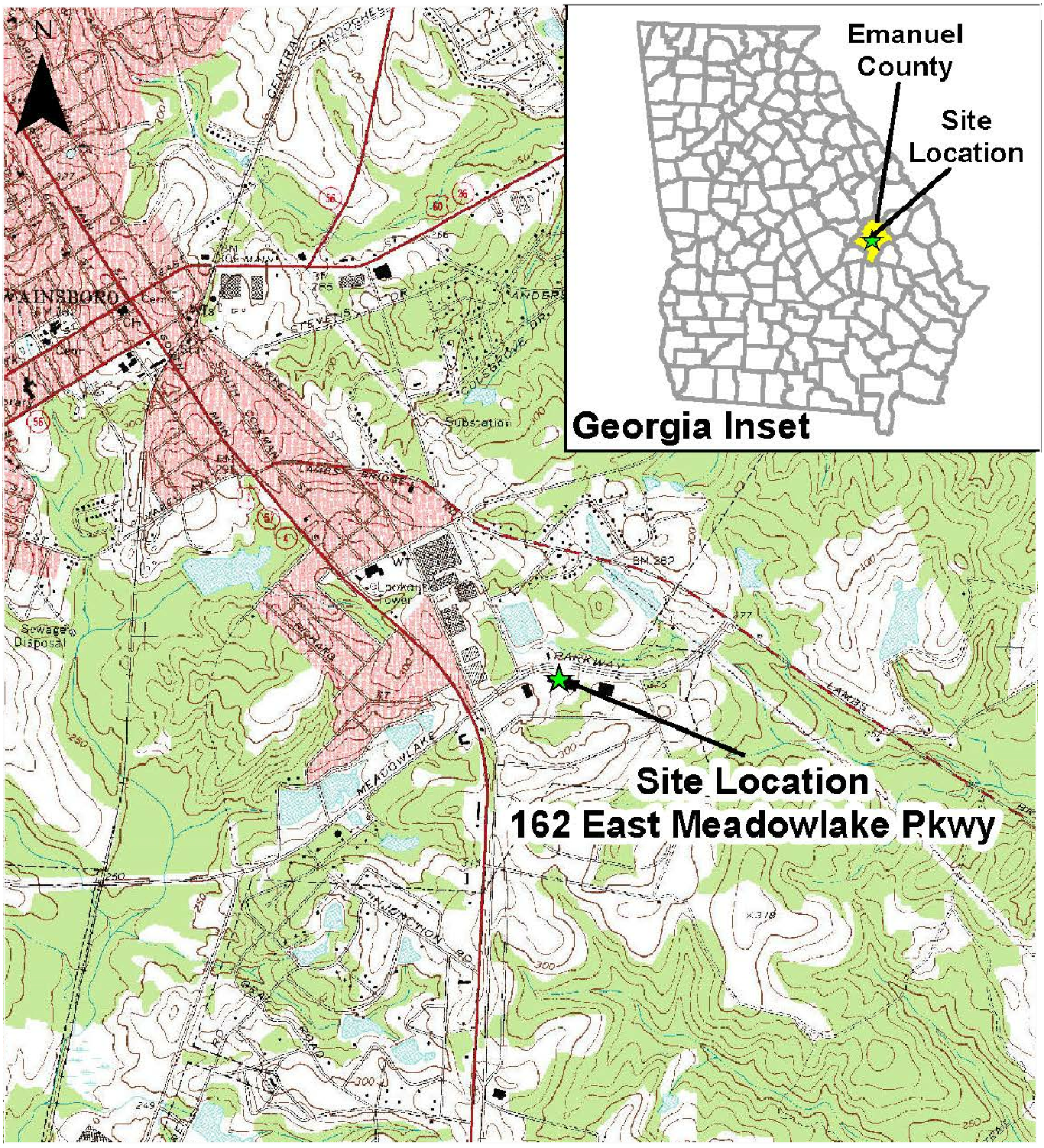
Task #	Task Description	Quantity	Unit	Unit Cost	Total	Notes
1.0	**Annual Sampling, Reporting, Inspection, & Maintenance**					
	1.1 Annual Groundwater Sampling					
	Labor	1	event	$3,000	$3,000	Assumes 2-man crew
	Laboratory Analytical	10	ea	$100	$1,000	Select VOCs
	Rental Equipment	1	event	$800	$800	
	Mobilization/Demobilization/Travel Expenses/Supplies	1	event	$1,000	$1,000	
	1.3 Reporting	1	ea	$8,500	$8,500	
	1.4 Other Costs (inspection, EPD comments, meetings, invoices)	1	ea	$2,000	$2,000	
	SUBTOTAL - Annual Costs				**$16,300**	
2.0	**Supplemental High Vacuum Extraction Events**	1	ea	$10,000	**$10,000**	

Year	Cost Description	Task 1	Task 2	Yearly Cost
2017	Annual Costs + HVE Event	$16,300	$10,000	$26,300
2018	Annual Costs + HVE Event	$16,300	$10,000	$26,300
2019	Annual Costs + HVE Event	$16,300	$10,000	$26,300
2020	Annual Costs + HVE Event	$16,300	$10,000	$26,300
2021	Annual Costs + HVE Event	$16,300	$10,000	$26,300
	TOTAL PROJECTED COST			**$131,500**

Prepared by: KEN 2/13/2017
Checked by: GJW 2/14/2017

The cost opinion is provided for budgetary purposes. Actual scope of work and costs may vary as additional information and formal cost estimates are obtained.

FIGURES



Source: USGS 7.5 Minute Topographic Quadrangle, Swainsboro Quad

FORMER AUTOMATIC SPRINKLER SITE
162 E. MEADOWLAKE PKWY
SWAINSBORO, GA

amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

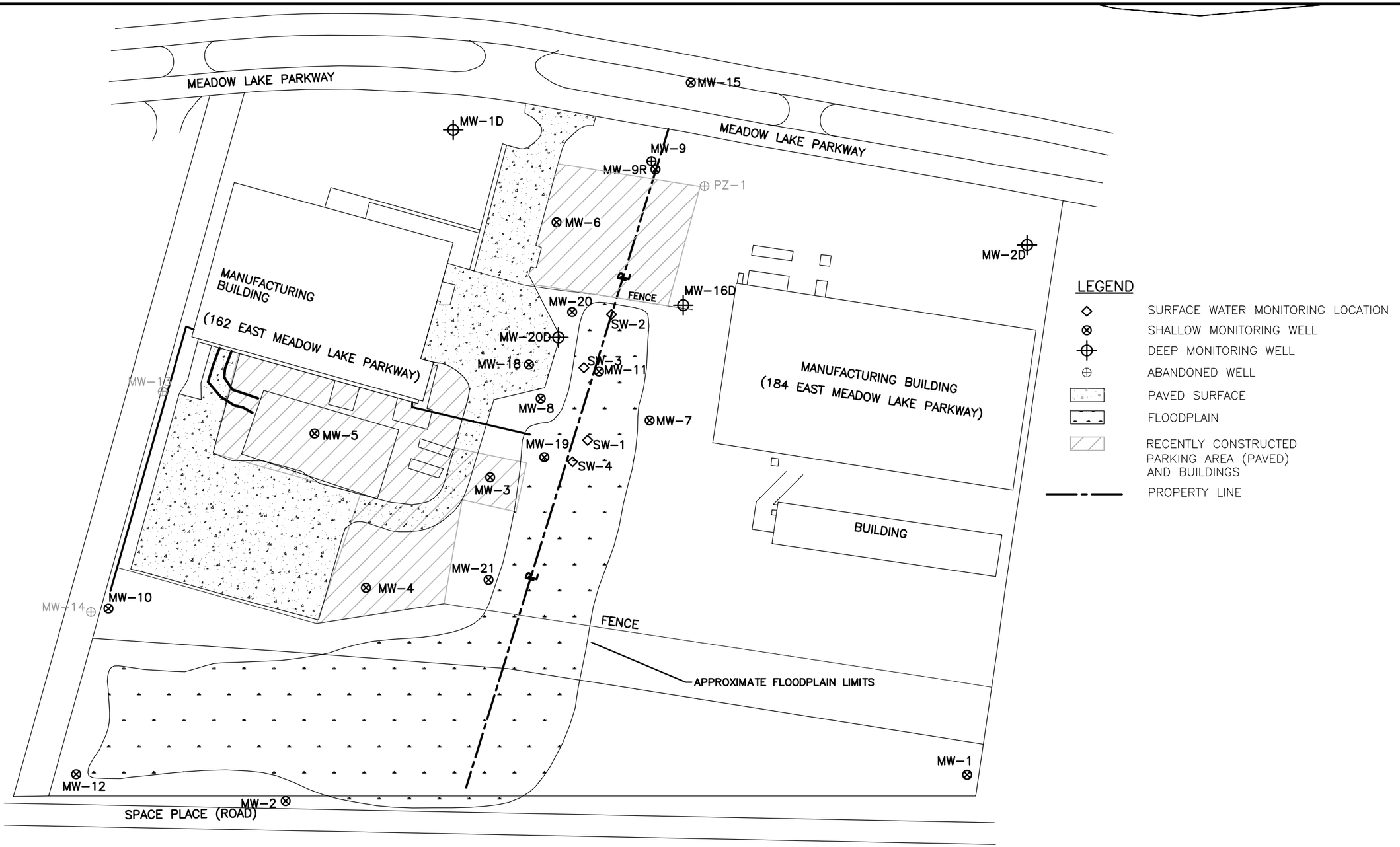
SITE LOCATION MAP

JOB NO. 6125-08-0149 FIGURE 1

PREPARED BY/DATE

CHECKED BY/DATE

J:\STI\JUNE 2015\FIG 2-SITE LAYOUT MAP.dwg - Layout1 08/19/2015 11:39am Tonya.Gladstone



SCALE IN FEET

0 100 200

SOURCE: BASE MAP EMCON, 12/98 AND 6/99. GIS, AND ESRI WEBMAP SERVICE.

FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

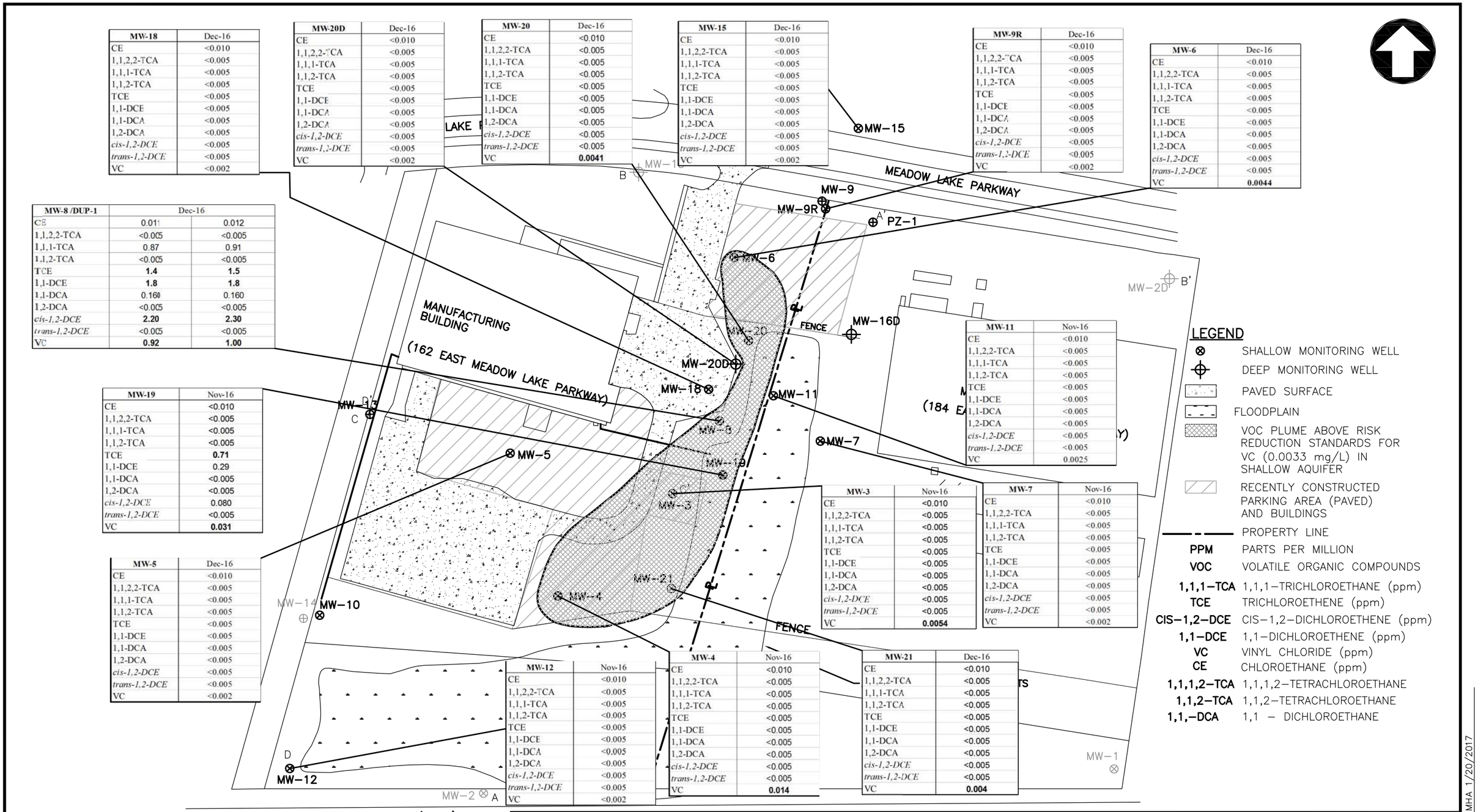
amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 2
SITE LAYOUT MAP

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 6/22/2012
CHECKED BY/DATE RPR 6/26/2012

J:\STI\JAN 2017\FIG 5-VOC CONCEN IN GW-DEC 2015.dwg - Layout1 02/06/2017 2:54pm ligita.kravchuk



MW-18	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-20D	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-20	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0041**

MW-15	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-9R	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-6	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0044**

MW-8 /DUP-1	Dec-16	
CE	0.011	0.012
1,1,2,2-TCA	<0.005	<0.005
1,1,1-TCA	0.87	0.91
1,1,2-TCA	<0.005	<0.005
TCE	**1.4**	**1.5**
1,1-DCE	**1.8**	**1.8**
1,1-DCA	0.160	0.160
1,2-DCA	<0.005	<0.005
cis-1,2-DCE	**2.20**	**2.30**
trans-1,2-DCE	<0.005	<0.005
VC	**0.92**	**1.00**

MW-19	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	**0.71**
1,1-DCE	0.29
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	0.080
trans-1,2-DCE	<0.005
VC	**0.031**

MW-11	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	0.0025

MW-3	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0054**

MW-7	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-5	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-12	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-4	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.014**

MW-21	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.004**

LEGEND

- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- PAVED SURFACE
- FLOODPLAIN
- VOC PLUME ABOVE RISK REDUCTION STANDARDS FOR VC (0.0033 mg/L) IN SHALLOW AQUIFER
- RECENTLY CONSTRUCTED PARKING AREA (PAVED) AND BUILDINGS
- PROPERTY LINE

PPM	PARTS PER MILLION
VOC	VOLATILE ORGANIC COMPOUNDS
1,1,1-TCA	1,1,1-TRICHLOROETHANE (ppm)
TCE	TRICHLOROETHENE (ppm)
CIS-1,2-DCE	CIS-1,2-DICHLOROETHENE (ppm)
1,1-DCE	1,1-DICHLOROETHENE (ppm)
VC	VINYL CHLORIDE (ppm)
CE	CHLOROETHANE (ppm)
1,1,1,2-TCA	1,1,1,2-TETRACHLOROETHANE
1,1,2-TCA	1,1,2-TETRACHLOROETHANE
1,1,-DCA	1,1 - DICHLOROETHANE

SCALE IN FEET

0 100 200

SOURCE: BASE MAP EMCON, 12/98 AND 6/99. NEW SURVEYED POINTS, MW-3, 4, 5, 18, 19, 20 AND 20D, SEPTEMBER 22, 2009.

FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

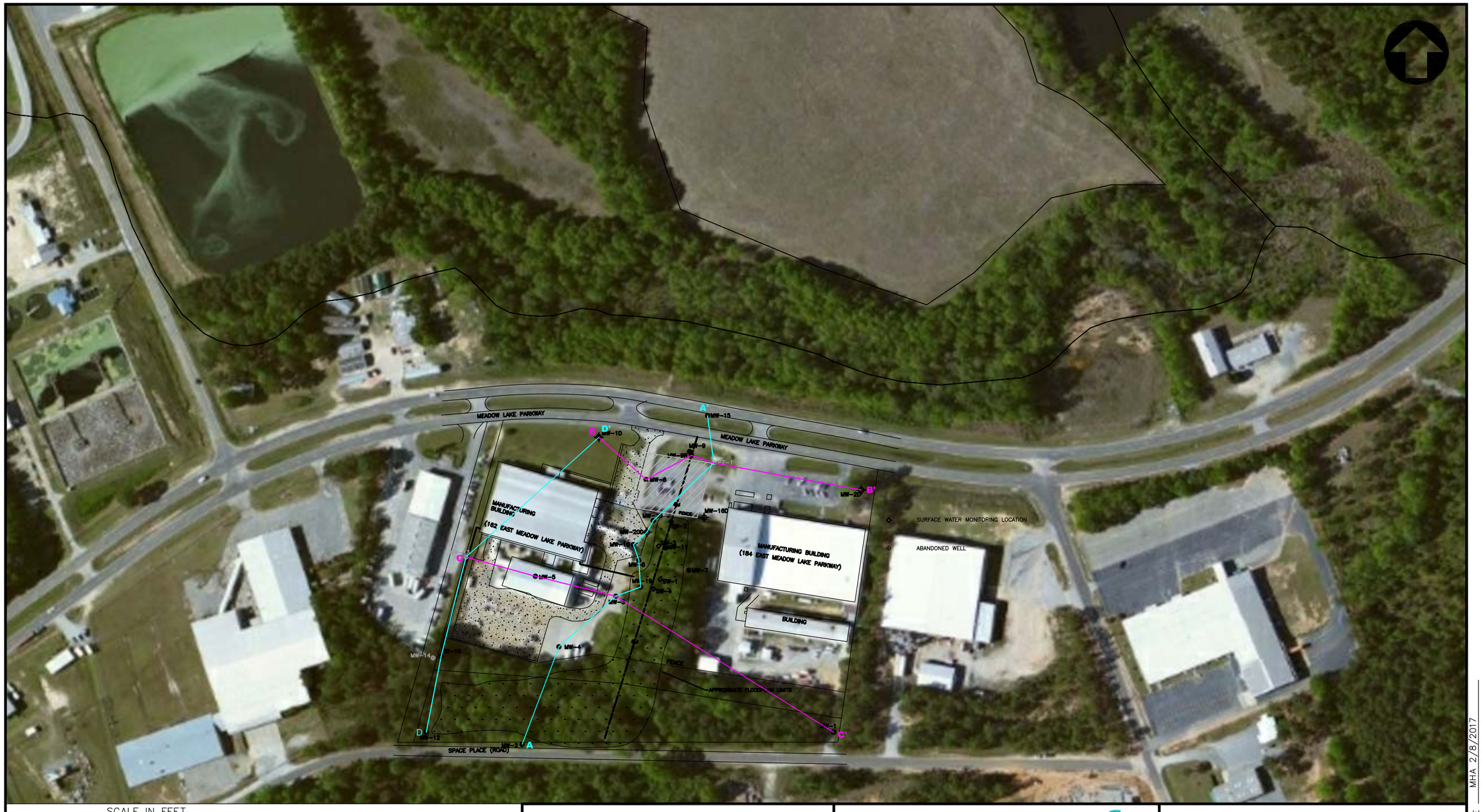
amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 3
VOC CONCENTRATIONS IN GROUNDWATER NOVEMBER AND DECEMBER 2016

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 1/20/2017
CHECKED BY/DATE NJM 2/6/2017

J:\STI\JAN 2017\FIG 1.2_SITE LAYOUT.dwg 02/23/2017 12:22pm ligita.kravchuk



SCALE IN FEET

0 200 400

SOURCE: BASE MAP EMCON, 12/98 AND 6/99. GIS, AND ESRI WEBMAP SERVICE.

FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
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amec foster wheeler
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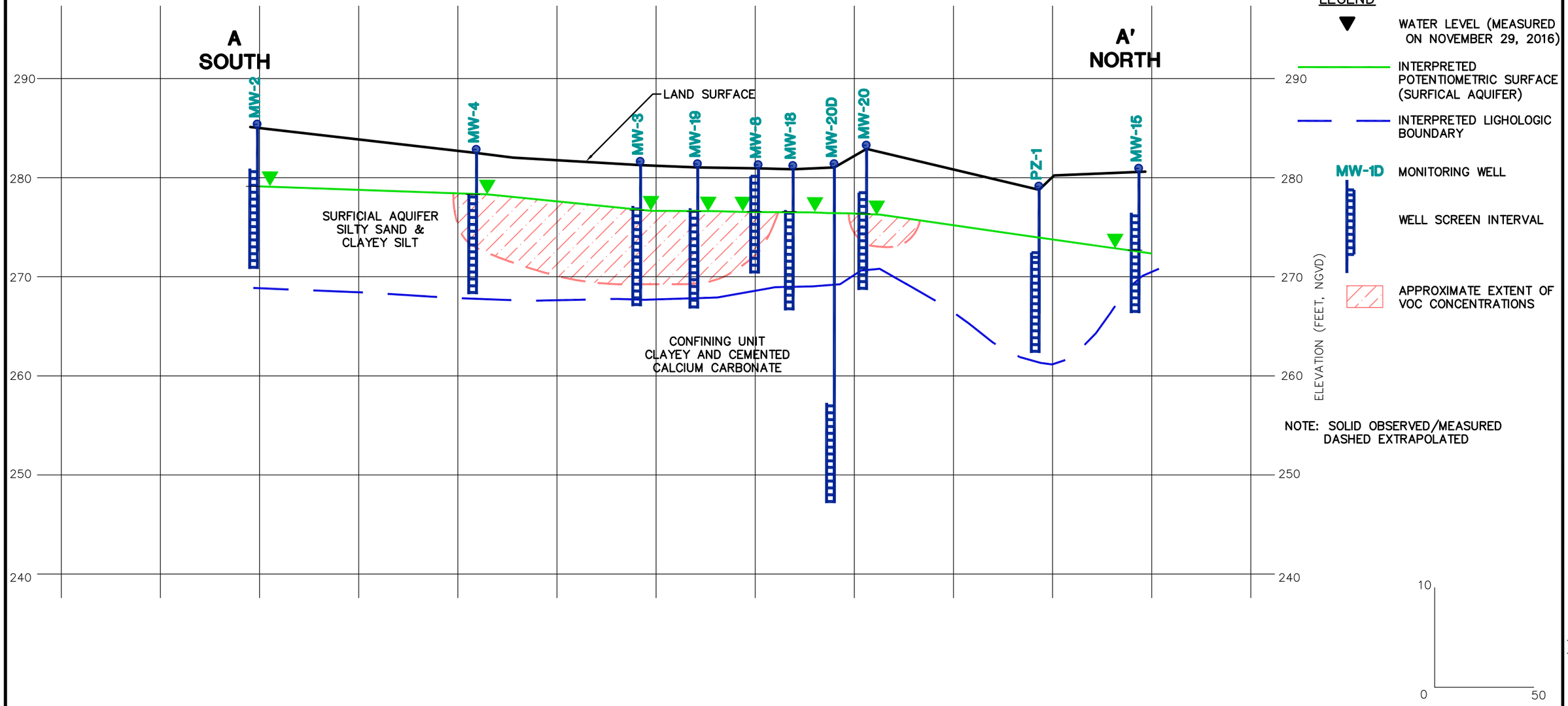
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 4
CROSS SECTION LOCATION MAP

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 2/8/2017
CHECKED BY/DATE TRK 2/8/2017



FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

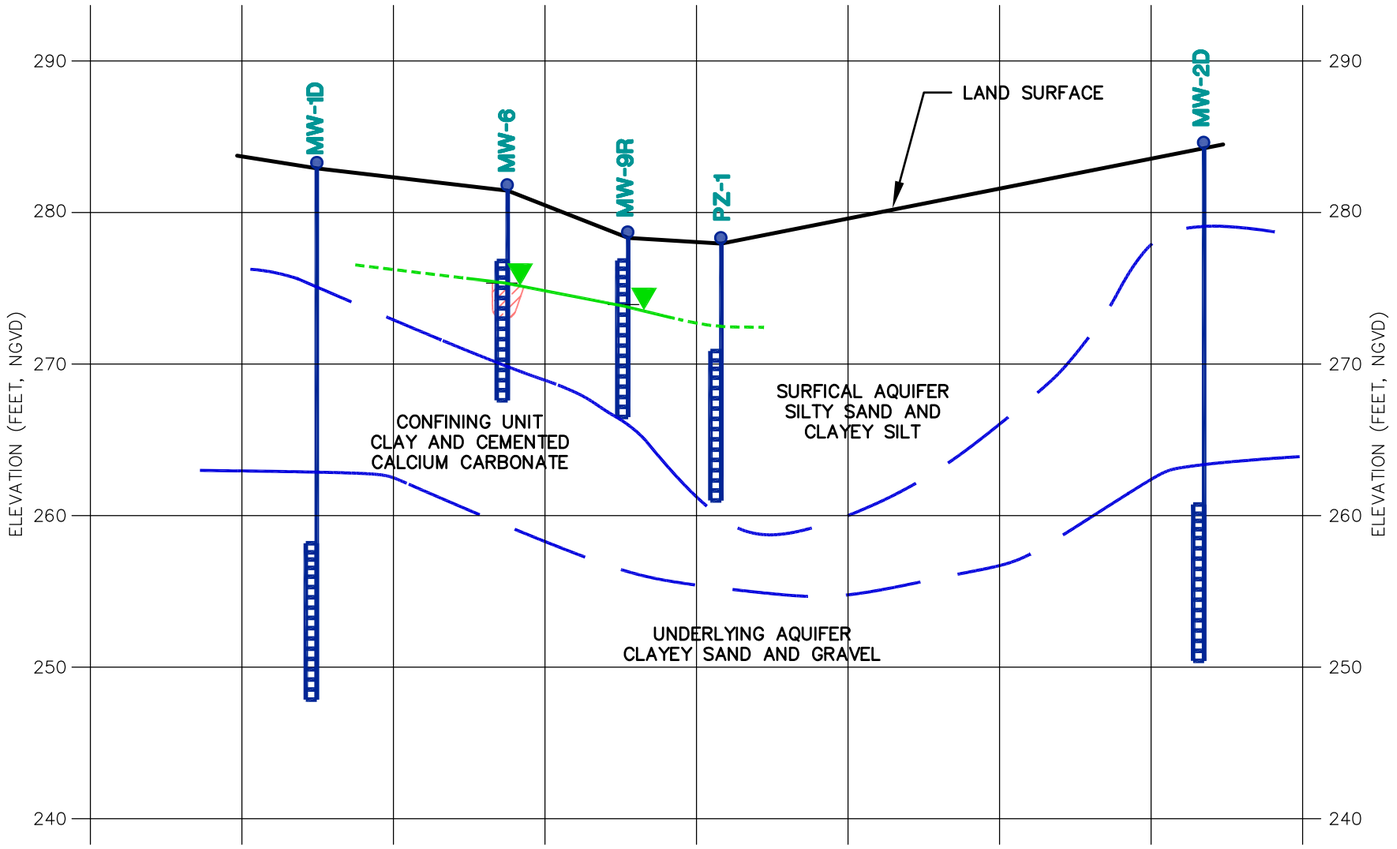
amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421–3400

FIGURE 4A
CROSS SECTION A–A'

JOB NO. 6125–08–0149

PREPARED BY/DATE MHA 2/8/2017
CHECKED BY/DATE TRK 2/8/2017

B NORTHWEST — B' NORTHEAST

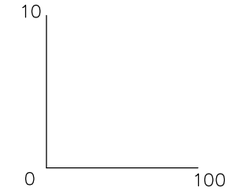


LEGEND

- WATER LEVEL (MEASURED ON NOVEMBER 29, 2016)
- INTERPRETED POTENTIOMETRIC SURFACE (SURFICAL AQUIFER)
- INTERPRETED LIGHOLOGIC BOUNDARY
- MW-1D MONITORING WELL
- WELL SCREEN INTERVAL
- APPROXIMATE EXTENT OF VOC CONCENTRATIONS

NOTES:

1. SURFICIAL AQUIFER CONSIST OF SAND , CLAYEY SAND, SILTY SAND, SAND, AND SILT. CONFINING UNIT CONSISTS OF CLAY AND PARTIALLY CEMENTED CALCIUM CARBONATE. UNDERLYING AQUIFER CONSISTS OF CLAYEY SAND & GRAVEL.
2. SOLID OBSERVED/MEASURED DASHED EXTRAPOLATED



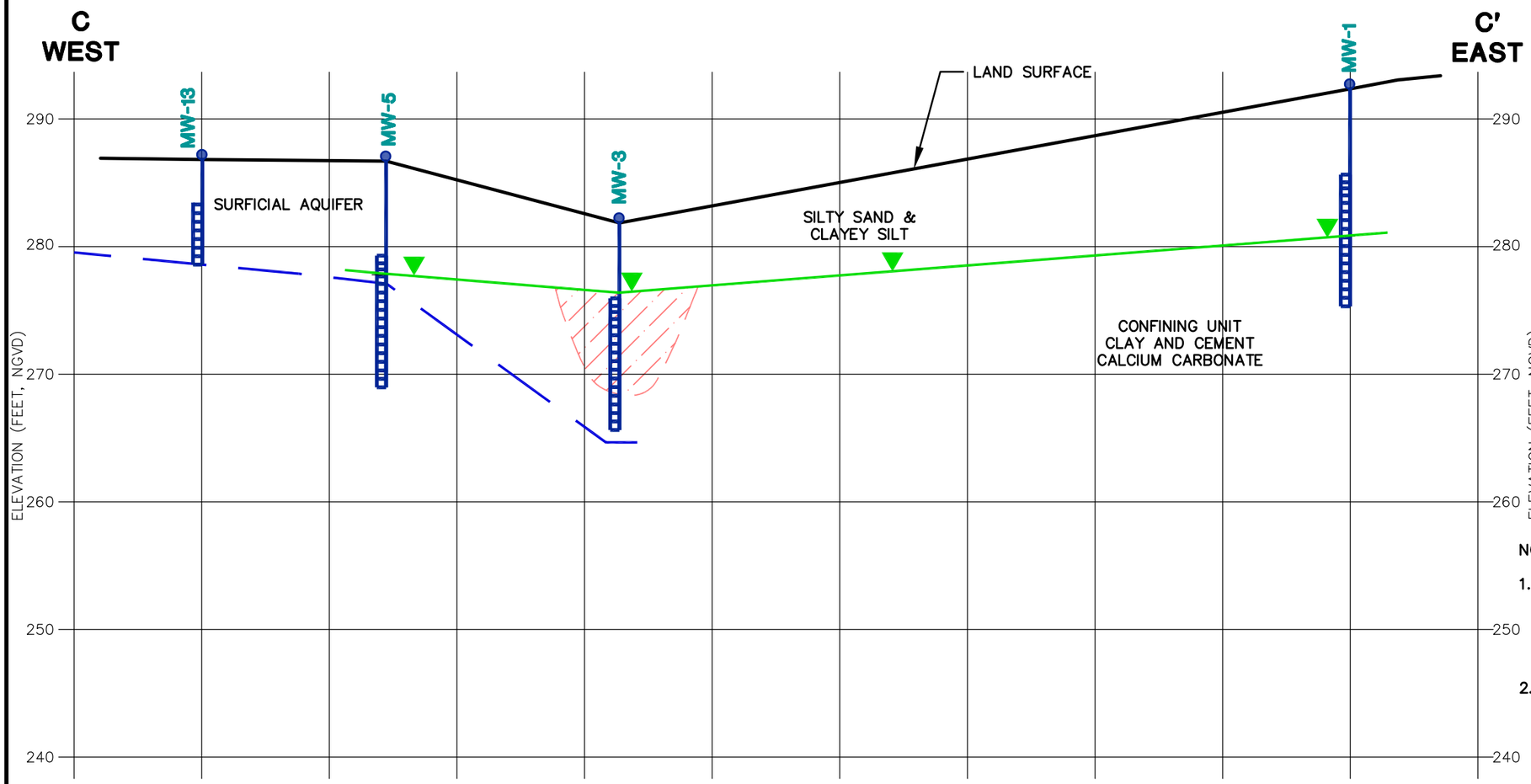
STI PROPERTIES, INC.
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421–3400

FIGURE 4B
CROSS SECTION B–B'

JOB NO. 6125–08–0149

PREPARED BY/DATE MHA 2/8/2017
CHECKED BY/DATE TRK 2/8/2017

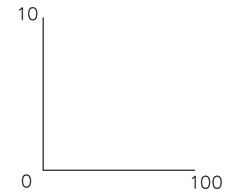


LEGEND

- WATER LEVEL (MEASURED ON NOVEMBER 18, 2010)
- INTERPRETED POTENTIOMETRIC SURFACE (SURFICAL AQUIFER)
- INTERPRETED LIGHOLOGIC BOUNDARY
- MW-1D MONITORING WELL
- WELL SCREEN INTERVAL
- APPROXIMATE EXTENT OF VOC CONCENTRATIONS

NOTES:

1. SURFICIAL AQUIFER CONSIST OF SAND , CLAYEY SAND, SILTY SAND, SAND, AND SILT. CONFINING UNIT CONSISTS OF CLAY AND PARTIALLY CEMENTED CALCIUM CARBONATE. UNDERLYING AQUIFER CONSISTS OF CLAYEY SAND & GRAVEL.
2. SOLID OBSERVED/MEASURED DASHED EXTRAPOLATED



FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

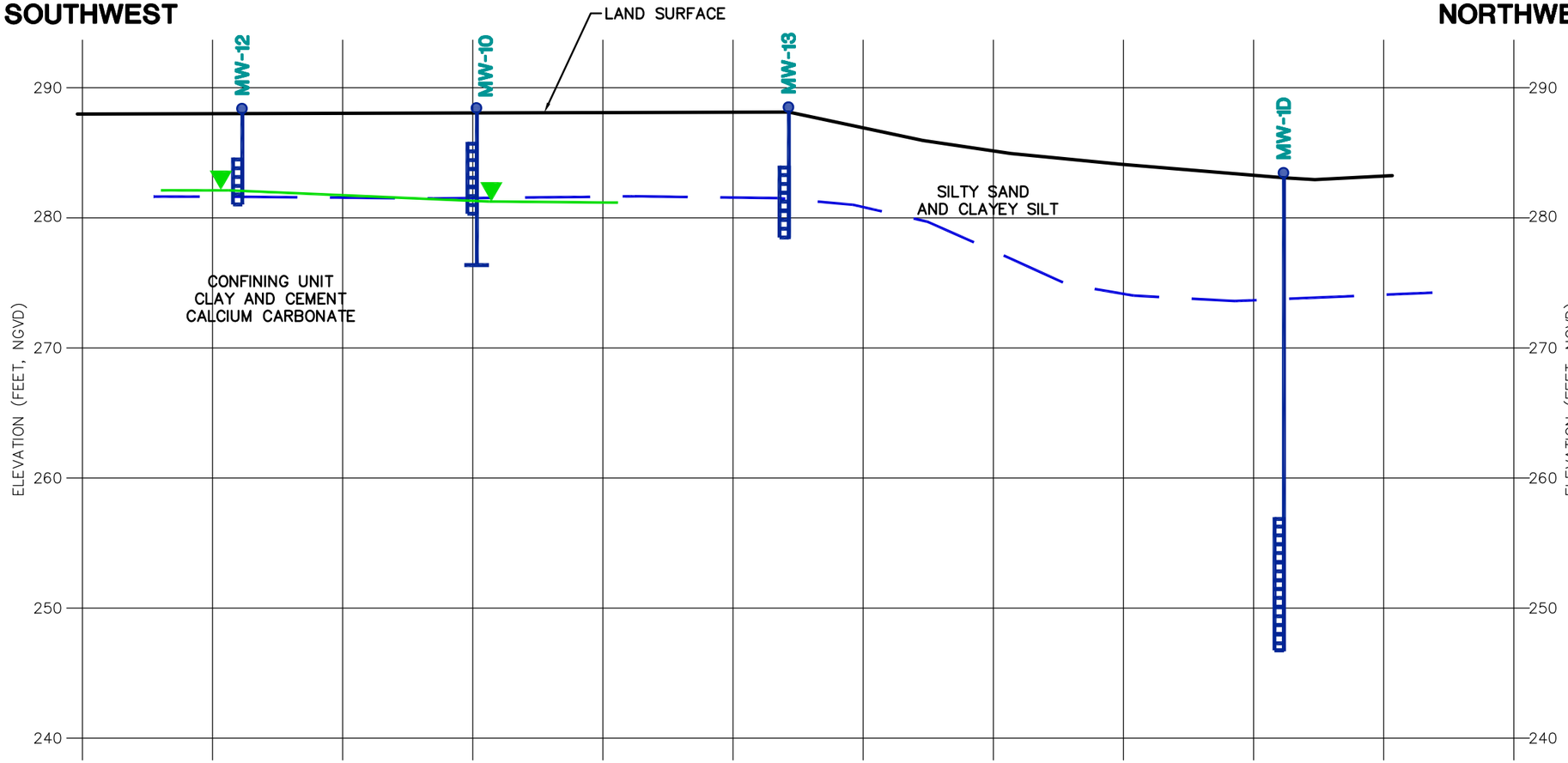
amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 4C
CROSS SECTION C–C'

JOB NO. 6125–08–0149

PREPARED BY/DATE MHA 2/8/2017
CHECKED BY/DATE TRK 2/8/2017

D SOUTHWEST — D' NORTHWEST



LEGEND

- WATER LEVEL (MEASURED ON NOVEMBER 29, 2016)
- INTERPRETED POTENTIOMETRIC SURFACE (SURFICAL AQUIFER)
- INTERPRETED LIGHOLOGIC BOUNDARY
- MW-1D MONITORING WELL
- WELL SCREEN INTERVAL

NOTES:

1. SURFICIAL AQUIFER CONSIST OF SAND , CLAYEY SAND, SILTY SAND, SAND, AND SILT. CONFINING UNIT CONSISTS OF CLAY AND PARTIALLY CEMENTED CALCIUM CARBONATE. UNDERLYING AQUIFER CONSISTS OF CLAYEY SAND & GRAVEL.
2. SOLID OBSERVED/MEASURED DASHED EXTRAPOLATED

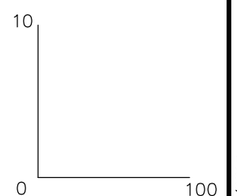


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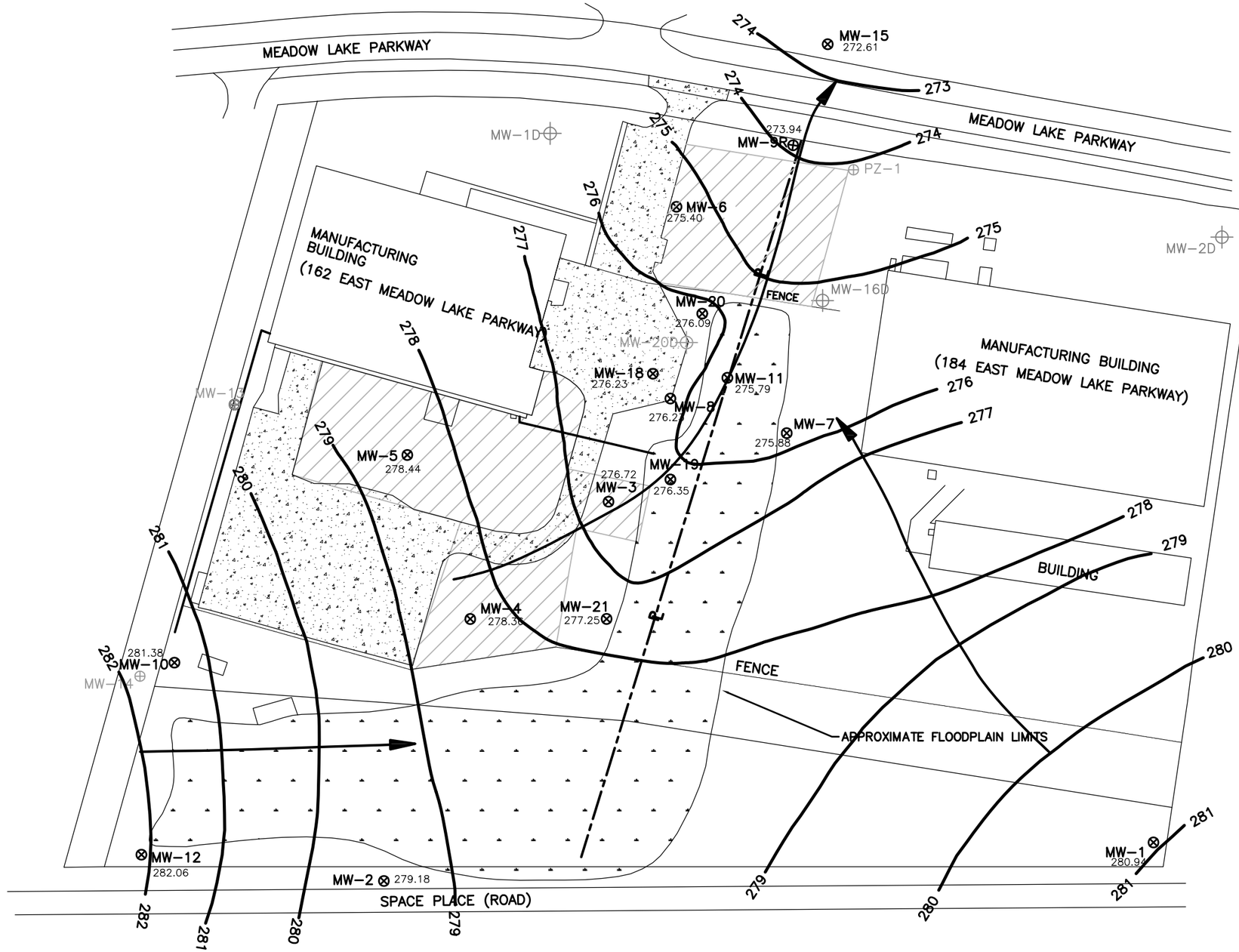
FIGURE 4D
CROSS SECTION D–D'

JOB NO. 6125–08–0149

PREPARED BY/DATE MHA 2/8/2017
CHECKED BY/DATE TRK 2/8/2017



LEGEND

- ⊗ SHALLOW MONITORING WELL
- ⊕ DEEP MONITORING WELL
- ⊕ ABANDONED WELL
- PAVED SURFACE
- FLOODPLAIN
- RECENTLY CONSTRUCTED PARKING AREA (PAVED) AND BUILDINGS
- PROPERTY LINE
- 282 POTENTIOMETRIC CONTOUR (FT MSL)
- 282.06 GROUNDWATER SURFACE ELEVATION (FT MSL)
- NM NOT MEASURED
- DIRECTION OF GROUNDWATER FLOW

SCALE IN FEET

0 100 200

SOURCE: BASE MAP EMCON, 12/98 AND 6/99

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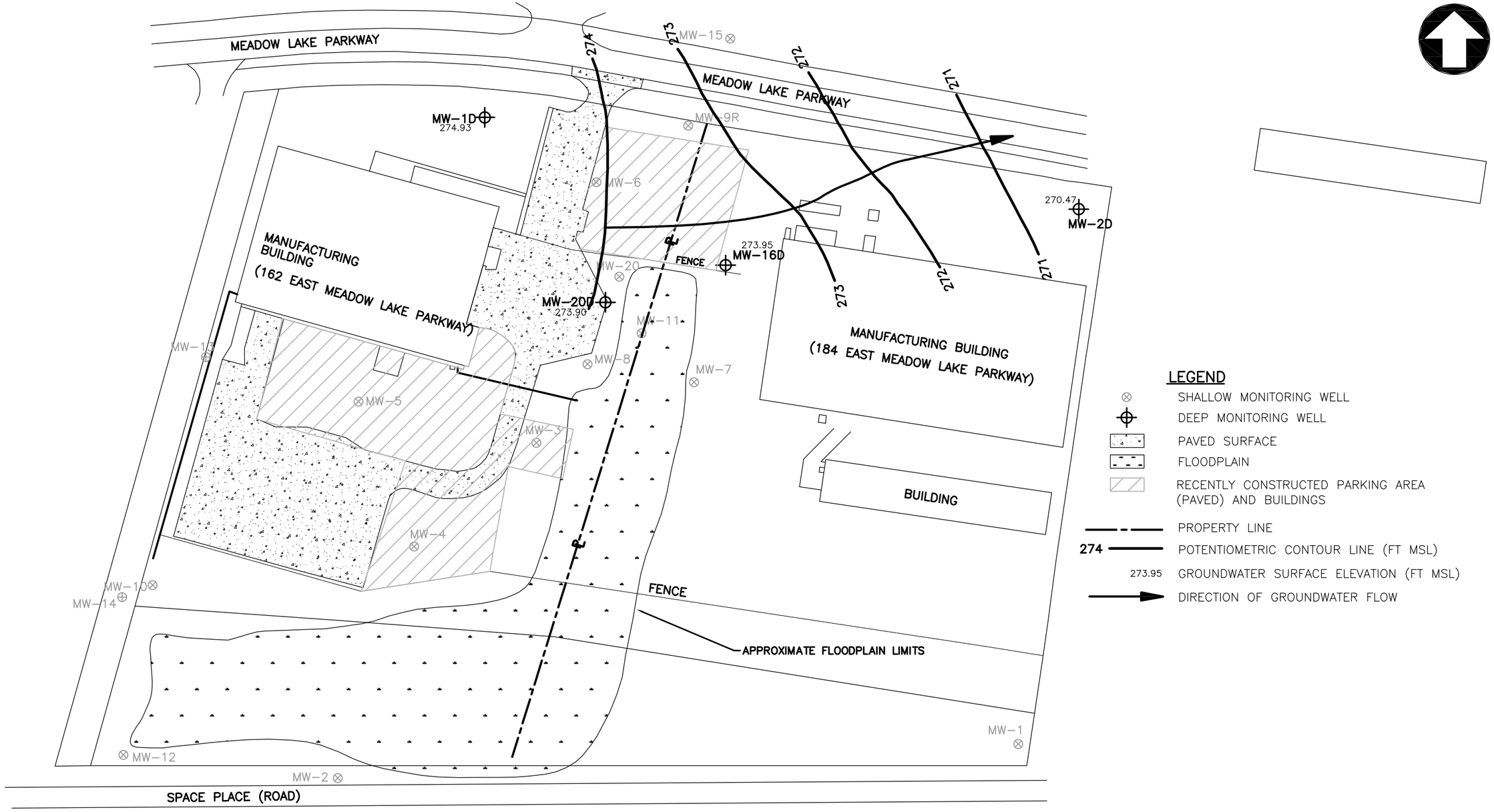
FIGURE 5a
SHALLOW ZONE
POTENTIOMETRIC SURFACE MAP
NOVEMBER 2016

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 1/20/2017
CHECKED BY/DATE NJM 2/6/2017



SCALE IN FEET

0 100 200

SOURCE: EMCON, 12/98 AND 6/99

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FIGURE 5b
DEEP ZONE
POTENTIOMETRIC SURFACE MAP
NOVEMBER 2016

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 1/20/2017
CHECKED BY/DATE NJM 2/6/2017

APPENDIX A
VRP STATUS REPORT NO. 10

Georgia Environmental Protection Division
Land Protection Branch
Response and Remediation Program
Response Development Units 1 – 3

2 Martin Luther King Jr. Dr. SE
Suite 1054 East Tower
Atlanta, Georgia 30334
Phone: 404-657-8600

Document Submittal Form

Instructions: This form should be completed and included with any document submitted to the Response and Remediation Program, Response Development Units 1 – 3, that is greater than 25 pages in length or that contains paper sizes larger than 11"x17". This includes Release Notifications and documents related to Hazardous Site Inventory and Voluntary Remediation Program sites. Contact Brownfield Unit staff for Brownfield submittal guidelines. Your cooperation helps to ensure that documents are filed correctly, completely, and efficiently.

Name of Document:	Voluntary Remediation Program Status Report No. 10
Date of Document:	February 20, 2017
Site Name:	Former Automatic Sprinkler Site, Swainsboro, GA
Site ID Number:	HSI Site No. 10268

Document Submittal Checklist. Please certify that the submittal includes the following by checking each box as appropriate. Items 1 – 3 should be checked / included / certified for each submittal:

☒ 1. One paper copy of the document (double-sided is preferred)

☒ 2. Two compact discs (CDs), each containing an electronic copy of the document as a single, searchable, Portable Document Format (PDF) file. Only one CD is needed for Release Notifications. CDs should be labeled at a minimum with the following: 1) Name of Document, 2) Date of Document, 3) Site Name, and 4) Site Number. Any scanned images should have a resolution of at least 300 dpi and should be in color if applicable.

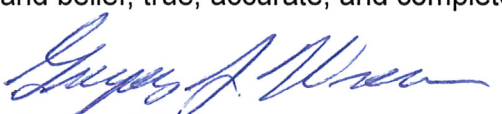
☒ 3. The electronic copies are complete, virus free, and identical to the paper copy except as described in Item 4 below.

☒ 4. (Optional) To reduce the size of the paper copy, certain voluminous information has been omitted from the paper copy and is included only with the electronic copies:

☒ laboratory data sheets ☐ manifests

☐ other: NA

I certify that the information I am submitting is, to the best of my knowledge and belief, true, accurate, and complete.

Signature: 

Name (printed): Gregory J. Wrenn

Date: 2/20/2017

Organization: Amec Foster Wheeler

Phone: 770-421-3400

Email: Greg.wrenn@amecfw.com

Receipt Date
(for EPD use only)

Voluntary Remediation Program Status Report No. 10

Former Automatic Sprinkler Site
162 East Meadowlake Parkway
Swainsboro, Emanuel County, Georgia
HSI Site No. 10268

Prepared for:	Scott Figgie LLC 34407 DuPont Boulevard, Suite 6, Frankford, DE 19945
Date:	February 2017
Prepared by:	Amec Foster Wheeler Environment & Infrastructure, Inc. 1075 Big Shanty Road NW, Suite 100, Kennesaw, Georgia 30144
Project No.:	6125080149

February 20, 2017

Mr. David Brownlee
Georgia Environmental Protection Division
Response and Remediation Program
2 Martin Luther King Jr. Drive, Suite 1462 East Tower
Atlanta, Georgia 30334

Subject: **Voluntary Remediation Plan Status Report No. 10**
Former Automatic Sprinkler Site, Swainsboro, Georgia
HSI Site No. 10268

Dear Mr. Brownlee:

Amec Foster Wheeler Environment & Infrastructure, Inc. is pleased to provide Georgia Environmental Protection Division with the attached Status Report No. 10 for Voluntary Remediation Program activities for the Former Automatic Sprinkler Site in Swainsboro, Emanuel County, Georgia (HSI Site No. 10268). The report covers the activities conducted between August 2016 and December 2016.

Should you have any questions, please contact us at (770) 421-3400.

Sincerely,
Amec Foster Wheeler Environment & Infrastructure, Inc.

Mark H. Andrews
Staff Geologist

Gregory J. Wrenn, P.E.
Associate/Project Manager

Attachment: VRP Status Report No. 10

cc: Stuart Rixman, Scott Figgie LLC
Troy Chute, Scott Figgie LLC
Anita Bucci, Kongsberg Automotive
Jack Bareford, Swainsboro Emanuel County Joint Development Authority

Environment & Infrastructure
1075 BIG SHANTY ROAD NW
SUITE 100
KENNESAW, GA 30144 USA
O (770) 421 3400
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amecfw.com

Table of Contents

1.0 PE Certification

"I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances.

Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division.

The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Gregory J. Wrenn, Georgia P.E. #25565

Printed Name and GA PE Number

Feb. 20, 2017

Date

Signature and Stamp

2.0 Introduction and Background

This Voluntary Remediation Program (VRP) Semi-Annual Status Report No. 10 (Status Report) was prepared for the Former Automatic Sprinkler Site (site), Hazardous Site Inventory (HSI) No.10268. The Georgia Environmental Protection Division (EPD) letter, dated February 24, 2012, accepted the site into the VRP and requested submittal of semi-annual VRP status reports. This tenth Status Report covers the activities conducted subsequent to those described in Semi-Annual Status Report No. 9 submitted to the EPD on August 23, 2016.

The site is located at 162 East Meadowlake Parkway, Swainsboro, Georgia. Figure 1 shows the site location. Figure 2 presents the site layout, existing monitoring well locations, and previous surface water sampling locations. This 6.91-acre property is part of a larger industrial development located southeast of the center of Swainsboro. East Meadowlake Parkway forms the northern boundary of the site. Approximately 47 acres of undeveloped land are located north of the site and East Meadowlake Parkway. A publicly owned wastewater treatment plant is located to the northwest. A manufacturing facility occupies property to the east. Space Place Road and another industrial facility (Space Place) are located to the south.

Before 1967, the property was agricultural or lightly wooded land. The property was initially developed by Automatic Sprinkler Corporation of America (ASCOA), a subsidiary of Figgie International, Inc. Figgie International changed its name to Scott Technologies, Inc. (STI). STI Properties, Inc. was the affiliate of Scott Technologies with responsibility for its real estate operations. Due to an organizational change, Scott Figgie LLC is now the legal entity responsible for addressing the historical subsurface environmental issues related to the Former Automatic Sprinkler Site. Scott Figgie has engaged GSF Management Company (GSF) to manage the remediation of that site on its behalf.

The operation at 162 East Meadowlake Parkway reportedly began in 1967 and continued until approximately 1992. In 1994, the property ownership was transferred to the Swainsboro-Emanuel County Joint Development Authority. The Swainsboro-Emanuel County Joint Development Authority currently owns the property and leases the facility to Kongsberg Automotive. Kongsberg Automotive manufactures engine parts at the facility.

Early environmental investigations (1997 through 2000) were focused on metal (lead and zinc) impacts to soils. Soils with lead and zinc impacts were excavated and disposed of properly. Confirmation sampling indicated that the formerly metal-impacted areas complied with Type 3 Risk Reduction Standards (RRS). However, during the course of the investigations, chlorinated volatile organic compounds (VOCs) were detected in the subsurface. The VOC impacts have been the primary focus of the subsequent environmental work at the site. A summary of applicable RRS is included as Table 1. The environmental history of the site is summarized as follows:

- The site was used for manufacturing fire control components from 1967 to 1992.
- The site was listed on the Georgia Hazardous Site Inventory (HSI) in June 1994.
- Figgie Properties conveyed the property to the Swainsboro-Emmanuel County Joint Development Authority in November 1994.
- A Consent Order for assessment/remediation of the site under the Georgia Hazardous Site Response Act (HSRA) was executed between Georgia EPD and Figgie Properties in October 1997.

- Assessment and remediation activities were conducted between 1998 and 2002, including the removal of metal-impacted soil, and two short-term multi-phase extraction events, which removed VOCs in soil vapor and groundwater from a small isolated "hot spot" around MW-8.
- A Corrective Action Plan (CAP) containing contaminant transport modeling and proposing to address VOC-impacted groundwater via monitored natural attenuation (MNA) was submitted to EPD in December 2002. BIOCHLOR (an EPA model for predicting potential chlorinated VOC concentrations over time and distance) was used to evaluate the fate and transport of VOCs in groundwater. The U.S. Environmental Protection Agency (EPA) MNA Screening Matrix screening score indicated "strong evidence for natural anaerobic biodegradation of chlorinated constituents."
- EPD approved MNA as a potentially appropriate corrective action in August 2003 and requested continued MNA monitoring to evaluate trends in contaminant concentrations.
- MNA demonstration monitoring was conducted between 2003 and 2010.
- In February 2011, based upon the predicted 74-year MNA remedial period, the HSRA program requested evaluation of corrective action enhancements to reduce the clean-up time.
- In April 2011, STI submitted the VRP Application in order to enroll in the Georgia Voluntary Remediation Program. An EPD comment letter dated September 8, 2011 requesting additional information resulted in a VRP Application Addendum submitted by STI on November 14, 2011. EPD letters dated February 24, 2012 accepted STI into the VRP and put forth comments to be addressed during implementation of the VRP.
- VRP Status Report No. 1 and responses to EPD comments (February 24, 2012) were submitted to EPD on August 23, 2012.
- EPD issued comments on the VRP Status Report No. 1 in correspondence dated December 27, 2012.
- VRP Status Report No. 2 and responses to EPD comments (December 27, 2012) were submitted to EPD on February 20, 2013.
- EPD issued comments on VRP Status Report No. 2 in correspondence dated April 9, 2013.
- A 24-hour high vacuum extraction (HVE) event was conducted beginning on April 30, 2013 using MW-8 and MW-19 as extraction wells. Approximately 1,600 gallons of fluid were recovered during the HVE event. The extracted fluids were treated on-site using an air stripper and then transported to the Swainsboro publicly owned treatment works (POTW) for disposal following confirmation of treatment to acceptable levels.
- VRP Status Report No. 3, which addressed EPD comments dated April 9, 2013, was submitted to EPD on August 14, 2013.
- EPD issued comments on VRP Status Report No. 3 in correspondence dated September 13, 2013.
- VRP Status Report No. 4, which addressed EPD comments dated September 13, 2013, was submitted to EPD on February 20, 2014.
- EPD issued comments on VRP Status Report No. 4 in correspondence dated May 23, 2014.
- A 24-hour HVE event was conducted beginning on July 8, 2014 using MW-8 and MW-19 as extraction wells. Approximately 1,250 gallons of fluid were recovered during the HVE event. The extracted fluids were treated on-site using activated carbon and then transported to the Swainsboro POTW for disposal following confirmation of treatment to acceptable levels.
- VRP Status Report No. 5, which addressed EPD comments dated May 23, 2014, was submitted to EPD on August 19, 2014.
- EPD issued comments on VRP Status Report No. 5 in correspondence dated December 4, 2014.

- EPD Status Report No. 6, which addressed EPD comments dated December 4, 2014, was submitted to EPD on February 23, 2015.
- EPD issued comments on VRP Status Report No. 6 in correspondence dated July 27, 2015.
- VRP Status Report No. 7 was submitted to EPD on August 20, 2015.
- A response to the EPD comments on VRP Status Report No. 6 was submitted on September 28, 2015.
- A 24-hour high vacuum extraction (HVE) event was conducted beginning on November 10, 2015 using MW-8 and MW-19 as extraction wells. Approximately 1,300 gallons of fluid were recovered during the HVE event. The extracted fluids were treated on-site using activated carbon and then transported to the Swainsboro publicly owned treatment works (POTW) for disposal following confirmation of treatment to acceptable levels.
- VRP Status Report No. 8 was submitted to EPD on February 16, 2016.
- A biodegradation study consisting of sampling and analysis of dechlorinating bacteria and a key reductive dehalogenase genes study was conducted on March 17, 2016 using groundwater samples collected from wells MW-8 and MW-19.
- A 24-hour HVE event was conducted beginning on May 16, 2016 using MW-8 and MW-19 as extraction wells. Approximately 975 gallons of fluid were recovered during the HVE event. The extracted fluids were treated on-site using activated carbon and then transported to the Swainsboro POTW for disposal following confirmation of treatment to acceptable levels.
- EPD issued comments on VRP Status Report No. 8 in correspondence dated June 14, 2016.
- EPD comments dated June 14, 2016 are addressed in Status Report No. 9 including revised logs in Appendix A.
- VRP Status Report No. 9 was submitted to EPD on August 23, 2016.
- An 8-hour HVE event was conducted beginning on September 28, 2016 using MW-8 and MW-19 as extraction wells. Approximately 485 gallons of fluid were recovered during the HVE event. The extracted fluids were treated on-site using activated carbon and then transported to the Swainsboro POTW for disposal following confirmation of treatment to acceptable levels.
- EPD issued comments on VRP Status Report No. 9 in correspondence dated December 20, 2016.
- EPD comments dated December 20, 2016 are addressed in VRP Status Report No. 10.

3.0 Work Performed During Reporting Period

The activities currently identified to be conducted at the Former Automatic Sprinkler Site under the VRP are outlined in the VRP Application and VRP Application Addendum, dated April 29, 2011, and November 14, 2011, respectively, and the EPD VRP approval and comment letters dated February 24, 2012. One additional voluntary remediation activity (not specified in the VRP Application or VRP Application Addendum) was conducted during this reporting period. The activity was a HVE event conducted on September 28, 2016 to address the area of higher VOC concentrations around monitoring wells MW-8 and MW-19. A routine semi-annual groundwater and surface water sampling event was conducted at the site in November and December 2016.

3.1 Financial Assurance Update

Documentation of financial assurance for implementation of the VRP at the site was submitted to EPD on May 30, 2012. The financial assurance mechanism is an irrevocable letter of credit for $525,000. The letter of credit automatically renews each year on March 25. The activities covered under the approved VRP have been completed. However, financial assurance will remain to cover future site activities, as outlined in the VRP Compliance Status Report (CSR). Upon EPD review and approval of the CSR, Scott Figgie LLC may lower the financial assurance amount accordingly.

3.2 Groundwater and Surface Water Sampling

Groundwater and surface water sampling was conducted on November 30 – December 2, 2016. Prior to collecting groundwater samples, the depth to water was measured in the site monitoring wells. The depth to water measurements and corresponding groundwater elevations for this gauging event, as well as historical gauging data dating back to 2008, are summarized on Table 2. The November 2016 groundwater elevations in the shallow zone averaged approximately 1.77 feet lower in elevation than those measured during the June 2016 sampling event. The measured groundwater elevations in the wells screened in the deep zone averaged approximately 0.50 feet lower in elevation than those measured in June 2016. Shallow zone potentiometric surface maps for November 2016 and June 2016 are presented as Figures 3a and 3b, respectively. The shallow zone potentiometric surface maps continue to show groundwater flow generally to be northeast, which is consistent with historical data. Deep zone potentiometric surface maps for November 2016 and June 2016 are presented as Figures 4a and 4b, respectively. Groundwater flow in the deep zone is generally to the east, and is consistent with historical data.

Groundwater samples were collected from shallow zone monitoring wells MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9/9R, MW-11, MW-12, MW-15, MW-18, MW-19, MW-20, and MW-21 in November/December 2016. A groundwater sample was also collected from deep zone monitoring well MW-20D.

Low flow/low stress purging methodology employing a peristaltic pump was used to purge and sample the monitoring wells in general accordance with USEPA Region 4 Science and Ecosystem Support Division (SESD) Groundwater Sampling Procedure SESDPROC-301-R3 (March 2013). The samples were collected using a peristaltic pump by means of the “soda-straw” method as described in SESD 4.3.1.2.7. The groundwater samples were analyzed for site-specific VOCs using USEPA Method 8260B and ethane, ethene, and methane using USEPA Method SOP-RSK

175. Appendix A contains copies of groundwater sampling logs. It should be noted that, in accordance with EPD's December 20, 2016 comment letter, Amec Foster Wheeler has reviewed the field data for MW-20D. MW-20D has historically demonstrated a poor recharge rate, thus the purge method for MW-20D was changed to the traditional multiple volume method in accordance with USEPA Region 4 Science and Ecosystem Support Division (SESD) Groundwater Sampling Procedure SESDPROC-301-R3 (March 2013).

The analytical results for the November/December 2016 groundwater sampling event are summarized on Table 3, along with historical analytical results. Appendix B shows concentrations versus time trends for monitoring wells with historical detections of VOCs at concentrations exceeding the RRS. Figure 5 shows the results of the November/December 2016 event and the interpreted extent of detected VOCs in groundwater. Figure 5a shows the results of the November/December 2016 event and the interpreted extent of TCE greater than 0.01 mg/L. No VOCs were reported above their method detection limits in monitoring well MW-20D during the November/December 2016 sampling event, thus indicating vertical delineation. VOCs were not detected above drinking water standards in off-site monitoring wells. Laboratory analytical reports are provided in Appendix C.

The sampling results from MW-8 showed an increase in concentrations of TCE, 1,1-DCE, 1,1-DCA, cis-1,2-DCE, 1,1,1-TCA, and vinyl chloride in comparison to the June 2016 sampling event. Overall, MW-8 trend graphs show a decreasing trend for TCE, cis-1,2-DCE, and VC. In MW-19, TCE showed a slight increase in concentration compared to the June 2016 groundwater sampling event, but overall, VOC concentrations have decreased steadily since 2014 sampling events. Plot A and plot B versions were created for the MW-19 trend graphs. Plot A trend graphs continue to show all data collected whereas Plot B trend graphs show a more realistic trend graph omitting some anomalous data, which appear to be a result of induced flow of higher concentration groundwater into MW-19 following the July 2014 HVE event. Other VOCs in MW-19 show generally decreasing trends over the same time period, with some fluctuations.

Surface water samples SW-5 and SW-6 were collected from the unnamed tributary of Hughes Prong (which serves as the nearest discharge boundary for shallow groundwater) as well as the drainage ditch along the eastern property boundary. This unnamed tributary is approximately 530 feet down gradient of MW-8. Surface water samples SW-2 and SW-4 have been collected in past sampling events from the drainage ditch downgradient of the culvert that flows beneath Meadowlake Parkway, but prior to the point where the ditch discharges to the unnamed tributary of Hughes Prong. Due to insufficient flowing water in these locations during the December 2016 sampling event, SW-2 and SW-4 locations were not sampled. The surface water sample locations are shown on Figure 6. It is thought that these locations are more representative of groundwater to surface water discharge than surface water samples collected from the low-lying area immediately east of the site, which does not have a clearly defined channel and is more likely a groundwater recharge area. The surface water samples were analyzed for site-specific VOCs using USEPA Method 8260B. The groundwater and surface water samples were packaged in ice and transported by Amec Foster Wheeler personnel under chain-of-custody protocol to the laboratory, Analytical Environmental Services (AES) in Atlanta, Georgia. The laboratory analytical report is provided in Appendix C.

As shown on Table 4, all surface water sample results from the December 2016 sampling event were below the detection limits for all analyzed constituents. This is consistent with past results. The analytical results for surface water samples are summarized on Figure 6.

3.3 High Vacuum Extraction Event

In accordance with the recommendations in the previous Status Report, an 8-hour HVE event was conducted at the site using monitoring wells MW-8 and MW-19 as extraction wells. The HVE event was conducted by Brown Remediation, Inc. with Amec Foster Wheeler oversight. The extraction was conducted with drop tubes initially set approximately 2-3 feet into water. A vacuum of approximately 9 inches of mercury was applied to each well to extract vapors and entrained liquids. The drop tubes were lowered as the water level dropped during the event to maintain fluid recovery and to induce a cone of depression, thus increasing the zone of influence. The fluid level in MW-8 drew down 3.06 feet, and the fluid level in MW-19 drew down 11.93 feet at the completion of the event. Water levels in monitoring wells surrounding MW-8 and MW-19 dropped by 0.19 feet (MW-18), 0.11 feet (MW-20), and 0.06 feet (MW-21) over the course of the event. Vacuum influence was gauged in the same wells, but no vacuum influence was observed. Based upon organic vapor analyzer (OVA) readings collected over the 8-hour extraction period, approximately 208.21 pounds of vapor phase chlorinated compounds were removed during the event. The extracted fluids were directed through an air/water separator and extracted vapors were directed through a mobile thermal oxidizer for treatment, as part of the contractor's normal process, prior to emission to the atmosphere.

A total of approximately 485 gallons of water was recovered during the event. The extracted water was pumped from the vacuum truck tank through activated carbon for treatment, temporarily stored in an on-site tanker truck, sampled, and transported to the Swainsboro publicly owned treatment works (POTW) for disposal following the confirmation of treatment to acceptable limits. A sample of the activated carbon treated effluent was collected and submitted to TestAmerica Laboratory in Savannah, Georgia for 24-hour turnaround time for VOCs by EPA method 8260B. The HVE extracted water was reported below the detection limit for the constituents of concern for the site. The laboratory results for the activated carbon effluent sample are included in Appendix C. The HVE contractor report is presented in Appendix D. Groundwater samples were collected from MW-8 and MW-19 before and after the HVR event. The data are included in Table 3 and the laboratory reports are included in Appendix C.

4.0 Groundwater Modeling Update

The groundwater fate and transport BIOCHLOR model was updated as part of this Status Report to evaluate current contaminant concentrations in comparison to earlier model predictions. All other input parameters, other than the year, were held constant for the updated model output. The 2016 data is assumed to be 20 years since the release. The average of the 2016 sampling data was used as the representative concentration for the well for comparison to model predictions. One half the detection limit was used for data results which were non-detect. In the three primary monitoring wells used for model calibration (MW-8, MW-15, and MW-20), actual 2016 VOC concentrations continue to correlate reasonably well to the initial model predictions, thus indicating that the potential surface water receptor will not be impacted. The updated model results are presented in Appendix D.

5.0 Conclusions

The November/December 2016 groundwater flow direction is consistent with previous data. No chlorinated VOC impacts were detected in the deeper zone, no surface water impacts were detected, and the shallow groundwater VOC plume appears to be generally degrading and shrinking. Down gradient monitoring wells MW-9R and MW-11 are non-detect or have detections below the RRS for VOCs at the property line. Down gradient offsite monitoring wells MW-15 and MW-7 are non-detect for VOCs. The land surrounding the site is industrial or undeveloped and is supplied with public water. Therefore, no complete pathways for exposure to contaminants are present. Vapor intrusion modeling does not indicate that the VOCs in groundwater pose a risk to on-site structures. The data does not suggest that revisions to the conceptual site model are necessary.

The groundwater analytical data continues to support MNA as an appropriate corrective action for the site. The BIOCHLOR predictions do not indicate that contaminants will affect the nearest point of exposure (POE), the unnamed tributary of Hughes Prong. The previous BIOCHLOR predictions indicate an estimated cleanup timeframe of approximately 74 years before MNA will reduce on-site concentrations to drinking water levels. Contaminant concentrations exceeding drinking water levels appear confined to a small portion of the Former Automatic Sprinkler Site. Collectively, the groundwater modeling and subsequent monitoring data indicate that, in conjunction with the proposed institutional controls to limit potential exposure, human health and the environment are adequately protected and a reduced monitoring program is warranted.

A Uniform Environmental Covenant (UEC) will be executed for the property to prohibit the use of groundwater and restrict property usage to non-residential purposes. The UEC was submitted for public review in October 2016, has been signed by the property owner and Scott Figgie LLC and submitted to EPD for final execution. It is anticipated that the UEC will be filed with the property deed within a month after EPD's signature. Additional HVE events or other remediation enhancements to reduce contaminant mass, to limit the potential for off-site contaminant migration, and to help accelerate the cleanup timeframe continue to be considered. Recommendations for future site activities are outlined in the VRP CSR.

6.0 Professional Hours Services this Period

Amec Foster Wheeler Environment & Infrastructure, Inc. has provided 182.3 professional service hours for VRP implementation from July 23, 2016 through December 23, 2016. The registered professional engineer responsible for implementation of the VRP at this site is Mr. Gregory Wrenn. Mr. Wrenn has personally charged 30.0 labor hours to the project to direct and review the various aspects of implementation of the VRP during this reporting period. Table 6 shows a monthly summary of hours invoiced and a description of services for this reporting period.

TABLES

Former Automatic Sprinkler Site
Swainsboro, GA

Table 1
Summary of Delineation Criteria and Cleanup Standards

February 2017

Soil Constituents	Delineation Criteria	Type 3 Surface Soil Cleanup Value	Type 3 Subsurface Soil Cleanup Value	RRS Data Source
	mg/kg	mg/kg	mg/kg	
Arsenic	20	38	41	Type 3, Jan 2000 CAP
Barium	1000	1000	1000	Type 3, Jan 2000 CAP
Cadmium	2	39	39	Type 3, Jan 2000 CAP
Chromium	100	110	1200	Type 3, Jan 2000 CAP
Copper	100	1500	1500	Type 3, Jan 2000 CAP
Lead	75	400	400	{Revised per HSRA Rule Change}
Mercury	0.5	17	17	Type 3, Jan 2000 CAP
Nickel	50	420	420	Type 3, Jan 2000 CAP
Silver	2	10	10	Type 3, Jan 2000 CAP
Vanadium	100	100	100	Type 3, Jan 2000 CAP
Zinc	100	2800	2800	Type 3, Jan 2000 CAP
1,1,1-Trichloroethane	20	20	20	Type 3, VRP Appl Addendum, Appendix C
1,1,2,2-Tetrachloroethane	0.13	0.5	0.5	Type 3, VRP Appl Addendum, Appendix C
1,1,2-Trichloroethane	0.5	0.5	0.5	Type 3, VRP Appl Addendum, Appendix C
1,1-Dichloroethene	0.7	0.7	0.7	Type 3, VRP Appl Addendum, Appendix C
1,2-Dichloroethane	0.5	0.5	0.5	Type 3, VRP Appl Addendum, Appendix C
cis-1,2-Dichloroethene	7	7	7	Type 3, VRP Appl Addendum, Appendix C
Trichloroethene	0.5	0.5	0.5	Type 3, VRP Appl Addendum, Appendix C
Vinyl Chloride	0.2	0.2	0.2	Type 3, VRP Appl Addendum, Appendix C
Groundwater Constituents	**Delineation Critieria mg/L**	**Groundwater Cleanup Value mg/L**		
Cadmium	0.005	0.005		Type 3, Jan 2000 CAP
Chromium	0.1	0.1		Type 3, Jan 2000 CAP
Copper	1.3	1.3		Type 3, Jan 2000 CAP
Lead	0.015	0.015		Type 3, Jan 2000 CAP
Zinc	2	2		Type 3, Jan 2000 CAP
Mercury	0.002	0.002		Type 3, Jan 2000 CAP
1,1,1-Trichloroethane	0.2	13		Type 4, VRP Appl Addendum, Appendix C
1,1,2,2-Tetrachloroethane	0.001	0.005		Type 3 {Reporting Limit}, VRP Addendum, Appendix C
1,1,2-Trichloroethane	0.005	0.005		Type 3, VRP Appl Addendum, Appendix C
1,1-Dichloroethene	0.007	0.52		Type 4, VRP Appl Addendum, Appendix C
1,2-Dichloroethane	0.005	0.005		Type 3, VRP Appl Addendum, Appendix C
cis-1,2-Dichloroethene	0.07	0.2		Type 4, VRP Appl Addendum, Appendix C
Trichloroethene	0.005	0.0052		Type 4, VRP Appl Addendum, Appendix C
Vinyl Chloride	0.002	0.0033		Type 4, VRP Appl Addendum, Appendix C

mg/kg milligrams per kilogram
mg/L milligrams per liter

Revised by: LMS 7-26-12
Checked by: MKB 7-27-12

Table 2
Summary of Groundwater Elevations June 2008 Through December 2016

Well ID	TOC Elevation (FT MSL)	Depth to Water 6/4/2008 (FT BTOC)	Groundwater Elevation 6/4/2008 (FT MSL)	Depth to Water 4/14/2009 (FT BTOC)	Groundwater Elevation 4/14/2009 (FT MSL)	Depth to Water 9/17/2009 (FT BTOC)	Groundwater Elevation 9/17/2009 (FT MSL)	Depth to Water 11/30/2009 (FT BTOC)	Groundwater Elevation 11/30/2009 (FT MSL)	Depth to Water 5/17/2010 (FT BTOC)	Groundwater Elevation 5/17/2010 (FT MSL)	Depth to Water 11/18/2010 (FT BTOC)	Groundwater Elevation 11/18/2010 (FT MSL)	Depth to Water 5/30/2012 (FT BTOC)	Groundwater Elevation 5/30/2012 (FT MSL)	Depth to Water 12/13/2012 (FT BTOC)	Groundwater Elevation 12/13/2012 (FT MSL)
Shallow Aquifer																	
MW-1	292.71	NM	NM	6.49	286.22	10.68	282.03	9.62	283.09	9.21	283.50	11.56	281.15	NM	NM	12.63	280.08
MW-2	285.70	6.11	279.59	4.64	281.06	5.53	280.17	4.90	280.80	4.93	280.77	6.29	279.41	5.14	280.56	6.14	279.56
MW-3	281.17	3.30	277.87	1.86	279.31	2.70	278.47	2.35	278.82	2.31	278.86	3.58	277.59	2.31	278.86	3.03	278.14
MW-4	281.84	2.40	279.44	0.92	280.92	1.87	279.97	1.50	280.34	1.61	280.23	2.81	279.03	1.71	280.13	3.11	278.73
MW-5	286.71	6.57	280.14	4.00[1]	282.71	6.22	280.49	6.29	280.42	6.18	280.53	7.86	278.85	*6.65	280.06	8.42	278.29
MW-6	281.00	4.51	276.49	2.52	278.48	4.34	276.66	3.85	277.15	3.68	277.32	5.04	275.96	4.40	276.60	5.32	275.68
MW-7	281.33	4.19	277.14	2.56	278.77	3.48	277.85	2.99	278.34	2.83	278.50	4.21	277.12	2.71	278.62	3.33	278.00
MW-8	281.28	3.69	277.59	1.82	279.46	3.24	278.04	2.73	278.55	2.64	278.64	3.96	277.32	2.13	279.15	3.20	278.08
MW-9R	278.31	3.70	274.61	1.74	276.57	3.41	274.90	3.00	275.31	2.25	276.06	4.40	273.91	2.51	275.80	3.16	275.15
MW-10	289.37	6.89	282.48	2.54	286.83	6.17	283.20	5.42	283.95	5.30	284.07	7.76	281.61	4.28	285.09	7.15	282.22
MW-11	281.77	4.50	277.27	3.11	278.66	4.06	277.71	3.58	278.19	3.39	278.38	4.75	277.02	3.27	278.50	3.93	277.84
MW-12	288.04	4.62	283.42	0.97	287.07	4.34	283.70	3.50	284.54	3.57	284.47	5.94	282.10	2.85	285.19	5.04	283.00
MW-15	280.22	6.87	273.35	6.04	274.18	6.63	273.59	6.36	273.86	6.30	273.92	7.12	273.10	6.47	273.75	7.05	273.17
MW-18	281.27	NI	NI	NI	NI	3.55	277.72	2.64	278.63	2.87	278.40	4.16	277.11	2.64	278.63	3.43	277.84
MW-19	281.80	NI	NI	NI	NI	4.13	277.67	3.23	278.57	3.00	278.80	2.81	278.99	*3.27	278.53	3.64	278.16
MW-20	282.99	NI	NI	NI	NI	5.15	277.84	4.77	278.22	4.53	278.46	5.78	277.21	4.45	278.54	5.24	277.75
MW-21	284.12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	*4.96	279.16	5.44	278.68
Deep Aquifer																	
MW-1D	282.95	8.34	274.61	7.14	275.81	7.55	275.40	7.35	275.60	7.53	275.42	7.71	275.24	7.91	275.04	8.04	274.91
MW-2D	280.01	8.70	271.31	7.50	272.51	8.02	271.99	7.96	272.05	8.11	271.90	8.26	271.75	8.47	271.54	8.74	271.27
MW-16D	279.91	6.30	273.61	4.70	275.21	5.66	274.25	5.93	273.98	5.85	274.06	5.45	274.46	6.32	273.59	6.54	273.37
MW-20D	281.21	NI	NI	NI	NI	6.59	274.62	6.08	275.13	7.35	273.86	6.79	274.42	7.57	273.64	7.19	274.02

Notes:
BTOC: Below top of casing
FT MSL: Feet mean sea level
NM: not measured
NI = Not Installed
[1] Water level measurement collected on 4/15/2009
* Water level measurements collected on 5/31/2012

Table 2
Summary of Groundwater Elevations June 2008 Through December 2016

Depth to Water 6/5/2013 (FT BTOC)	Groundwater Elevation 6/5/2013 (FT MSL)	Depth to Water 12/3/2013 (FT BTOC)	Groundwater Elevation 12/3/2013 (FT MSL)	Depth to Water 6/2/2014 (FT BTOC)	Groundwater Elevation 6/2/2014 (FT MSL)	Depth to Water 12/1/2014 (FT BTOC)	Groundwater Elevation 12/1/2014 (FT MSL)	Depth to Water 6/16/2015 (FT BTOC)	Groundwater Elevation 6/16/2015 (FT MSL)	Depth to Water 12/7/2015 (FT BTOC)	Groundwater Elevation 12/7/2015 (FT MSL)	Depth to Water 6/14/2016 (FT BTOC)	Groundwater Elevation 6/14/2016 (FT MSL)	Depth to Water 11/29/2016 (FT BTOC)	Groundwater Elevation 11/29/2016 (FT MSL)
9.74	282.97	10.58	282.13	8.82	283.89	9.61	283.10	8.66	284.05	8.40	284.31	9.24	283.47	11.77	280.94
5.83	279.87	4.91	280.79	4.94	280.76	4.88	280.82	5.21	280.49	4.50	281.20	5.34	280.36	6.52	279.18
2.98	278.19	2.70	278.47	2.51	278.66	2.98	278.19	2.87	278.30	2.32	278.85	3.02	278.15	4.45	276.72
2.25	279.59	2.02	279.82	1.40	280.44	2.43	279.41	1.55	280.29	1.30	280.54	1.79	280.05	3.48	278.36
6.49	280.22	7.51	279.20	5.78	280.93	7.29	279.42	5.58	281.13	5.63	281.08	6.21	280.50	8.27	278.44
4.16	276.84	4.72	276.28	3.59	277.41	4.69	276.31	3.41	277.59	3.50	277.50	3.78	277.22	5.60	275.40
3.50	277.83	3.24	278.09	3.53	277.80	3.50	277.83	3.75	277.58	2.90	278.43	2.90	278.43	5.45	275.88
3.36	277.92	3.05	278.23	3.06	278.22	3.21	278.07	3.40	277.88	2.62	278.66	3.44	277.84	5.05	276.23
3.00	275.31	3.48	274.83	2.70	275.61	3.14	275.17	2.84	275.47	2.50	275.81	2.70	275.61	4.37	273.94
6.47	282.90	6.65	282.72	5.46	283.91	5.48	283.89	5.05	284.32	4.19	285.18	5.49	283.88	7.99	281.38
4.10	277.67	3.79	277.98	3.95	277.82	4.11	277.66	4.30	277.47	3.54	278.23	4.33	277.44	5.98	275.79
4.71	283.33	4.51	283.53	3.62	284.42	3.33	284.71	3.28	284.76	2.32	285.72	NM	NM	5.98	282.06
6.59	273.63	6.72	273.50	6.31	273.91	6.19	274.03	6.37	273.85	6.27	273.95	6.41	273.81	7.61	272.61
3.17	278.10	3.11	278.16	3.01	278.26	3.33	277.94	3.30	277.97	2.72	278.55	3.35	277.92	5.04	276.23
3.83	277.97	3.45	278.35	3.49	278.31	3.65	278.15	3.92	277.88	3.04	278.76	3.92	277.88	5.45	276.35
5.18	277.81	5.08	277.91	5.04	277.95	5.25	277.74	5.15	277.84	4.73	278.26	5.25	277.74	6.90	276.09
5.46	278.66	4.96	279.16	4.86	279.26	5.26	278.86	5.26	278.86	4.66	279.46	5.25	278.87	6.87	277.25
8.17	274.78	8.01	274.94	7.95	275.00	7.80	275.15	8.00	274.95	7.54	275.41	7.80	275.15	8.02	274.93
8.83	271.18	7.61	272.40	8.07	271.94	8.24	271.77	8.14	271.87	7.87	272.14	8.27	271.74	9.54	270.47
5.85	274.06	5.52	274.39	5.50	274.41	6.88	273.03	5.39	274.52	4.86	275.05	5.83	274.08	5.96	273.95
7.31	273.90	6.65	274.56	6.75	274.46	7.44	273.77	6.80	274.41	5.61	275.60	6.94	274.27	7.31	273.90

Notes:

BTOC: Below top of casing
FT MSL: Feet mean sea level
NM: not measured
NI = Not Installed
[1] Water level measurement collected on 4/15/2009
* Water level measurements collected on 5/31/2012

Prepared by: MHA 1/4/2017
Checked by: NJM 1/30/2017

Former Automatic Sprinkler Site
Swainsboro, GA

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

February 2017

Sample Location		MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4
Date Sampled	TYPE 3/4 RRS mg/L	Jul-98	Dec-00	Dec-03	May-04	Nov-04	May-05	Jun-06	Dec-06	May-07	Jun-08	Apr-09	Dec-09	Dec-09	May-10	Nov-10	Jun-16	Nov-16	Jul-98	Dec-00	Dec-03	May-04	Nov-04	May-05	Jun-06	Dec-06	May-07
														DUP-2													
VOCs (mg/L)																											
Chloroethane	---	0.015	<0.010	0.0096	0.0034	0.0038	0.0028	0.0013	0.0011	0.0018	<0.001	0.0014	0.0011	<0.001	0.002	0.0009 J	<0.010	<0.010	0.029	0.022	0.040	0.0024	0.021	0.0045	0.003	0.0029	0.0034
1,1,2,2-Tetrachloroethane	0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	13	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethylene	0.0052	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	0.0016	<0.001	<0.001	<0.001
1,1-Dichloroethene	0.52	0.006	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	---	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	0.018	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis -1,2-Dichloroethene	0.2	ND	<0.005	<0.001	<0.001	<0.001	0.0014	<0.001	0.00091 J	<0.001	0.00094 J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	0.0021	<0.001	<0.001	<0.001
trans -1,2-Dichloroethene	---	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	0.0033	**0.140**	**0.052**	**0.022**	**0.024**	**0.027**	**0.027**	**0.014**	**0.020**	**0.021**	**0.0173**	**0.0168**	**0.0094**	**0.0093**	**0.0172**	**0.0104**	**0.0057**	**0.0054**	**0.300**	**0.093**	**0.058**	**0.018**	**0.045**	**0.037**	**0.031**	**0.040**	**0.042**
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	NA	5.94	5.7	5.64	5.51	5.28	5.37	5.63	5.57	5.54	5.85	6.04	6.04	5.7	6.21	5.57	5.68	NA	6.37	6.24	6.12	6.16	6.13	6.18	6.18	6.12
Specific Conductance (mS/cm)	---	NA	0.14	0.19	0.197	0.222	0.212	0.208	0.199	0.263	0.222	0.239	0.421	0.421	0.278	0.255	0.121	0.184	NA	0.21	0.33	0.183	0.376	0.452	0.437	0.391	0.474
Temperature (deg. C)	---	NA	16.94	19.3	19.94	21.48	22.53	24.65	21.99	24.24	26.59	19.17	20.45	20.45	22.38	22.98	25.06	24.19	NA	17.91	18.22	21	20.3	24.86	25.03	20.35	23.66
Dissolved Oxygen (mg/L)	---	NA	0.00	0.48	0.34	0.78	0.62	0.40	0.43	0.42	0.50	0.34	0.27	0.27	0.23	0.48	0.20	0.12	NA	0.00	0.24	0.12	0.76	0.57	0.32	0.39	1.19
ORP (mV)	---	NA	-13.00	-17.6	-29.7	12.9	53.5	87.9	30.3	0.4	-35.3	-10.8	-60.1	-60.1	-7.2	-72.3	18.6	55.3	NA	-32.00	-43.1	-110	-59.9	-49.5	-37.1	-214.8	-71.8
Turbidity (NTU)	---	NA	6.40	45	24.1	12.8	13.7	5	1.6	8.5	4.1	4	32.2	32.2	67.2	30.8	4.57	9.88	NA	5.40	12.5	8	10.0	0.0	4.5	6.5	2.3
Iron II (mg/L)	---	NA	4.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.40	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	13.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.60	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	4.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.70	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.10	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	74.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	120.00	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	NA	0.001	0.0012	0.00081	0.0014	0.0013	0.0012	0.00084	0.000890	0.001300	0.000450	0.000210	0.000660	0.0004 J	0.00039	<0.007	<0.007	NA	0.0026	0.0027	0.001	0.0019	0.0016	0.0019	0.0016	0.0014
Ethane	---	NA	<0.000005	0.000009	0.000014	0.000065	0.000130	0.000052	0.000033	0.000050	0.000180	0.000021	<0.00001	0.000140	0.000009 J	0.000018	<0.009	<0.009	NA	<0.000005	<0.000005	<0.000005	<0.000005	<0.00001	<0.00001	<0.00001	<0.00001
Methane	---	NA	9.10	7.6	7.7	9.4	7.2	9.2	8.3	6.7	8.2	7.4	5.8	13.0	4.2 J	7.6	6.7	4.8	NA	8.10	8.3	5.6	5.0	7.4	9.5	7.9	9.7
Hydrogen (nmol/L)	---	NA	<0.030	2.7	3.9	1.6	1.4	3.0	27.0	1.7	2.2	1.1	1.5	NA	2.0	1.2	NA	NA	NA	0.16	2.6	2.7	1.2	7.7	3.8	2.0	2.7

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5
Date Sampled	TYPE 3/4 RRS mg/L	Jun-08	Apr-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Nov-16	Oct-98	Dec-00	Dec-03	May-04	Nov-04	May-05	Jun-06	Dec-06	May-07	Jun-08	Apr-09
VOCs (mg/L)																											
Chloroethane	---	0.0029	<0.001	0.0014	0.0016	0.0013	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	13	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethylene	0.0052	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	0.001	<0.001	0.0022	0.0011	0.0020	0.0011	0.0013	0.0012
1,1-Dichloroethene	0.52	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	0.015	0.015	0.013	0.011	0.011	0.0081	0.0098	0.0087	0.0074	0.0068
1,1-Dichloroethane	---	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.007	0.015	0.011	0.0096	0.0077	0.0075	0.0069	0.0065	0.0054	0.0053	0.0045
1,2-Dichloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis -1,2-Dichloroethene	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	0.0016	<0.001	0.0012	<0.001	<0.001	<0.001
trans -1,2-Dichloroethene	---	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	0.0033	**0.034**	**0.0047**	**0.022**	**0.0288**	**0.0241**	**0.028**	**0.024**	0.0031	**0.036**	**0.02**	**0.028**	**0.020**	**0.018**	**0.0077**	**0.014**	ND	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	0.00035 J	0.00033J	0.00026 J	<0.001
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	5.54	6.73	6.65	5.89	5.97	6.18	6.16	6.3	6.19	5.72	6.01	6.18	6.27	6.34	6.16	NA	4.84	4.95	4.99	4.67	4.75	5.08	4.90	4.80	4.95	5.00
Specific Conductance (mS/cm)	---	0.422	0.237	0.402	0.401	0.349	0.447	0.416	0.156	0.463	0.478	0.406	0.414	0.360	0.264	0.385	NA	0.03	0.03	0.033	0.036	0.033	0.035	0.037	0.08	0.036	0.03
Temperature (deg. C)	---	25.95	18.54	21.78	24.8	23.35	25.46	18.26	23.47	21.94	26.81	21.91	26.24	20.23	26.05	24.00	NA	18.50	18.83	21.65	22.97	20.25	21.96	20.87	20.22	21.54	18.4
Dissolved Oxygen (mg/L)	---	0.53	1.23	0.28	0.27	0.80	0.30	0.96	1.52	3.78	0.73	0.31	0.46	0.47	0.19	0.12	NA	0.00	0.51	0.32	0.19	0.38	0.28	0.28	0.29	0.52	0.23
ORP (mV)	---	-36.2	-39.6	-82.9	-33.5	-325.1	-56.6	-18.4	-3.8	-63	-27.4	-66.8	-59.9	-45.4	-51.6	-40.1	NA	210.00	234.10	133.2	130.9	200.8	135.1	171.5	175.1	-77.9	180
Turbidity (NTU)	---	2.2	6.0	16.2	-3.2	14.2	3.0	9.1	8.3	0.0	0.7	2.80	5.70	2.70	1.97	2.62	NA	0.00	39.50	1.4	0.0	0	3.5	4.1	5.2	1.8	0.0
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.80	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.20	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.60	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.0012	0.00012	0.00054	0.00074 J	0.00076	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	0.000016	0.000009	0.000011	0.000011	0.000009	0.000008 J	0.000006 J	0.000007J	0.000012	0.000006J
Ethane	---	0.00001	0.000004J	<0.00001	0.000004 J	0.000008 J	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	<0.000005	<0.000005	0.0000024 J	0.0000061	0.000004	0.000002 J	0.000002 J	0.000005J	0.000006 J	0.000004J
Methane	---	11.0	0.68	5.9	7.9 J	4.5	NA	6.0	1.7	6.2	3.8	5.9	7.0	5.9	4.5	4.2	NA	0.52	0.63	0.56	0.83	0.57	0.51	0.4	0.28	0.24	0.2
Hydrogen (nmol/L)	---	4.8	3.0	25.0	2.6	2.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.030	1.2	1.7	1.6	2.3	7.2	11	4	15	7.7

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6
Date Sampled	TYPE 3/4 RRS mg/L	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Oct-98	Dec-00	Dec-03	May-04	Nov-04	May-05	Jun-06	Dec-06	May-07	Jun-08	Apr-09	Sep-09
VOCs (mg/L)																										
Chloroethane	---	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.002	<0.010	0.014	0.0032	<0.001	0.0072	0.002	0.0016	0.0017	0.0013	<0.001	0.0017
1,1,2,2-Tetrachloroethane	0.005	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	13	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	0.0016	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	0.005	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethylene	0.0052	0.0011	<0.001	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	0.0036	<0.001	**0.0079**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	0.52	0.0071	0.0051	0.0045	0.0064	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	0.0022	<0.001	0.0048	0.0017	<0.001	<0.001	0.0010	<0.001	0.00060J	<0.001
1,1-Dichloroethane	---	0.0046	0.0032	0.0028	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	0.0011	0.0018	0.0021	0.0036	0.0014	0.0020	0.0028	0.0023	0.0016	0.0015
1,2-Dichloroethane	0.005	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis -1,2-Dichloroethene	0.2	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	0.0018	<0.001	0.0045	0.0029	0.00090 J	0.0012	0.0014	0.0014	0.0010	0.0015
trans -1,2-Dichloroethene	---	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	0.0033	0.0003J	0.00088 J	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	**0.010**	<0.010	**0.010**	**0.0096**	**0.0092**	**0.0094**	**0.0055**	**0.0051**	**0.0065**	**0.0052**	**0.0035**	**0.0054**
SVOCs (mg/L)																										
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0211	NA
Field Parameters																										
pH (std. Units)	---	4.93	4.72	4.88	4.57	4.95	4.56	5.01	4.72	4.38	4.75	4.98	4.50	4.88	NA	6.14	5.84	5.81	5.81	5.84	5.54	5.82	5.85	4.91	5.98	5.84
Specific Conductance (mS/cm)	---	0.071	0.044	0.036	0.042	0.15	0.079	0.037	0.037	0.045	0.043	0.031	0.034	0.034	NA	0.12	0.18	0.167	0.182	0.15	0.152	0.160	0.191	0.152	0.231	0.192
Temperature (deg. C)	---	21.61	19.17	22.69	21.23	19.86	19.98	21.28	21.2	20.94	22.13	20.56	21.51	21.99	NA	17.27	20.83	24.92	23.92	24.64	27.16	22.16	23.75	27.25	20.24	31.27
Dissolved Oxygen (mg/L)	---	0.51	0.17	0.33	0.96	2.83	0.59	3.99	0.57	0.41	1.40	0.76	0.28	0.33	NA	0.00	0.26	0.07	0.35	0.64	0.4	0.24	0.42	0.41	1.73	0.28
ORP (mV)	---	195.6	207.6	213.5	205.2	180.4	81.7	233.4	161.5	267.2	206.7	162.6	247.6	196.1	NA	-92.00	-11.6	-78.8	-22.0	-6.0	30.3	-216.5	-39.4	292.7	4.9	-12.7
Turbidity (NTU)	---	0.0	4.0	3.0	5.7	7.9	1.8	8.6	1.2	7.41	9.71	9.60	323	2.04	NA	0.00	7.3	2.4	5.6	4.9	3.5	4.5	2.2	0.7	3.5	6.1
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																										
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.000065	0.000011 J	0.000007 J	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	0.00014	0.00043	0.00016	0.00029	0.00013	0.0002	0.000066	0.000068	0.00011	0.000038	0.000092
Ethane	---	0.000008J	0.000015 J	0.000002 J	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	<0.000005	<0.000005	<0.000005	0.000011	<0.00001	<0.000010	<0.00001	0.000006J	0.000009J	0.000006J	0.000003J
Methane	---	0.27	0.21 J	0.048	NA	0.059	0.053	0.078	0.054	0.09	0.260	0.150	0.320	0.011	NA	6.10	5.9	3.8	5.4	3.7	4.6	5.1	2.9	3.2	3.8	1.8
Hydrogen (nmol/L)	---	11.0	8.8	3.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.20	2.2	2.4	4.1	3.3	3.8	1.7	3.2	2.8	0.71	330

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-8	MW-8
Date Sampled	TYPE 3/4 RRS mg/L	Dec-09	May-10	Nov-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Nov-16	Oct-98	Jul-00
VOCs (mg/L)																											
Chloroethane	---	0.001	<0.001	0.0012	0.0012	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.041	<1
1,1,2,2-Tetrachloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.001	<0.5
1,1,1-Trichloroethane	13	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**53**	6.2
1,1,2-Trichloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.052**	<0.5
Trichloroethylene	0.0052	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**140**	**14**
1,1-Dichloroethene	0.52	<0.001	0.0014	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**45**	**8.7**
1,1-Dichloroethane	---	0.0013	0.002	0.0015	0.0015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.94	<0.5
1,2-Dichloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.03**	<0.5
cis -1,2-Dichloroethene	0.2	0.0012	0.0014	0.0016	0.0019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**4.5**	**4.5**
trans -1,2-Dichloroethene	---	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.5
Vinyl Chloride	0.0033	**0.0035**	0.0028	**0.0043**	**0.0044**	**0.0036**	0.003	<0.002	<0.002	<0.002	**0.0042**	<0.002	<0.002	<0.002	**0.0044**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	**0.93**	**1.6**
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	5.84	5.56	5.56	5.56	5.78	5.85	5.70	5.90	4.93	5.40	5.83	5.92	5.74	5.80	5.06	5.18	5.05	5.28	4.67	4.61	5.19	5.52	5.45	5.45	NA	NA
Specific Conductance (mS/cm)	---	0.211	0.156	0.169	0.169	0.169	0.188	0.195	0.157	0.146	0.142	0.180	0.215	0.149	0.198	0.057	0.082	0.170	0.196	0.157	0.086	0.097	0.075	0.083	0.090	NA	NA
Temperature (deg. C)	---	21.83	24.00	25.56	25.56	28.05	21.69	25.53	23.19	27.11	23.85	27.72	22.61	26.82	23.73	20.63	16.08	18.95	17.20	20.83	17.76	22.09	16.99	21.31	19.76	NA	NA
Dissolved Oxygen (mg/L)	---	0.39	0.82	0.52	0.52	0.21	0.93	0.48	0.21	0.28	0.22	0.30	0.66	0.22	0.47	0.24	0.68	0.58	0.23	0.32	2.25	0.71	0.35	0.27	0.56	NA	NA
ORP (mV)	---	-7.7	-1.6	-387.7	-387.7	-6.6	-8.7	-83.6	-33.2	-23.8	-101.8	-18.5	-6.0	-17.9	7.9	131.9	224.2	-37.0	52.4	4.9	260.40	52.1	108.0	34.1	74.2	NA	NA
Turbidity (NTU)	---	8.0	11.5	11.5	11.5	4.6	7.3	2.1	9.2	8.47	8.63	4.9	0	5.88	8.66	60.8	161.4	7.3	455.9	7.6	10.20	5.3	7.0	4.15	9.20	NA	NA
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.000042	0.000053 J	0.000084	0.000084	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	NA
Ethane	---	0.000002J	0.000006 J	0.000003 J	0.000003	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	NA
Methane	---	1.2	2.8 J	3.4	3.4	NA	3.4	2.2	3.5	1.8	2.1	2.8	3.8	4.1	2.8	NA	0.17	0.94	0.95	1.3	0.006	1.1	0.81	0.650	0.430	NA	NA
Hydrogen (nmol/L)	---	18	5.2	2.6	2.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8
Date Sampled	TYPE 3/4 RRS mg/L	Dec-00	Apr-01	Dec-03	Dec-03 Dup	May-04	May-04 Dup	Nov-04	May-05	May-05 Dup	Jun-06	Jun-06 Dup	Dec-06	Dec-06 Dup	May-07	May-07 DUP	Jun-08	Jun-08 Dup	Oct-08	Oct-08 Dup	Apr-09	Apr-09 DUP	Sep-09	Sep-09 DUP	Dec-09	May-10	DUP-1
VOCs (mg/L)																											
Chloroethane	---	<0.1	0.046	0.38	0.37	<0.05	<0.05	0.04	<0.1	0.03	<0.050	0.025 J	<0.020	0.02	<0.020	<0.020	<0.1	<0.05	<0.025	<0.025	<0.005	<0.005	0.0595	0.0556	<0.01	0.0134	<0.025
1,1,2,2-Tetrachloroethane	0.005	<0.05	<0.002	<0.050	<0.05	<0.05	<0.05	<0.025	<0.1	<0.001	<0.050	<0.025	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.025	<0.025	<0.005	<0.005	<0.04	<0.025	<0.01	<0.01	<0.025
1,1,1-Trichloroethane	13	0.67	2.5	1.3	1.3	0.75	0.95	2.0	1.9	1.9	2.2	1.7	0.55	0.65	0.74	0.87	5.55	5.27	0.217	0.194	0.32	0.32	1.1	0.802	0.296	1.1	0.96
1,1,2-Trichloroethane	0.005	<0.05	<0.002	<0.050	<0.05	<0.05	<0.05	<0.025	<0.1	0.0019	<0.050	<0.025	<0.020	<0.020	<0.02	<0.02	<0.1	<0.05	<0.025	<0.025	<0.005	<0.005	<0.0400	<0.0250	<0.01	<0.01	<0.025
Trichloroethylene	0.0052	**1**	**4**	**2.4**	2.4	**1.6**	**1.8**	**3.3**	**4.6**	**4.7**	**5.3**	**4.4**	**0.71**	**0.8**	**1.3**	**1.6**	**11.9**	**11.1**	**0.532**	**0.529**	**0.577**	**0.594**	**1.54**	**1.05**	**0.396**	**1.87**	**1.68**
1,1-Dichloroethene	0.52	**0.9**	**2.3**	**2.4**	**2.2**	**1.2**	**1.3**	**3.6**	**3.3**	**3.5**	**4.9**	**3.2**	**2.1**	**2.3**	**1.7**	**1.9**	**8.34**	**7.86**	**0.567**	**0.541**	**0.611**	**0.587**	**3.17**	**2.26**	**1.17**	**1.99**	**1.75**
1,1-Dichloroethane	---	0.13	0.17	0.28	0.27	0.17	0.2	0.19	0.23	0.24	0.28	0.23	0.18	0.19	0.15	0.18	0.43	0.428	0.0797	0.0834	0.0442	0.0472	0.397	0.38	0.0789	0.128	0.127
1,2-Dichloroethane	0.005	<0.05	<0.002	<0.050	<0.05	<0.05	<0.050	<0.025	<0.1	<0.001	<0.050	<0.025	<0.020	<0.020	<0.020	<0.020	<0.100	<0.05	<0.025	<0.025	<0.005	<0.005	<0.0400	<0.0250	<0.01	<0.01	<0.025
cis -1,2-Dichloroethene	0.2	**1.1**	**1.4**	**2.3**	**2.1**	**2.1**	**2.3**	**3.6**	**2.7**	**3**	**4.2**	**3.4**	**3.4**	**3.7**	**1.9**	**2.2**	**5.86**	**5.66**	**0.875**	**0.815**	**0.808**	**0.783**	**4.19**	**3.36**	**1.82**	**2.02**	**1.87**
trans -1,2-Dichloroethene	---	<0.05	NA	<0.050	<0.05	<0.05	<0.05	<0.025	<0.1	0.01	<0.050	<0.025	<0.020	<0.020	<0.020	<0.020	<0.100	<0.05	<0.025	<0.025	0.0051	0.0064	<0.0400	<0.0250	<0.01	<0.01	<0.025
Vinyl Chloride	0.0033	**0.99**	**0.37**	**1.8**	**1.8**	**0.73**	**0.85**	**0.73**	**1.1**	**1.2**	**1.4**	**0.89**	**0.81**	**0.78**	**0.69**	**0.67**	**1.32**	**1.22**	**0.421**	**0.372**	**0.219**	**0.23**	**2.4**	**2.09**	**0.589**	**0.902**	**0.802**
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA		NA		NA	NA		NA		NA		NA		NA		NA		<0.0200	<0.0200	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	6.04	5.23	6.09	NA	5.81	NA	6.14	5.88	5.88	5.75	5.75	5.86	5.86	5.76	5.76	5.72	5.72	NA	NA	6.41	NA	5.87	5.87	6.40	5.94	5.94
Specific Conductance (mS/cm)	---	0.17	0.14	0.48	NA	0.33	NA	0.524	0.384	0.384	0.419	0.419	0.403	0.403	0.371	0.371	0.489	0.489	NA	NA	0.29	NA	0.482	0.482	0.442	0.400	0.40
Temperature (deg. C)	---	17.02	NA	18.53	NA	20.95	NA	20.71	19.16	19.16	21.15	21.15	19.27	19.27	19.54	19.54	24.25	24.25	NA	NA	17.77	NA	24.82	24.82	19.80	20.16	20.16
Dissolved Oxygen (mg/L)	---	0.00	NA	0.24	NA	0.33	NA	0.65	0.93	0.93	0.46	0.46	0.33	0.33	0.88	0.88	0.61	0.61	NA	NA	0.3	NA	0.08	0.08	0.31	0.22	0.22
ORP (mV)	---	-49.00	NA	-47.4	NA	-70	NA	-82.2	-19.1	-19.1	-12.1	-12.1	-45.2	-45.2	-8.5	-8.5	-131.4	-131.4	NA	NA	7.4	NA	-14.6	-14.6	-100.7	8.0	8.0
Turbidity (NTU)	---	10.50	NA	6.7	NA	0.5	NA	5.6	4.9	4.9	3.9	3.9	1.7	1.7	4.5	4.5	4	4	NA	NA	0.1	NA	5.3	5.3	4.6	20.1	20.1
Iron II (mg/L)	---	3.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	13.00	NA	NA	NA	NA	NA	NA	9.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	21.00	NA	NA	NA	NA	NA	NA	37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	<0.05	NA	NA	NA	NA	NA	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	1.90	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	59.00	NA	NA	NA	NA	NA	NA	76	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	0.16	NA	NA	NA	NA	NA	NA	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.23	NA	0.32	NS	0.11	0.12	0.053	0.054	NA	0.13	0.13	0.051	0.064	0.046	0.063	0.062	0.057	NA	NA	0.0021	0.0045	0.074	0.08	0.016	0.023 J	0.048
Ethane	---	0.00	NA	0.00022	NS	0.00072	0.0013	0.0014	0.0012	NA	0.0038	0.0037	0.0018	0.003	0.0021	0.0042	0.0025	0.0024	NA	NA	0.00013	0.00032	0.0018	0.0019	0.00093	0.00077 J	0.003
Methane	---	7.70	NA	7.3	NS	7.7	11	4.1	8	NA	12	12	4.3	7.1	7.7	9.6	8.2	11	NA	NA	0.42	1.2	4.1	4.4	2.4	3.0 J	12.0
Hydrogen (nmol/L)	---	<0.03	NA	2	NS	1.6	NA	2.0	1.2	NA	0.87	NA	18	NA	1.2	NA	7.3	NA	NA	NA	2.8	0.0019	56	61	1.5	2.1	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8
Date Sampled	TYPE 3/4 RRS mg/L	Nov-10	Nov-10	May-12	Dec-12	Dec-12	Jun-13	Jun-13	Dec-13	Dec-13	Jun-14	Jun-14	Sep-14	Nov-14	Dec-14	Dec-14	Jun-15	Jun-15	Dec-15	Dec-15	Mar-16	Jun-16	Jun-16	Sept-28-16	Sept- 29-16	Dec-16	Dec-16
			DUP-1			DUP-1		DUP-1		Dup-1		Dup-1				DUP-1		Dup-1		Dup-1			Dup-1				Dup-1
VOCs (mg/L)																											
Chloroethane	---	0.0905	0.0632	<0.01	0.025	0.026	<0.010	<0.010	0.067	0.078	0.016	0.016	0.013	NA	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0082	0.030	0.011	0.012
1,1,2,2-Tetrachloroethane	0.005	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.005
1,1,1-Trichloroethane	13	1.65	1.36	0.740	2.5	2.6	0.470	0.520	0.74	0.79	0.49	0.55	3.90	1.20	4.60	4.80	0.29	0.26	3.00	2.90	0.77	0.17	0.17	0.39	0.15	0.87	0.91
1,1,2-Trichloroethane	0.005	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00079	<0.001	<0.005	<0.005
Trichloroethylene	0.0052	**3.56**	**2.99**	**1.5**	**4.6**	**4.8**	**0.73**	**0.82**	**1.5**	**1.6**	**1.5**	**1.7**	**8.6**	**1.9**	**9.7**	**9.6**	**0.41**	**0.39**	**4.6**	**5.1**	**1.9**	**0.46**	**0.49**	**0.63**	**0.19**	**1.4**	**1.5**
1,1-Dichloroethene	0.52	**4.19**	**3.21**	**2.2**	**6.2**	**6.5**	**1.9**	**1.9**	**2.1**	**2.2**	**1.1**	**1.2**	**5.3**	**3.2**	**4.3**	**4.3**	**0.94**	**0.91**	**2.9**	**2.8**	**1.3**	**0.72**	**0.70**	**1.30**	0.44	**1.8**	**1.8**
1,1-Dichloroethane	---	0.252	0.247	0.170	0.250	0.250	0.110	0.110	0.28	0.28	0.12	0.12	0.17	0.18	0.034	0.042	0.11	0.110	0.065	0.051	0.066	0.050	0.051	0.160	0.100	0.160	0.160
1,2-Dichloroethane	0.005	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.058	<0.005	<0.005
cis -1,2-Dichloroethene	0.2	**4.1**	**3.54**	**2.7**	**7.0**	**7.1**	**2.1**	**2.0**	**2.2**	**2.2**	**1.5**	**1.5**	**3.4**	**2.8**	**0.370**	**0.400**	**1.20**	**1.00**	**1.10**	**1.10**	**1.30**	**0.76**	**0.74**	**1.70**	**0.61**	**2.2**	**2.3**
trans -1,2-Dichloroethene	---	<0.02	<0.02	<0.005	**8.6**	**9.1**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0055	0.0027	<0.005	<0.005
Vinyl Chloride	0.0033	**1.89**	**1.56**	**0.47**	**2.1**	**2.2**	**0.86**	**0.82**	**2.6**	**2.6**	**0.90**	**0.99**	**0.78**	**0.89**	**0.100**	**0.160**	**0.640**	**0.590**	**0.350**	**0.330**	**0.580**	**0.40**	**0.40**	**0.79**	**1.30**	**0.92**	**1.00**
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	5.67	5.67	6.02	6.05	6.05	5.41	5.41	6.01	NA	5.76	NA	5.64	NA	6.12	NA	6.00	NA	6.07	NA	NA	6.24	NA	5.70	5.46	5.71	NA
Specific Conductance (mS/cm)	---	0.404	0.404	0.499	0.669	0.669	0.288	0.288	0.311	NA	0.320	NA	0.27	NA	0.407	NA	0.353	NA	0.390	NA	NA	0.319	NA	0.269	0.192	0.255	NA
Temperature (deg. C)	---	21.70	21.70	23.12	17.50	17.50	20.19	20.19	19.98	NA	21.93	NA	25.22	NA	18.72	NA	24.66	NA	21.51	NA	NA	23.88	NA	25.51	76.80	19.38	NA
Dissolved Oxygen (mg/L)	---	0.48	0.48	0.85	2.22	2.22	0.53	0.53	3.89	NA	0.87	NA	1.37	NA	0.44	NA	0.62	NA	0.18	NA	NA	0.76	NA	2.4	2	0.20	NA
ORP (mV)	---	-428.8	-428.8	4.5	-52.6	-52.6	-32.8	-32.8	-21.7	NA	-65.4	NA	-3.6	NA	-25.5	NA	-30.1	NA	79.8	NA	NA	-10.2	NA	27.3	88.0	23.8	NA
Turbidity (NTU)	---	0	0	10.1	7.4	7.4	2.7	2.7	5.3	NA	3.84	NA	5.76	NA	5.10	NA	4.1	NA	0.2	NA	NA	4.61	NA	NA	4.70	3.3	NA
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.078	0.078	NA	0.067	0.067	0.01	0.014	0.049	NA	0.024	0.023	<0.007	NA	<0.007	<0.007	<0.007	<0.007	0.0085	0.0078	0.0089	0.0086	0.0086	NA	NA	0.016	0.016
Ethane	---	0.00072	0.00072	NA	<0.009	<0.009	<0.009	<0.009	<0.0090	NA	<0.009	<0.009	0.02	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	NA	<0.009	<0.009
Methane	---	1.7	1.7	NA	6.4	6.4	7.9	8	6.8	NA	4.8	4	6.5	NA	0.440	0.410	4.40	4.30	3.40	3.10	6.50	2.50	2.50	NA	NA	5.80	6.00
Hydrogen (nmol/L)	---	0.92	0.92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-9/9R	MW-10	MW-10
Date Sampled	TYPE 3/4 RRS mg/L	Oct-98	Dec-00	May-04	Nov-04	May-05	Jun-06	Dec-06	May-07	Jun-08	Apr-09	Sep-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Oct-98	Dec-00
VOCs (mg/L)																										
Chloroethane	---	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010
1,1,2,2-Tetrachloroethane	0.005	ND	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005
1,1,1-Trichloroethane	13	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005
1,1,2-Trichloroethane	0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005
Trichloroethylene	0.0052	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.002	<0.005
1,1-Dichloroethene	0.52	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005
1,1-Dichloroethane	---	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.003	<0.005
1,2-Dichloroethane	0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005
cis -1,2-Dichloroethene	0.2	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005
trans -1,2-Dichloroethene	---	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005
Vinyl Chloride	0.0033	0.003	<0.010	<0.001	0.0021	0.0013	0.00067 J	0.00056 J	0.00066J	0.0014	<0.001	<0.001	0.00068J	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	ND	<0.010
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0208	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	NA	6.51	6.33	6.34	6.26	6.26	6.39	6.29	6.21	6.52	6.56	6.52	6.44	6.04	6.33	6.37	6.37	6.33	6.05	5.93	6.34	6.39	6.55	5.97	NA	4.98
Specific Conductance (mS/cm)	---	NA	0.24	0.328	0.459	0.484	0.413	0.384	0.396	0.415	0.306	0.294	0.351	0.186	0.227	0.323	0.216	0.337	0.402	0.316	0.609	0.317	0.233	0.269	0.266	NA	0.04
Temperature (deg. C)	---	NA	15.77	24.44	20.82	23.91	25.2	18.71	21.52	23.54	18.35	27.1	19.88	23.55	22.06	24.91	18.99	21.54	20.49	26.07	20.44	26.55	20.54	24.72	21.85	NA	14.36
Dissolved Oxygen (mg/L)	---	NA	0	3.85	0.22	4.07	0.41	0.37	0.34	0.41	2.85	0.21	1.12	4.8	0.86	0.82	3.31	1.49	0.24	0.37	0.42	0.40	0.63	23.9	0.96	NA	0.00
ORP (mV)	---	NA	-62	31	-53.9	-113.1	-12.5	-52.9	-86.2	-128.6	34.6	28.6	-31.4	110	202.1	30.5	46.0	-27.4	-25.0	-27.8	-90.5	-3.9	71.1	67.6	45.7	NA	-35.00
Turbidity (NTU)	---	NA	0.7	0	3.8	1.1	0	3.8	0.3	0	10.6	0.3	2	9.7	4.6	4.12	8.3	9.6	9.2	8.07	8.63	8.7	8.6	2.96	6.16	NA	0.20
Iron II (mg/L)	---	NA	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.80
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	4.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.40
Chloride	---	NA	1.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.80
Nitrate	---	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05
Sulfate	---	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.10
Total Alkalinity	---	NA	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.00
Total Sulfide	---	NA	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	NA	0	0.000053	0.00033	0.00018	0.00023	0.00017	0.000078	0.00014	0.000009J	0.000002J	0.000042	0.000025 J	0.000041	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	<0.000005
Ethane	---	NA	<0.000005	0.0000054	0.000032	0.00001	0.000008 J	0.000006 J	0.000008J	0.000019	<0.00001	0.000027	0.000002J	<0.00001	0.000004 J	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	<0.000005
Methane	---	NA	2	0.48	2.5	1	1.5	0.74	1.1	2	0.087	0.062	0.094	0.0081 J	0.21	NA	0.084	0.24	1.8	0.2	0.10	0.38	0.17	0.17	0.29	NA	0.08
Hydrogen (nmol/L)	---	NA	0.38	4501	0.71	1.1	1.5	2.1	3.7	1.4	0.65	210	28	14	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.28

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11
Date Sampled	TYPE 3/4 RRS mg/L	Dec-03	May-04	Dec-04	May-05	Jun-06	Jun-13	Jun-14	Oct-98	Dec-00	Dec-03	May-04	Dec-04	May-05	Jun-06	Dec-06	May-07	Jun-08	Apr-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14
VOCs (mg/L)																										
Chloroethane	---	<0.001	<0.001	<0.001	<0.001	<0.001	<0.010	NA	ND	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010
1,1,2,2-Tetrachloroethane	0.005	<0.001	<0.002	<0.001	<0.001	<0.001	<0.005	NA	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	13	<0.001	<0.003	<0.001	<0.001	<0.001	<0.005	NA	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	0.005	<0.001	<0.004	<0.001	<0.001	<0.001	<0.005	NA	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	0.0052	<0.001	<0.005	<0.001	0.001	0.00057 J	<0.005	NA	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.52	0.0017	0.0014	<0.001	<0.001	0.00099 J	<0.005	NA	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0016	<0.001	0.0016	<0.001	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	---	0.0023	0.0024	0.0012	0.0015	0.0015	<0.005	NA	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	NA	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005
cis -1,2-Dichloroethene	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	NA	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00083 J	0.0026	<0.001	0.0028	<0.001	<0.005	<0.005	<0.005	<0.005
trans -1,2-Dichloroethene	---	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	NA	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	0.0033	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	NA	ND	<0.010	<0.001	<0.001	<0.001	<0.001	0.00036 J	<0.001	<0.001	<0.001	0.00095J	0.00031J	0.0025	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002
SVOCs (mg/L)																										
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0200	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																										
pH (std. Units)	---	5.37	5.22	5.20	4.74	4.44	5.07	3.38	NA	5.18	5.54	5.51	5.41	5.44	4.28	5.16	5.2	4.2	5.62	5.51	5.17	5.21	5.09	4.93	4.85	5.52	5.33
Specific Conductance (mS/cm)	---	0.05	0.038	0.048	0.039	0.038	0.051	0.053	NA	0.43	0.06	0.06	0.06	0.058	0.111	0.044	0.047	0.1	0.038	0.038	0.06	0.059	0.047	0.185	0.101	0.056	0.061
Temperature (deg. C)	---	16.48	19.22	18.05	19.63	19.02	17.11	19.78	NA	8.47	10.95	21.2	14.54	18.48	20.2	11.85	18.55	20.49	15.61	14.14	20.18	17.22	22.36	14.32	20.97	14.82	21.37
Dissolved Oxygen (mg/L)	---	0.38	0.33	0.21	0.48	0.58	0.55	0.49	NA	0.00	0.27	0.36	0.19	0.45	0.39	0.29	0.33	0.53	0.19	0.20	0.13	0.40	1.10	3.15	0.94	4.75	0.65
ORP (mV)	---	2.8	61.2	5.9	103.0	36.2	119.7	38.5	NA	137.00	141.7	90.1	85.9	72.1	290.6	-221.7	200.6	462.2	92.5	143.3	115.2	156.0	190.1	264.6	58.7	155.9	136.1
Turbidity (NTU)	---	0.7	3.5	2.0	0.0	2.3	101.6	7.77	NA	4.50	10.3	10.8	2.5	5.8	8.6	5.5	5.4	1.5	3.7	29.5	9.1	8.8	9.04	9.8	3.1	3.9	6.51
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	2.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																										
Iron II	---	NA	NA	NA	2.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	1.2	NA	NA	NA	NA	6.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	2.5	NA	NA	NA	NA	4.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	<0.10	NA	NA	NA	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	<1.0	NA	NA	NA	NA	1.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	7.5	NA	NA	NA	NA	9.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	<0.10	NA	NA	NA	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	<0.000005	0.000004 J	<0.000005	<0.00001	<0.00001	NA	NA	NA	0.00040	0.000092	0.000025	0.00019	0.00012	0.00017	0.000008 J	0.000032	0.000015	0.00021	0.000042	0.00075 J	0.000042	NA	<0.007	<0.007	<0.007	<0.007
Ethane	---	<0.000005	0.0000021 J	0.000018	0.000005	0.000002 J	NA	NA	NA	<0.000005	<0.000005	<0.000005	0.0000018 J	<0.00001	0.000003 J	<0.00001	<0.00001	0.000002 J	0.000003J	<0.00001	0.000008 J	0.000004 J	NA	<0.009	<0.009	<0.009	<0.009
Methane	---	0.3	0.16	0.18	0.15	0.22	NA	NA	NA	0.07	0.16	0.15	0.30	0.38	0.14	0.084	0.450	0.100	0.34	0.037	0.430 J	0.0064	NA	0.004	0.052	0.11	0.74
Hydrogen (nmol/L)	---	1.1	1.8	0.63	1.2	24	NA	NA	NA	<0.030	0.94	1.3	1.4	1.1	4.4	1.4	1.2	1.3	19	6.9	1.7	1.1	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-11	MW-11	MW-11	MW-11	MW-11	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12
Date Sampled	TYPE 3/4 RRS mg/L	Dec-14	Jun-15	Dec-15	Jun-16	Nov-16	Oct-98	Dec-00	May-04	Dec-04	May-05	Jun-06	Apr-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Nov-16
VOCs (mg/L)																									
Chloroethane	---	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1,2,2-Tetrachloroethane	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	13	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	0.0052	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.52	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	---	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis -1,2-Dichloroethene	0.2	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans -1,2-Dichloroethene	---	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	0.0033	<0.002	<0.002	<0.002	<0.002	0.0025	ND	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
SVOCs (mg/L)																									
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																									
pH (std. Units)	---	4.69	5.19	5.49	5.04	4.86	NA	4.97	4.98	5.07	4.94	4.97	5.15	5.47	5.09	5.05	4.79	5.45	4.73	5.23	2.93	4.75	4.66	5.07	5.05
Specific Conductance (mS/cm)	---	0.112	0.052	0.052	0.03	0.061	NA	0.02	0.027	0.03	0.028	0.026	0.033	0.029	0.032	0.026	0.031	0.029	0.57	0.026	0.041	0.036	0.031	0.034	0.030
Temperature (deg. C)	---	16.39	23.38	13.45	23.56	20.47	NA	15.32	19.62	18.38	19.31	21.4	17.26	17.66	18.48	19.9	20.94	15.27	19.33	19.19	20.11	18.67	21.16	20.30	21.93
Dissolved Oxygen (mg/L)	---	0.67	0.70	0.40	0.13	2.44	NA	2.80	2.46	4.20	2.23	3.06	3.05	3.47	1.41	5.40	1.39	6.89	1.91	1.42	0.90	3.59	0.82	0.60	4.16
ORP (mV)	---	279.1	168.7	119.0	206.5	190.8	NA	280.00	160	269.0	275.5	325.6	144.1	246.9	283.9	-175.3	307.4	215.3	237.0	75.9	53.4	33.7	262.9	208.0	244.3
Turbidity (NTU)	---	11.9	3.6	5	17.0	519.0	NA	1.20	2.5	10.2	10	11.7	7.7	7.5	14.3	82.9	41.9	80.8	8.6	8.4	4.5	5.04	5.1	0.0	106.0
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																									
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	2.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	1.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	2.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	<0.007	<0.007	<0.007	<0.007	<0.007	NA	0.00003	0.0000085	0.0000081	<0.00001	<0.00001	NA	NA	NA	NA	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007
Ethane	---	<0.009	<0.009	<0.009	<0.009	<0.009	NA	<0.000005	<0.000005	<0.000005	<0.00001	<0.00001	NA	NA	NA	NA	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Methane	---	0.007	0.62	0.29	0.11	0.0054	NA	0.01	0.0034	0.0059	0.0022	0.000086	NA	NA	NA	NA	NA	<0.004	<0.004	<0.004	<0.004	<0.004	0.06	0.039	<0.004
Hydrogen (nmol/L)	---	NA	NA	NA	NA	NA	NA	<0.030	NA	0.58	1.5	1.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D
Date Sampled	TYPE 3/4 RRS mg/L	Jun-99	Dec-00	Jun-06	Dec-06	May-07	Jun-08	Apr-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	May-07	Jun-08	Apr-09	Dec-09	May-10	Nov-10
VOCs (mg/L)																											
Chloroethane	---	NA	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	0.005	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	13	ND	<0.0050	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	0.005	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethylene	0.0052	ND	<0.0050	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	0.52	NA	<0.0050	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	---	NA	<0.0050	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	0.005	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis -1,2-Dichloroethene	0.2	ND	<0.0050	<0.001	<0.001	0.0011	0.0011	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
trans -1,2-Dichloroethene	---	ND	<0.0050	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	0.0033	ND	<0.01	0.0012	0.0022	0.0014	0.0012	0.00045J	<0.001	0.0015	0.0015	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	<0.0211	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	NA	6.47	5.92	6.06	6.06	5.25	5.96	5.80	6.07	5.81	5.45	5.97	6.07	5.96	5.84	5.10	5.70	5.95	5.22	5.94	11.1	9.79	12.09	11.51	11.48	12.67
Specific Conductance (mS/cm)	---	NA	0.23	0.251	0.243	0.375	0.193	0.109	0.072	0.243	0.197	0.047	0.198	0.219	0.11	0.136	0.074	0.082	0.172	0.044	0.209	0.444	0.294	4.56	0.705	1.58	1.581
Temperature (deg. C)	---	NA	17.29	26.5	20.68	22.36	24.42	19.2	17.94	21.82	23.77	25.66	19.8	21.32	21.78	24.38	21.64	25.56	23.14	24.98	20.91	20.73	21.83	19.82	18.18	20.54	16.99
Dissolved Oxygen (mg/L)	---	NA	0.00	0.35	0.28	0.4	0.35	1.22	0.74	0.19	0.42	0.44	0.70	0.39	0.42	0.38	0.49	0.34	0.35	0.13	0.57	0.71	0.75	4.64	5.95	5.89	5.47
ORP (mV)	---	NA	-62.0	4.8	-262.9	-48.7	33.6	45.8	28.3	-33.9	-319.2	61.9	-20.8	-41.5	20.7	-41.7	-95.6	40.2	-32	151.5	7.4	138.9	272.3	-55.9	-59.2	120.4	6.5
Turbidity (NTU)	---	NA	1.0	0	0.9	0	0.2	9.7	2.7	4.8	1.8	2.68	8.0	4.3	7.1	3.8	2.00	4.90	0.00	1.71	5.76	12	5.8	6.2	18.9	2.6	12.6
Iron II (mg/L)	---	NA	4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	9.90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	3.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	NA	0.0002	0.000088	0.000033	0.00009	0.000049	0.000004J	0.000004J	0.000053 J	0.000024	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	NA	NA	NA	NA	NA
Ethane	---	NA	0.00011	0.00002	0.000046	0.000095	0.000028	0.000014	<0.00001	0.000055 J	0.000006 J	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	NA	NA	NA	NA	NA
Methane	---	NA	9.4	8.8	8.5	8.6	6.2	2.4	0.54	7.7 J	1.9	NA	7.5	6.9	5.3	3.5	0.58	3.3	4.9	2.2	5.4	NA	NA	NA	NA	NA	NA
Hydrogen (nmol/L)	---	NA	2	2.5	3	3.1	69	0.62	11.0	2.2	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19
Date Sampled	TYPE 3/4 RRS mg/L	Sep-09	Dec-09	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Sep-09	Dec-09	May-10	DUP-2	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Sep-14	Nov-14
VOCs (mg/L)																											
Chloroethane	---	0.0011	0.0012	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.659	0.314	0.735	0.727	0.344	0.31	0.28	1.3	0.340	0.270	0.022	NA
1,1,2,2-Tetrachloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	13	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0501	0.0486	<0.005	<0.005	<0.005	0.033	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.020	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	0.0052	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0172 J**	**0.0171 J**	**0.0961**	**0.550**	**0.20**	**0.14**	**0.280**	**0.450**	**4.10**	**4.20**
1,1-Dichloroethene	0.52	0.0025	0.0022	0.0019	0.0019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0118	0.0044 J	0.123	0.123	0.0682	0.500	0.12	0.45	0.200	0.270	**2.00**	**2.90**
1,1-Dichloroethane	---	0.00085J	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0381	0.0129	0.264	0.258	0.0212	0.050	0.018	0.21	0.012	0.044	0.018	0.035
1,2-Dichloroethane	0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0019J	<0.005	<0.020	<0.020	.0011 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis -1,2-Dichloroethene	0.2	0.0021	0.0019	0.0013	0.0020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0243	0.007	0.196	0.186	0.0543	**0.4**	0.11	**0.65**	0.087	**0.220**	**0.250**	**0.740**
trans -1,2-Dichloroethene	---	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.020	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	<0.05	<0.005
Vinyl Chloride	0.0033	**0.0051**	**0.0038**	**0.0035**	**0.0038**	**0.0033**	0.0028	0.0032	**0.0038**	0.0029	0.003	<0.002	<0.002	<0.002	<0.002	**0.502**	**0.113**	**2.02**	**2.01**	**0.198**	**0.83**	**0.33**	**2.9**	**0.300**	**0.420**	**0.120**	**0.370**
SVOCs (mg/L)																											
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																											
pH (std. Units)	---	5.32	5.76	5.70	5.63	5.72	5.91	5.58	5.72	5.61	5.51	5.61	5.72	5.94	5.67	5.85	6.19	5.66	5.66	6.27	5.55	5.87	5.85	6.3	5.73	5.36	NA
Specific Conductance (mS/cm)	---	0.173	0.221	0.361	0.276	0.355	0.354	0.291	0.241	0.239	0.28	0.218	0.188	0.266	0.233	0.408	0.413	0.477	0.477	0.374	0.315	0.364	0.434	0.397	0.338	0.176	NA
Temperature (deg. C)	---	28.05	20.6	23.25	23.11	24.61	20.48	23.55	21.47	24.74	21.9	26.69	22.66	24.75	22.72	23.76	17.84	18.52	18.52	18.54	20.36	16.78	17.61	18.42	20.72	26	NA
Dissolved Oxygen (mg/L)	---	0.28	0.29	0.45	0.63	1.2	0.78	0.5	0.12	0.72	0.25	0.56	0.39	0.70	0.17	0.26	0.26	0.27	0.27	0.44	1.3	0.70	0.37	4.06	0.35	0.43	NA
ORP (mV)	---	138.9	-30.8	12.5	-313.2	6.9	0.4	-39.1	8.6	-36.6	-21.4	27.0	14.6	0.3	33.3	-36.6	-49.2	-14.0	-14.0	-12.1	36.4	-22.8	-28.4	-38.8	16.6	130.3	NA
Turbidity (NTU)	---	9.7	10.1	21.4	6.9	7.49	7.1	4.4	8.2	2.23	2.23	4.2	3.1	5.62	8.57	6.3	9.7	10.0	10.0	23.0	33.0	9.3	33.6	8.6	3.2	45	NA
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																											
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.00066	0.00045	0.00065 J	0.00028	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	0.78	0.37	0.99 J	1.4	0.77	NA	0.47	0.37	0.38	0.26	0.028	NA
Ethane	---	0.00033	0.0015	0.00099 J	0.00063	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	0.022	0.014	0.049 J	0.1	0.029	NA	0.081	0.063	0.041	0.037	<0.009	NA
Methane	---	3.7	3.8	2.5 J	3.8	NA	6.8	7.2	6.9	4.1	7.1	5.3	5.9	6.2	4.9	3.7	1.4	6.9 J	15	5.8	NA	7.0	5.3	5.4	4.8	0.9	NA
Hydrogen (nmol/L)	---	27	5.8	0.98	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11	26	0.97	NA	1.5	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

40000

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-19	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20D	MW-20D	MW-20D
Date Sampled	TYPE 3/4 RRS mg/L	Dec-14	Jun-15	Dec-15	Mar-16	Jun-16	Sept-28-16	Sept-29-16	Nov-16	Sep-09	Dec-09	Dec-09 DUP-1	May-10	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Sep-09	Dec-09	May-10
VOCs (mg/L)																										
Chloroethane	---	0.180	0.027	0.014	0.083	<0.010	0.0069	0.015	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	13	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0053	<0.001	<0.001
1,1,2-Trichloroethane	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
Trichloroethylene	0.0052	**1.10**	**0.89**	**0.50**	**0.37**	**0.68**	**1.30**	**0.12**	**0.71**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.012**	<0.001	<0.001
1,1-Dichloroethene	0.52	**0.59**	**0.59**	0.27	0.23	0.33	0.51	0.04	0.29	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0191	<0.001	<0.001
1,1-Dichloroethane	---	0.046	0.015	0.0069	0.026	0.007	0.0079	0.0065	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00099 J	<0.001	<0.001
1,2-Dichloroethane	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
cis -1,2-Dichloroethene	0.2	0.180	0.190	0.070	0.092	0.110	0.110	0.015	0.080	0.0016	0.0032	0.0031	0.0027	0.0020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0152	<0.001	<0.001
trans -1,2-Dichloroethene	---	<0.005	<0.005	<0.005	<0.005	<0.005	0.002	0.0065	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
Vinyl Chloride	0.0033	**0.240**	**0.490**	**0.052**	**0.330**	**0.061**	**0.080**	**0.058**	**0.031**	**0.0102**	**0.0115**	**0.0116**	**0.0083**	**0.0067**	**0.0068**	**0.0051**	<0.002	**0.0046**	**0.0048**	**0.0037**	**0.0039**	**0.0055**	**0.0042**	**0.0041**	**0.0071**	<0.001	<0.001
SVOCs (mg/L)																										
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																										
pH (std. Units)	---	4.77	5.21	5.77	5.77	5.74	5.79	5.54	5.77	5.67	5.87	5.87	4.93	5.62	5.66	5.95	5.62	5.76	5.77	5.81	5.57	5.83	5.70	5.81	6.14	5.80	4.95
Specific Conductance (mS/cm)	---	0.141	0.180	0.193	0.193	0.165	0.256	0.176	0.218	0.306	0.311	0.311	0.326	0.313	0.294	0.459	0.369	0.274	0.328	0.305	0.329	0.331	0.25	0.341	0.145	0.084	0.053
Temperature (deg. C)	---	19.65	22.14	18.45	18.45	20.87	23.75	24.66	21.32	24.03	18.94	18.94	19.8	20.8	22.50	18.65	20.28	20.38	24.10	16.87	24.26	19.98	22.15	20.63	23.21	19.25	21.2
Dissolved Oxygen (mg/L)	---	0.29	0.28	0.31	0.31	0.74	2.8	23.1	0.47	0.37	0.35	0.35	0.29	0.48	0.83	2.15	0.53	0.09	1.38	0.5	0.7	0.37	0.18	0.36	1.79	2.08	2.09
ORP (mV)	---	-61.3	119.1	23.1	23.1	82.6	14.0	68.5	60.4	7.5	-23.3	-23.3	44.1	64.9	6.1	-58.9	-42.5	-23.4	17.3	6.7	1.9	-3	9.7	7.5	40.2	181.5	262.6
Turbidity (NTU)	---	7.43	6.1	44.0	44.0	30.9	NA	9.5	26.0	9.5	14.1	14.1	3.9	9.8	3.85	12.6	2.9	16.7	1.27	10.1	46.7	7	0.86	9.97	364.3	73.8	5.6
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																										
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	0.065	0.130	0.095	0.300	0.040	NA	NA	0.034	0.0022	0.0019	0.0054	0.00081 J	0.00048	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	NA	NA
Ethane	---	0.01	0.015	0.0099	0.034	<0.009	NA	NA	0.011	0.00082	0.0005	0.0021	0.00019 J	0.00014	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	NA	NA
Methane	---	1.2	2.2	2.0	5.6	1.8	NA	NA	1.6	7.3	4.4	13	7.2 J	5	NA	5.8	8.9	6.1	5.4	3.2	4.9	5.9	6.6	5.0	NA	NA	NA
Hydrogen (nmol/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	5.4	1.1	NA	0.93	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Table 3: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2016)

Sample Location		MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-20D	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21
Date Sampled	TYPE 3/4 RRS mg/L	Nov-10	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	May-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16
VOCs (mg/L)																						
Chloroethane	---	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1,2,2-Tetrachloroethane	0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	13	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	0.0052	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.52	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	---	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis -1,2-Dichloroethene	0.2	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans -1,2-Dichloroethene	---	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	0.0033	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	**0.0075**	**0.005**	**0.0071**	**0.0082**	**0.006**	<0.002	0.0025	0.0027	**0.0062**	**0.004**
SVOCs (mg/L)																						
1,4-Dioxane (p-Dioxane)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Parameters																						
pH (std. Units)	---	4.36	4.38	4.84	4.43	5.12	4.55	4.44	4.51	4.62	4.74	4.70	5.93	6.05	5.95	6.42	5.04	5.95	5.76	6.09	6.18	5.92
Specific Conductance (mS/cm)	---	0.043	0.050	0.153	0.093	0.051	0.048	0.062	0.053	0.049	0.044	0.042	0.398	0.472	0.476	0.462	0.424	0.342	0.175	0.269	0.416	0.402
Temperature (deg. C)	---	20.83	22.27	19.69	20.98	21.04	23.57	18.52	23.44	18.73	21.66	20.42	20.98	17.32	18.03	17.64	21.62	18.39	21.24	18.28	21.41	18.85
Dissolved Oxygen (mg/L)	---	0.41	1.01	2.11	0.76	5.27	1.9	0.79	1.12	0.57	1.39	0.20	1.79	0.71	2.46	4.18	0.32	0.42	0.29	0.42	0.81	0.34
ORP (mV)	---	-305.3	266.7	241.8	143.9	4.04	229.3	230.1	330.9	275	254.5	272.1	-20.6	-34.5	-50.2	-27	-6.7	-88.8	23.2	-31.8	-1.0	-6.6
Turbidity (NTU)	---	200.1	9.40	19.7	9.7	9.0	9.5	7.09	4.5	8.0	13.1	22.3	25.8	7.7	2.2	9	6.37	9.90	6.20	4.90	5.06	9.92
Iron II (mg/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geochemical Natural Attenuation Parameters (mg/L)																						
Iron II	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Sulfide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene	---	NA	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	NA	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007
Ethane	---	NA	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	NA	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Methane	---	NA	NA	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0077	<0.004	NA	7.1	7.5	8.4	3.4	2.3	3.2	5.5	7.3	5.3
Hydrogen (nmol/L)	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Bold concentrations exceed Risk Reduction Standards

NA - Data not available or not analyzed

ND - Non Detect

J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the detection limit or if the concentration reported is estimated due to other QC reasons.

Prepared by: GW 12/28/2016

Checked by: MHA 1/5/2017

Checked by: NJM 1/30/2017

Table 4
Summary of Surface Water Analytical Results

Sample Location	SW-1	SW-2											SW-3
Date Sampled	4/13/2009	4/13/2009	5/17/2010	5/30/2012	12/13/2012	6/6/2013	12/5/2013	6/5/2014	12/3/2014	6/18/2015	12/9/2015	6/16/2016	4/13/2009
VOCs (mg/L)													
Chloroethane	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.001
1,1,2,2-Tetrachloroethane	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
1,1,1-Trichloroethane	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
1,1,2-Trichloroethane	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
Trichloroethylene	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
1,1-Dichloroethene	<0.001	<0.001	0.0006[J]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
1,1-Dichloroethane	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
1,2-Dichloroethane	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
cis -1,2-Dichloroethene	0.00096[J]	<0.001	0.00098[J]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
trans -1,2-Dichloroethene	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001
Vinyl Chloride	0.00044[J]	0.00048[J]	0.00042[J]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001

Notes:
J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the method detection limit. Concentration reported is estimated
NA = not analyzed

Table 4
Summary of Surface Water Analytical Results

Sample Location	SW-4									
Date Sampled	5/17/2010	5/30/2012	12/13/2012	6/6/2013	12/5/2013	6/5/2014	12/3/2014	6/18/2015	12/9/2015	6/16/2016
VOCs (mg/L)										
Chloroethane	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1,2,2-Tetrachloroethane	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis -1,2-Dichloroethene	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans -1,2-Dichloroethene	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Notes:
J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the method detection limit. Concentration reported is estimated
NA = not analyzed

Table 4
Summary of Surface Water Analytical Results

Sample Location	SW-5										SW-6									
Date Sampled	5/30/2012	12/13/2012	6/6/2013	12/5/2013	6/5/2014	12/3/2014	6/18/2015	12/9/2015	6/16/2016	12/2/2016	5/30/2012	12/13/2012	6/6/2013	12/5/2013	6/5/2014	12/3/2014	6/18/2015	12/9/2015	6/16/2016	12/2/2016
VOCs (mg/L)																				
Chloroethane	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1,2,2-Tetrachloroethane	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis -1,2-Dichloroethene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans -1,2-Dichloroethene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

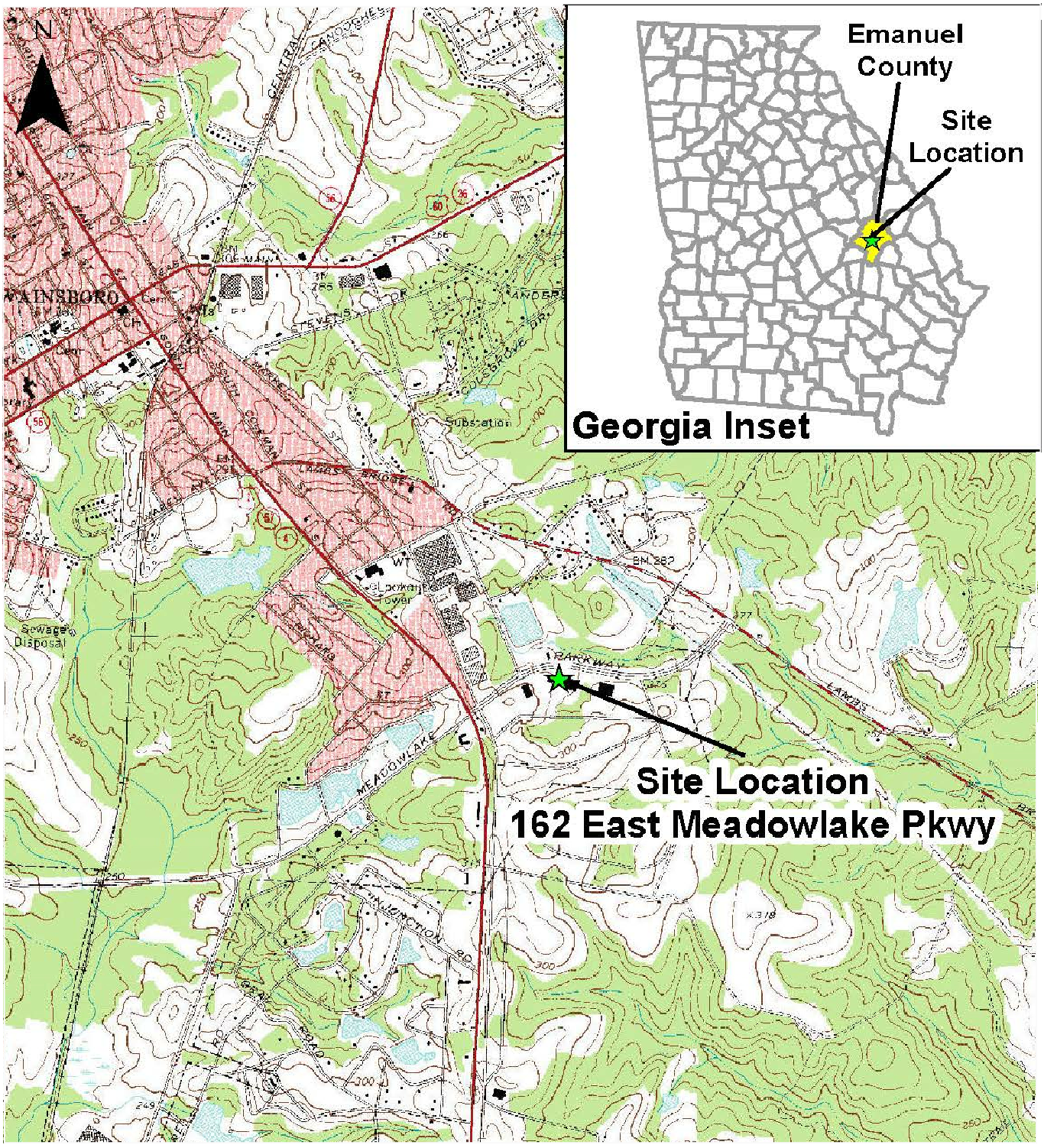
Prepared by: GW 12/28/2016
Checked by: MHA 1/20/2017

Notes:
J - Qualification flags were placed on values that were below the laboratory reporting limit but greater than the method detection limit. Concentration reported is estimated
NA = not analyzed

TABLE 5: SUMMARY OF HOURS INVOICED AND DESCRIPTION OF SERVICES

	Hours Invoiced	Billing Period	Invoice #	Description of Services
Gregory J. Wrenn, P.E.	8	7/23/2016-8/19/2016	H081003201	Data Management and preparation of VRP Progress Report No. 9. Submit draft VRP Progress Report.
Total Project Hours for Billing Period	26.7		8/26/2016	
Gregory J. Wrenn, P.E.	7.00	8/20/2016-9/23/2016	H081003275	Submit final VRP Progress Report No. 9 to EPD. Coordinate 8-hour HVR event, including additional groundwater sampling, and communications with POTW for fluid disposal. Follow up with EPD on status of review of draft environmental covenant.
Total Project Hours for Billing Period	24.8		9/30/2016	
Gregory J. Wrenn, P.E.	5.00	9/24/2016-10/21/2016	H081003320	Conduct 8-Hour Hi-Vacuum Remediation event, including pre-and post-event groundwater sampling, and recovered groundwater treatment, analysis, and disposal to the Swinsboro POTW upon confirmation of treatment. Submit draft environmental covenant to public officials and adjacent property owners for review.
Total Project Hours for Billing Period	40.0		11/4/2016	
Gregory J. Wrenn, P.E.	4.00	10/22/2016-11/25/2016	H081003335	Coordinate Routine semi-annual groundwater sampling event. Laboratory analysis for groundwater samples collected as part of HVR event. Evaluate data and prepare summary of HVR event. Discuss execution of covenant with Emanuel County Development Authority. Initiate Compliance Status Report (CSR).
Total Project Hours for Billing Period	7.80		12/1/2016	
Gregory J. Wrenn, P.E.	6.00	11/26/2016-12/23/2016	H081003396	Revisions to environmental covenant to address comments from tenant (Kongsberg Automotive). Send Revised covenant to Emanuel County for signature. Conduct routine semi-annual groundwater sampling event. Initiate data management/evaluation and preparation of CSR.
Total Project Hours for Billing Period	83.00		12/29/2016	
Total Hours for PE Gregory J. Wrenn	**30.00**			
Total Project Hours	**182.3**			

FIGURES



Source: USGS 7.5 Minute Topographic Quadrangle, Swainsboro Quad

FORMER AUTOMATIC SPRINKLER SITE
162 E. MEADOWLAKE PKWY
SWAINSBORO, GA

amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

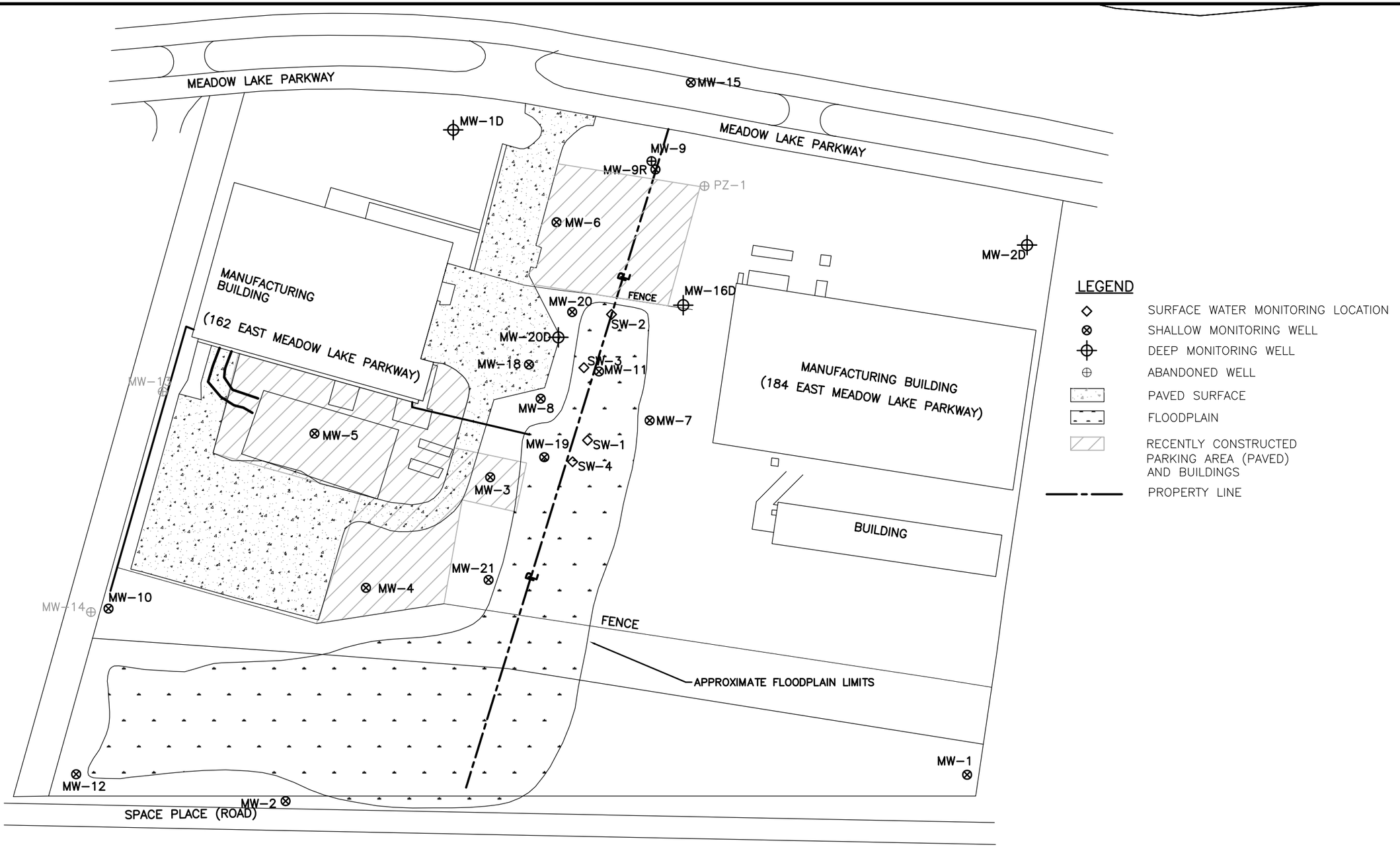
SITE LOCATION MAP

JOB NO. 6125-08-0149 FIGURE 1

PREPARED BY/DATE

CHECKED BY/DATE

J:\STI\JUNE 2015\FIG 2-SITE LAYOUT MAP.dwg - Layout1 08/19/2015 11:39am Tonya.Gladstone



SCALE IN FEET

0 100 200

SOURCE: BASE MAP EMCON, 12/98 AND 6/99. GIS, AND ESRI WEBMAP SERVICE.

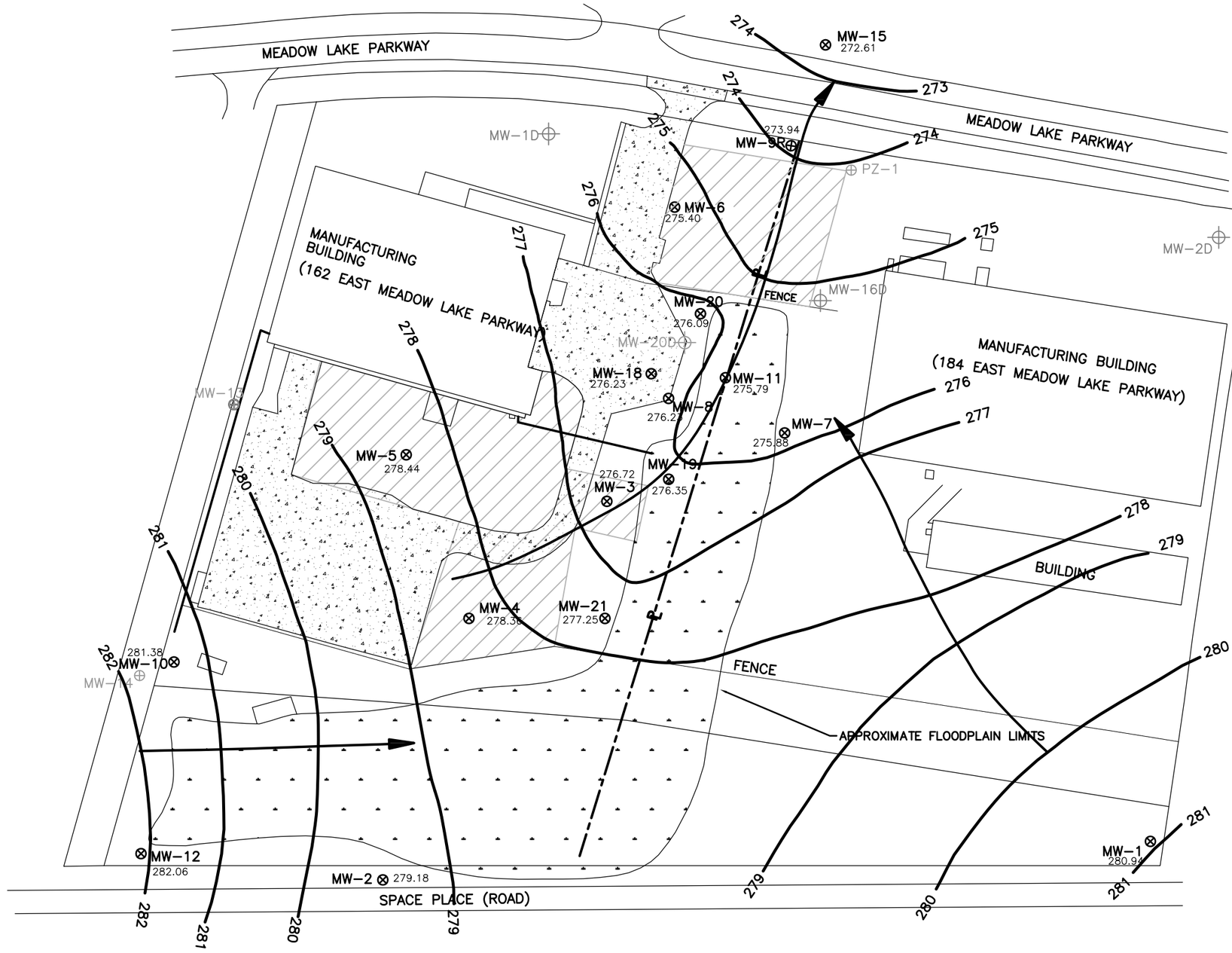
FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 2
SITE LAYOUT MAP

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 6/22/2012
CHECKED BY/DATE RPR 6/26/2012



LEGEND

- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- ABANDONED WELL
- PAVED SURFACE
- FLOODPLAIN
- RECENTLY CONSTRUCTED PARKING AREA (PAVED) AND BUILDINGS
- PROPERTY LINE
- 282 POTENTIOMETRIC CONTOUR (FT MSL)
- 282.06 GROUNDWATER SURFACE ELEVATION (FT MSL)
- NM NOT MEASURED
- DIRECTION OF GROUNDWATER FLOW

SCALE IN FEET

0 100 200

SOURCE: BASE MAP EMCON, 12/98 AND 6/99

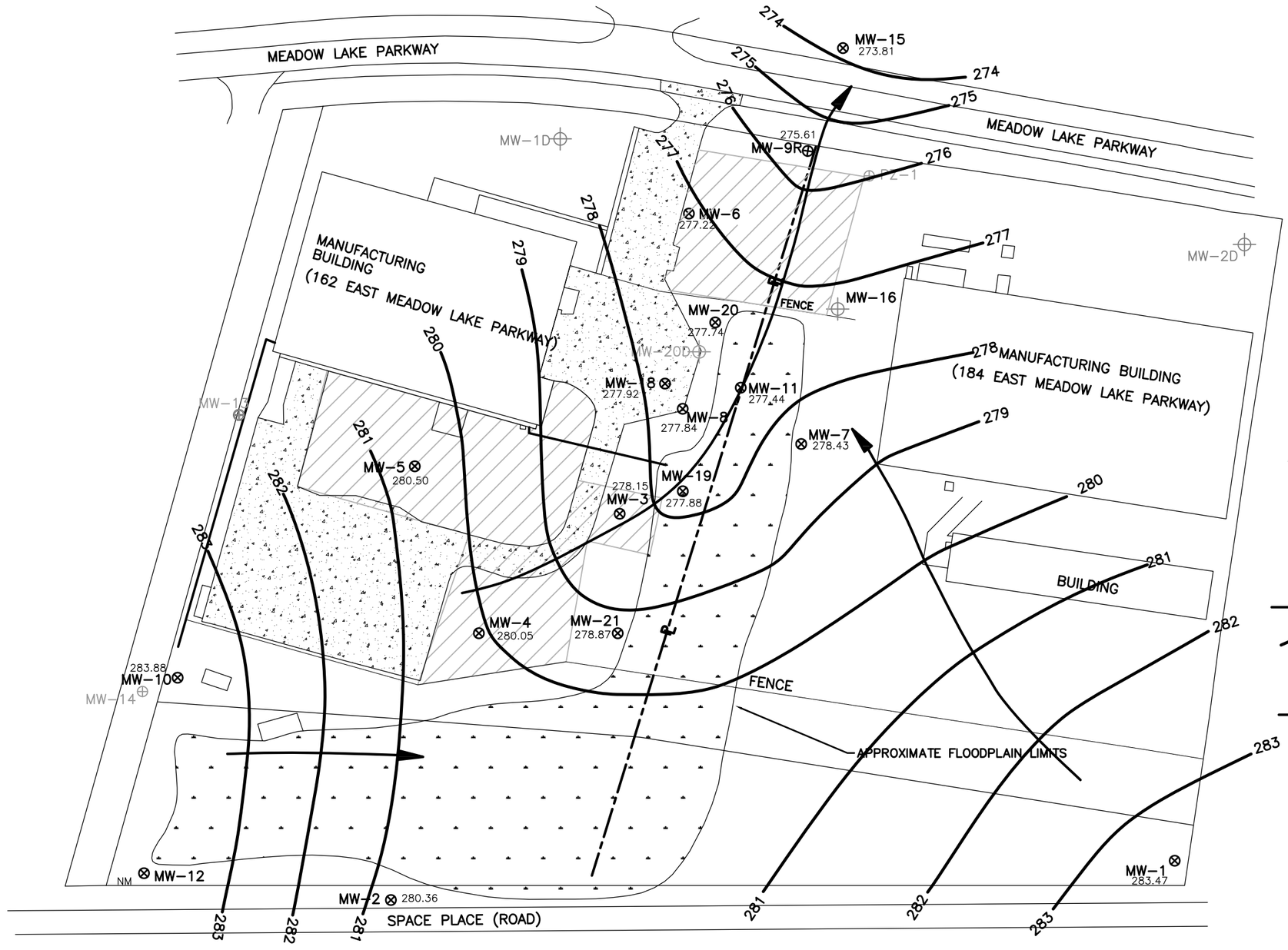
FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 3a
SHALLOW ZONE
POTENTIOMETRIC SURFACE MAP
NOVEMBER 2016

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 1/20/2017
CHECKED BY/DATE NJM 2/6/2017



LEGEND

- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- ABANDONED WELL
- PAVED SURFACE
- FLOODPLAIN
- RECENTLY CONSTRUCTED PARKING AREA (PAVED) AND BUILDINGS
- PROPERTY LINE
- 282 POTENTIOMETRIC CONTOUR (FT MSL)
- 283.47 GROUNDWATER SURFACE ELEVATION (FT MSL)
- NM NOT MEASURED
- DIRECTION OF GROUNDWATER FLOW

SCALE IN FEET

0 100 200

SOURCE: BASE MAP EMCON, 12/98 AND 6/99

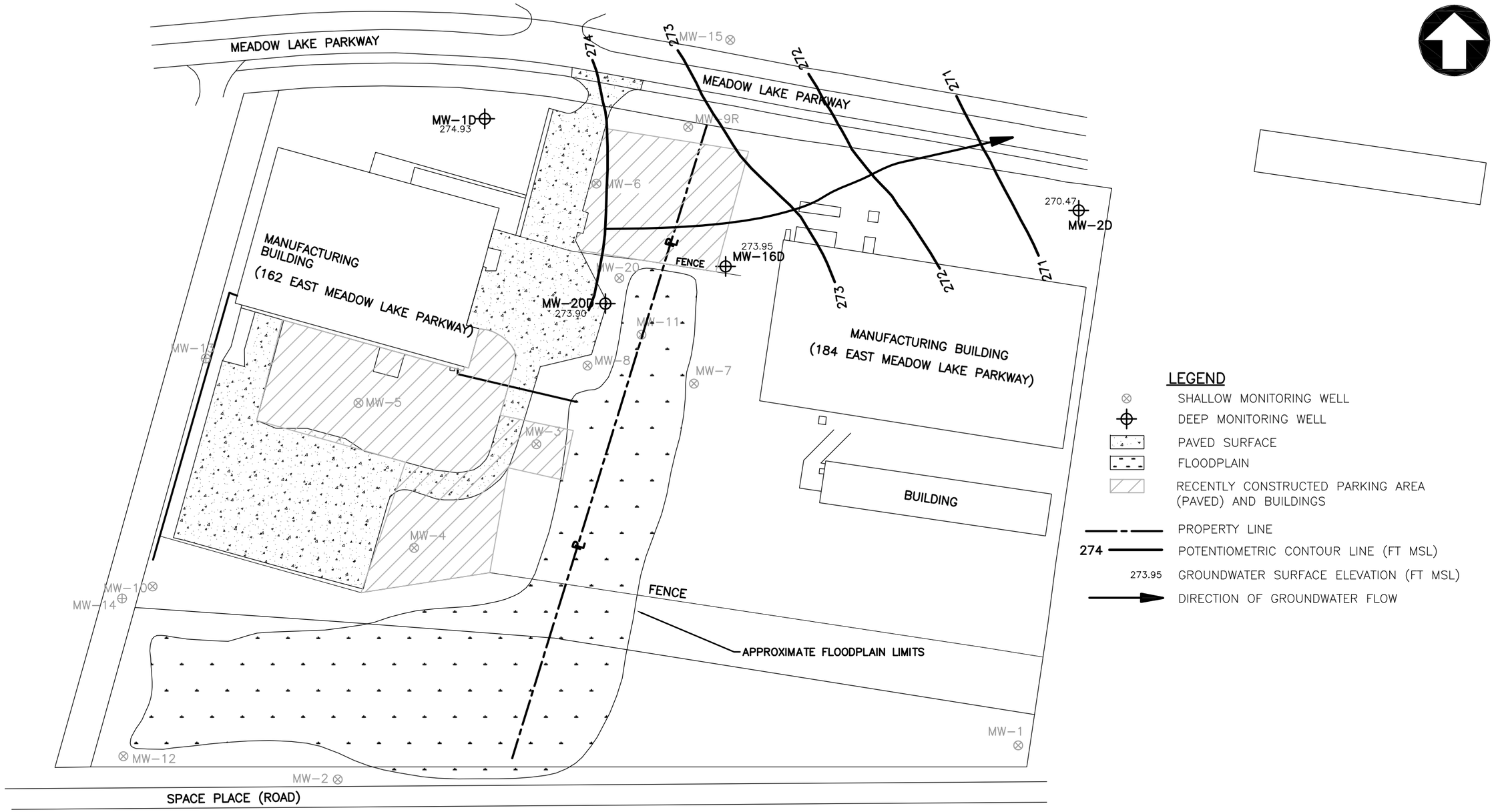
FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 3b
SHALLOW ZONE
POTENTIOMETRIC SURFACE MAP
JUNE 2016

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 6/29/2016
CHECKED BY/DATE TRK 6/29/2016



SCALE IN FEET

0 100 200

SOURCE: EMCON, 12/98 AND 6/99

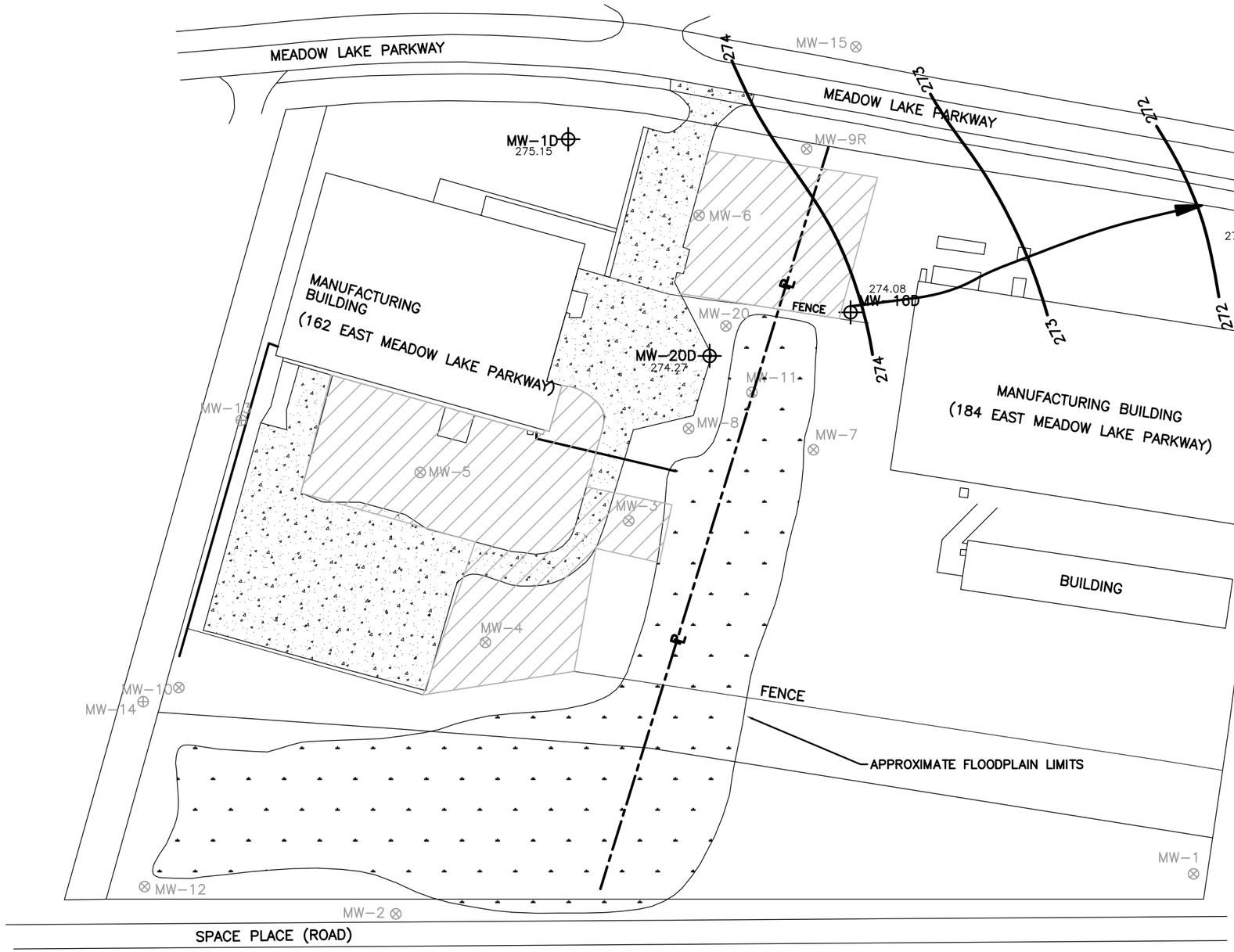
FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 4a
DEEP ZONE
POTENTIOMETRIC SURFACE MAP
NOVEMBER 2016

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 1/20/2017
CHECKED BY/DATE NJM 2/6/2017



LEGEND

- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- PAVED SURFACE
- FLOODPLAIN
- RECENTLY CONSTRUCTED PARKING AREA (PAVED) AND BUILDINGS
- PROPERTY LINE
- 274 POTENTIOMETRIC CONTOUR LINE (FT MSL)
- 273.03 GROUNDWATER SURFACE ELEVATION (FT MSL)
- DIRECTION OF GROUNDWATER FLOW

SCALE IN FEET

0 100 200

SOURCE: EMCON, 12/98 AND 6/99

FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 4b
DEEP ZONE
POTENTIOMETRIC SURFACE MAP
JUNE 2016

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 6/29/2016
CHECKED BY/DATE TRK 6/29/2016

MW-18	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-20D	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-20	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0041**

MW-15	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-9R	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-6	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0044**

MW-8 /DUP-1	Dec-16	
CE	0.011	0.012
1,1,2,2-TCA	<0.005	<0.005
1,1,1-TCA	0.87	0.91
1,1,2-TCA	<0.005	<0.005
TCE	**1.4**	**1.5**
1,1-DCE	**1.8**	**1.8**
1,1-DCA	0.160	0.160
1,2-DCA	<0.005	<0.005
cis-1,2-DCE	**2.20**	**2.30**
trans-1,2-DCE	<0.005	<0.005
VC	**0.92**	**1.00**

MW-19	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	**0.71**
1,1-DCE	0.29
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	0.080
trans-1,2-DCE	<0.005
VC	**0.031**

MW-5	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-11	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	0.0025

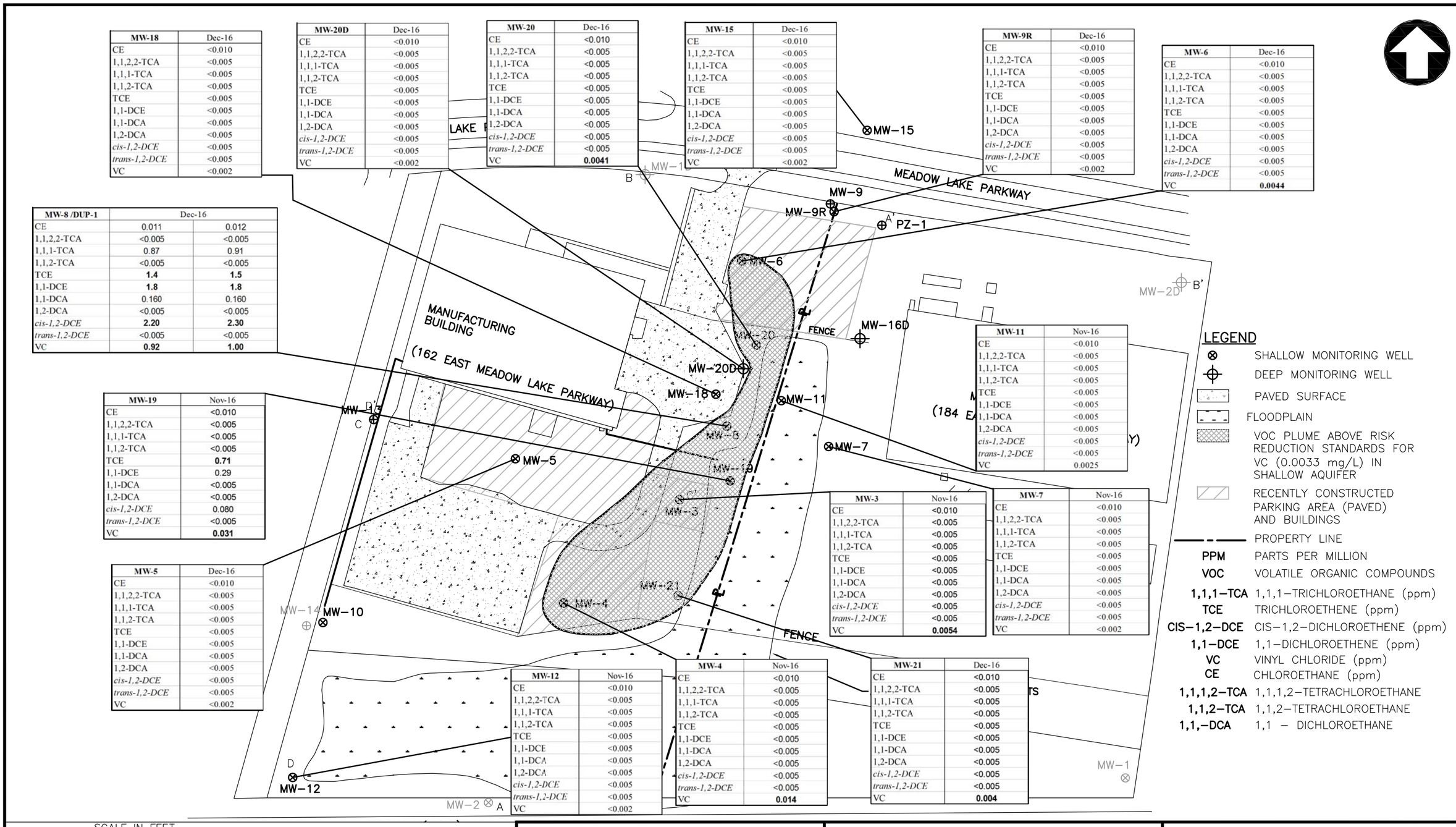
MW-3	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0054**

MW-7	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-12	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-4	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.014**

MW-21	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.004**



LEGEND

- ⊗ SHALLOW MONITORING WELL
- ⊕ DEEP MONITORING WELL
- PAVED SURFACE
- FLOODPLAIN
- VOC PLUME ABOVE RISK REDUCTION STANDARDS FOR VC (0.0033 mg/L) IN SHALLOW AQUIFER
- RECENTLY CONSTRUCTED PARKING AREA (PAVED) AND BUILDINGS
- PROPERTY LINE

PPM	PARTS PER MILLION
VOC	VOLATILE ORGANIC COMPOUNDS
1,1,1-TCA	1,1,1-TRICHLOROETHANE (ppm)
TCE	TRICHLOROETHENE (ppm)
CIS-1,2-DCE	CIS-1,2-DICHLOROETHENE (ppm)
1,1-DCE	1,1-DICHLOROETHENE (ppm)
VC	VINYL CHLORIDE (ppm)
CE	CHLOROETHANE (ppm)
1,1,1,2-TCA	1,1,1,2-TETRACHLOROETHANE
1,1,2-TCA	1,1,2-TETRACHLOROETHANE
1,1,-DCA	1,1 - DICHLOROETHANE

SCALE IN FEET

0 100 200

SOURCE: BASE MAP EMCON, 12/98 AND 6/99. NEW SURVEYED POINTS, MW-3, 4, 5, 18, 19, 20 AND 20D, SEPTEMBER 22, 2009.

FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

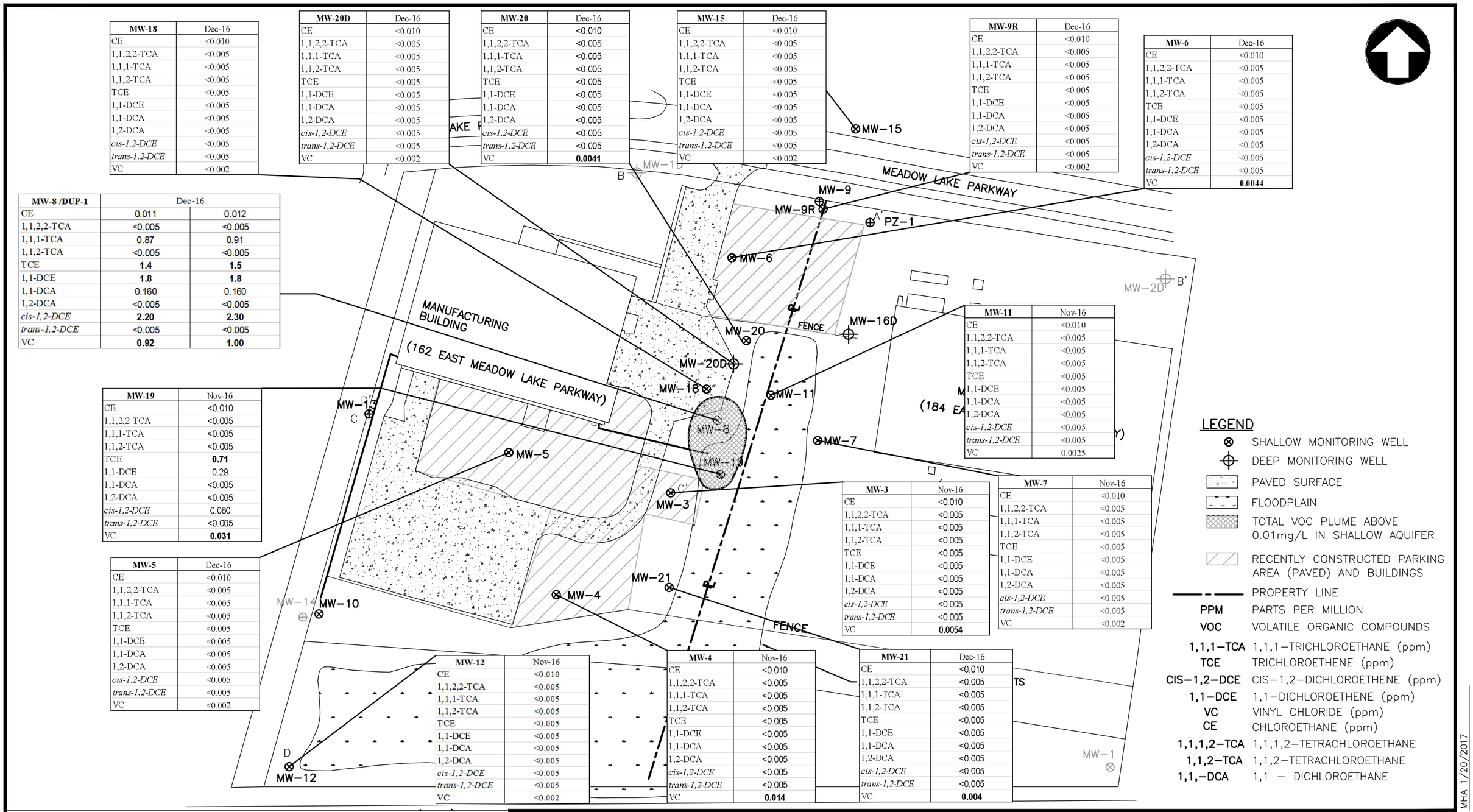
amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 5
VOC CONCENTRATIONS IN GROUNDWATER NOVEMBER AND DECEMBER 2016

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 1/20/2017
CHECKED BY/DATE NJM 2/6/2017

J:\STI\JAN 2017\FIG 5a-VOC CONCEN IN GW.dwg - Layout1 02/13/2017 11:06am tonya.gladstone



MW-18	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-20D	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-20	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0041**

MW-15	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-9R	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-6	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0044**

MW-8 /DUP-1	Dec-16	
CE	0.011	0.012
1,1,2,2-TCA	<0.005	<0.005
1,1,1-TCA	0.87	0.91
1,1,2-TCA	<0.005	<0.005
TCE	**1.4**	**1.5**
1,1-DCE	**1.8**	**1.8**
1,1-DCA	0.160	0.160
1,2-DCA	<0.005	<0.005
cis-1,2-DCE	**2.20**	**2.30**
trans-1,2-DCE	<0.005	<0.005
VC	**0.92**	**1.00**

MW-11	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	0.0025

MW-19	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	**0.71**
1,1-DCE	0.29
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	0.080
trans-1,2-DCE	<0.005
VC	**0.031**

MW-3	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0054**

MW-7	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-5	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-12	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-4	Nov-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.014**

MW-21	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.004**

LEGEND

- ⊗ SHALLOW MONITORING WELL
- ⊕ DEEP MONITORING WELL
- PAVED SURFACE
- FLOODPLAIN
- TOTAL VOC PLUME ABOVE 0.01mg/L IN SHALLOW AQUIFER
- RECENTLY CONSTRUCTED PARKING AREA (PAVED) AND BUILDINGS
- PROPERTY LINE

PPM	PARTS PER MILLION
VOC	VOLATILE ORGANIC COMPOUNDS
1,1,1-TCA	1,1,1-TRICHLOROETHANE (ppm)
TCE	TRICHLOROETHENE (ppm)
CIS-1,2-DCE	CIS-1,2-DICHLOROETHENE (ppm)
1,1-DCE	1,1-DICHLOROETHENE (ppm)
VC	VINYL CHLORIDE (ppm)
CE	CHLOROETHANE (ppm)
1,1,1,2-TCA	1,1,1,2-TETRACHLOROETHANE
1,1,2-TCA	1,1,2-TETRACHLOROETHANE
1,1,-DCA	1,1 - DICHLOROETHANE

SCALE IN FEET

0 100 200

SOURCE: BASE MAP EMCON, 12/98 AND 6/99. NEW SURVEYED POINTS, MW-3, 4, 5, 18, 19, 20 AND 20D, SEPTEMBER 22, 2009.

FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 5a

TCE CONCENTRATIONS GREATER THAN 0.01 mg/L IN GROUNDWATER
NOVEMBER AND DECEMBER 2016

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 1/20/2017
CHECKED BY/DATE NJM 2/6/2017

J:\STI\JAN 2017\FIG 6-SURFACE WATER ANALYTICAL RESULTS JUNE 2016.dwg – Layout1 02/06/2017 2:49pm ligita.kravchuk

SW-2	Dec-16
CE	NS
1,1,2,2-TCA	NS
1,1,1-TCA	NS
1,1,2-TCA	NS
TCE	NS
1,1-DCE	NS
1,1-DCA	NS
1,2-DCA	NS
cis-1,2-DCE	NS
trans-1,2-DCE	NS
VC	NS

SW-6	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

SW-5	Dec-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

SW-4	Dec-16
CE	NS
1,1,2,2-TCA	NS
1,1,1-TCA	NS
1,1,2-TCA	NS
TCE	NS
1,1-DCE	NS
1,1-DCA	NS
1,2-DCA	NS
cis-1,2-DCE	NS
trans-1,2-DCE	NS
VC	NS

UNNAMED TRIBUTARY
TRIBUTARY OF HUGHES PRONG
(INTERMITTENT STREAM)

SW-6
SW-5
SW-4
SW-2
CULVERT

MEADOW LAKE PARKWAY
MW-1D
MW-9R
MW-15
MW-3
PZ-1
MW-2D
MW-6
MW-20
FENCE
MW-16
MANUFACTURING BUILDING (162 EAST MEADOW LAKE PARKWAY)
MW-11
MW-8
MW-7
MW-5
MW-19
MANUFACTURING BUILDING (184 EAST MEADOW LAKE PARKWAY)
BUILDING
FORMER DISCHARGE PIPE NOW ABANDONED
MW-4
MW-14
MW-10
FENCE
APPROXIMATE FLOODPLAIN LIMITS
MW-12
MW-2
MW-1
SPACE PLACE (ROAD)

LEGEND

- SURFACE WATER MONITORING LOCATION
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- ABANDONED WELL
- FLOODPLAIN
- NS — NOT SAMPLED DUE TO INSUFFICIENT WATER

SCALE IN FEET

0 200 400

SOURCE: BASE MAP EMCON, 12/98 AND 6/99. GIS, AND ESRI WEBMAP SERVICE.

FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

amec foster wheeler
AMEC Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 6
SURFACE WATER ANALYTICAL RESULTS
DECEMBER 2016

JOB NO. 6125080149

PREPARED BY/DATE MHA 1/20/2017
CHECKED BY/DATE NJM 2/6/2017

APPENDIX A

WELL PURGING/GROUNDWATER SAMPLING LOGS

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

Project Number:
6125080149

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-8
WELL MATERIAL: PVC

SAMPLE METHOD: low flow "Soda Straw"
DUP./REP. OF:
Arrived at:
Screen length: 5'
Tubing Intake (btoc) = 6'

WELL DIAMETER: 2 in
DEPTH TO WATER: 3.77
TOTAL DEPTH: 8.55
WATER COLUMN HEIGHT: 4.78
PURGE VOLUME: 2.3
GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

9/28/16 TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1220	—	32.6	18.5	5.91	0.392	25.72	clear	200 ( )	3.95
1230	<1.0	5.6	20.4	5.78	0.312	25.63		200	<4.05
1240	1.0	3.5	20.6	5.74	0.288	25.56		200	<4.05
1250		2.7	18.20	5.72	0.277	25.60		200	<4.05
1300	2.0	2.7	22.9	5.72	0.275	25.67		200	<4.05
1310		2.5	21.3	5.71	0.270	25.51		200	<4.05
1320	3.0	2.4	27.3	5.70	0.269	25.51		200	<4.05

NOTES: no turbidity meter. Teflon lined Tubing

SAMPLE DATE: 9/28/16
SAMPLE TIME: 1320

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ml VOA	3	HCl	8260	site specific VOCs

GENERAL INFORMATION			
WEATHER:	Sunny 90°		
SHIPPED VIA:			
SHIPPED TO:			
SAMPLER:	Bill Chodyka	OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

Project Number:
6125080149

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-19
WELL MATERIAL: PVC

SAMPLE METHOD: low flow "Soda Straw"
DUP./REP. OF:
Arrived at:
Screen length: 10'
Tubing Intake (btoc) = 10'

WELL DIAMETER: 2in
DEPTH TO WATER: 4.30
TOTAL DEPTH: 16.70
WATER COLUMN HEIGHT: 12.4
PURGE VOLUME: 6.0

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

9/28/16 TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1035	—	~~4.09~~	401.5	5.90	0.220	22.94		300 ( )	4.90
1045	4.1	26.6	417.1	5.13	0.207	23.10	clear	300	5.05
1055	7.0	12.2	49.8	5.34	0.203	23.37	clear	200	5.05
1105		7.2	34.3	5.67	0.225	23.49	clear	200	5.05
1115	2.0	4.7	10.8	5.70	0.245	23.66	clear	200	5.00
1125		3.6	17.8	5.75	0.250	23.57	clear	200	5.00
1135	3.0	3.0	11.7	5.78	0.254	23.58	clear	200	5.00
1145		2.9	12.2	5.78	0.255	23.69	clear	200	5.00
1155	4.0	2.8	14.0	5.79	0.256	23.75	clear	200	5.00

NOTES: no turbidity meter with equipment order. Teflon line tubing

SAMPLE DATE: 9/28/16
SAMPLE TIME: 1200

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ml VOA	3	HCL	8260	site specific VOCs

GENERAL INFORMATION			
WEATHER:	Sunny 90°		
SHIPPED VIA:			
SHIPPED TO:			
SAMPLER: Bill Upchurch		OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

Project Number:
6125.08.0149

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-8
WELL MATERIAL: PVC

SAMPLE METHOD: low flow "Soda straw"
DUP./REP. OF:
Arrived at:
Screen length: 5'
Tubing Intake (btoc) = 6'

WELL DIAMETER: 2"
DEPTH TO WATER: 3.90
TOTAL DEPTH: 8.55
WATER COLUMN HEIGHT: 4.65
PURGE VOLUME: 2-3
GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

9/29/16 TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1535	—	53.6	125.4	5.21	0.150	27.46	23.3	200 ( )	4.16
1545	<1.0	5.1	133.0	5.30	0.161	27.45	14.2		4.15
1555	1.0	3.5	123.1	5.38	0.171	27.37	8.07		4.20
1605		2.6	101.5	5.42	0.180	26.93	7.90		4.20
1615	2.0	2.3	96.3	5.41	0.188	26.70	5.48		4.20
1625		2.1	90.5	5.415	0.190	26.78	5.10		4.20
1635	3.0	2.6	88.0	5.416	0.192	26.45	4.70		4.20

NOTES: Teflon lined Tubing

SAMPLE DATE: 9/29/16
SAMPLE TIME: 1640

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40 ml VOA	3	HCL	8260	Site specific VOCs

GENERAL INFORMATION		
WEATHER:	Sunny 90°	
SHIPPED VIA:		
SHIPPED TO:		
SAMPLER: Bill Updyke	OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

Project Number:
6125080149

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-19
WELL MATERIAL: PVC

SAMPLE METHOD: low flow "Soda Straw"
WELL DIAMETER: 2"
DEPTH TO WATER: 4.86
TOTAL DEPTH: 16.70
WATER COLUMN HEIGHT: 12.25
PURGE VOLUME: 6.0
GRAB (x) COMPOSITE ( )

DUP./REP. OF:

Arrived at:
Screen length: 10'
Tubing Intake (btoc) = 10'

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

9/29/16 TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1410	—	85.1	86.1	5.461	0.140	24.37	—	200 ( )	4.90
1420	2.1	65.5	86.2	5.34	0.146	24.03	24.7	200	5.05
1430	4.0	41.0	73.1	5.50	0.161	24.19	18.1	200	5.08
1440		29.3	~~29.3~~ 69.1	5.51	0.169	24.36	13.1		5.10
1450	2.0	26.0		5.52	0.171	24.57	11.4		5.10
1500		24.0	70.9	5.53	0.174	24.45	10.5		5.10
1510	3.0	23.1	68.5	5.51	0.176	24.66	9.5		

NOTES: Teflon lined tubing

SAMPLE DATE: 9/29/16
SAMPLE TIME: 1515

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ml VOA	3	HCL	8260	Site specific VOCs

GENERAL INFORMATION			
WEATHER:	Sunny 90°		
SHIPPED VIA:			
SHIPPED TO:			
SAMPLER:	Bill Chadwick	OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

Project Number:
6125.08.0149

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: ✓ Standard __ Compliance __Background __Extraction
WELL ID: MW-3
WELL MATERIAL: PVC

SAMPLE METHOD: low flow "Soda straw"
DUP./REP. OF: N/A

Arrived at:
Screen length: 10 ft
Tubing Intake (btoc) = 10'

WELL DIAMETER: 2 in
DEPTH TO WATER: 4.41
TOTAL DEPTH: 15.78
WATER COLUMN HEIGHT: 11.37
PURGE VOLUME: 1.85 x 3 = 5.6

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1250	0	1.81	85.8	5.70	0.131	24.29	49	200 ( )	4.60
1300	<0.1	0.80	85.9	5.65	0.130	24.21	51	200	4.80
1310	<0.1	0.58	85.3	5.66	0.131	24.15	49	200	4.85
1320	1	0.36	86.1	5.66	0.135	24.08	48	200	4.85
1330	>1	0.22	79.5	5.67	0.155	24.05	35	200	4.85
1340	>1	0.15	70.9	5.67	0.172	23.95	27	200	4.85
1350	2	0.14	65.4	5.68	0.176	24.07	17.7	200	4.85
1400	>2	0.13	59.4	5.68	0.180	24.17	13.0	200	4.85
1410	3	0.12	55.3	5.68	0.184	24.19	9.88	200	4.85

NOTES: dedicated teflow tubing

SAMPLE DATE: 11/30/16
SAMPLE TIME: 1415

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40 ml	2	HCL	8260	site VOCs
40 ml	2	HCL	RSK175	methane, ethene, ethane

GENERAL INFORMATION			
WEATHER:	Cloudy 75°		
SHIPPED VIA:			
SHIPPED TO:			
SAMPLER:	Bill Upchurch	OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

Project Number:
6125.08.0149

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: ✓Standard __ Compliance __Background __Extraction
WELL ID: MW-4
WELL MATERIAL: PVC

SAMPLE METHOD: low flow "Soda Straw"
DUP./REP. OF: NA

Arrived at:
Screen length: 10'
Tubing Intake (btoc) = 10'

WELL DIAMETER: 2in
DEPTH TO WATER: 3.41
TOTAL DEPTH: 14.80
WATER COLUMN HEIGHT: 11.39
PURGE VOLUME: 1.86 x 3 = 5.5

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 940	0	1.80	21.1	5.88	0.266	22.77	28.6	300 ( )	3.41
0950	≤1	0.57	2.6	6.00	0.264	23.23	20.1	300	4.90
1000	1	0.48	-6.9	6.03	0.285	23.23	17.8	200	5.00
1010	>1	0.34	-13.7	6.08	0.312	23.63	9.62	200	5.10
1020	2	0.29	-24.5	6.09	0.329	23.73	4.85	200	5.15
1030	>2	0.23	-25.9	6.11	0.344	23.65	6.09	200	5.15
1040	3	0.23	-28.2	6.12	0.353	23.68	4.03	200	5.20
1050	>3	0.20	-30.4	6.13	0.361	23.66	4.05	200	5.20
1100	4	0.18	-34.4	6.14	0.368	23.72	3.95	200	5.25
1110	4.5	0.16	-36.5	6.15	0.373	23.83	4.28	200	5.25
1120	5	0.14	-37.9	6.15	0.379	23.98	2.42	200	5.25
1130	5.5	0.12	-40.1	6.16	0.385	24.00	2.62	200	5.25

NOTES: dedicated teflon tubing

SAMPLE DATE: 11/30/16
SAMPLE TIME: 1135

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ml	2	HCL	8260	57ke VOCs
40ml	2	HCL	RSK175	Methane, ethene, ethane

GENERAL INFORMATION			
WEATHER:	Cloudy 70°		
SHIPPED VIA:			
SHIPPED TO:			
SAMPLER:	Bill Updyke	OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

Project Number:
6125.08.0149

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-5
WELL MATERIAL: PVC

SAMPLE METHOD: low flow "Solo Straw"
DUP./REP. OF: _____
Arrived at: _____
Screen length: 10 ft
Tubing Intake (btoc) = 13'

WELL DIAMETER: 2in
DEPTH TO WATER: 8.30
TOTAL DEPTH: 18.01
WATER COLUMN HEIGHT: 9.71
PURGE VOLUME: 1.6 x 3 = 4.8

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial 0855	0	3.50	195.1	4.96	0.047	20.15	47.	200 ( )	8.45
0905	<1	2.21	201.8	4.91	0.034	21.17	28.3	200	8.55
0915	<1	1.74	218.4	4.88	0.031	21.54	14.2	200	8.60
0925	1	1.35	225.7	4.84	0.031	21.74	9.82	200	8.65
0935	>1	1.01	216.9	4.85	0.031	21.83	6.83	200	8.65
0945	>1	0.76	209.2	4.85	0.032	21.88	4.31	200	8.65
0955	2	0.54	204.5	4.86	0.032	21.95	4.35	200	8.65
1005	>2	0.38	200.0	4.87	0.033	21.94	3.80	200	8.65
1015	>2	0.35	197.2	4.87	0.033	21.96	2.40	200	8.65
1025	3	0.33	196.1	4.88	0.034	21.99	2.04	200	8.65

NOTES: dedicated teflon tubing

SAMPLE DATE: 12/1/16
SAMPLE TIME: 1030

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ml	2	HCL	8260	site VOCs
40ml	2	HCL	RSK175	methane, ethane, ethene

GENERAL INFORMATION			
WEATHER:	50° windy		
SHIPPED VIA:			
SHIPPED TO:			
SAMPLER: Bill Cepodyke		OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-6
WELL MATERIAL: PVC

SAMPLE METHOD: PERISTALTIC "soda straw"
DUP./REP. OF:
Arrived at:
Screen length: 10'
Tubing Intake (btoc) = 11.0'

WELL DIAMETER: 2"
DEPTH TO WATER: 5.60
TOTAL DEPTH: 13.37
WATER COLUMN HEIGHT: 7.77 X .17 = 1.32 X 3 = 3.96
PURGE VOLUME: 3.96

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1205	0.25	1.54	6.8	5.87	0.199	23.88	25.5	200 ( )	5.74
1210	0.5	0.56	11.3	5.84	0.197	23.87	21.6	200	5.74
1215	0.75	0.49	10.7	5.81	0.198	23.76	16.9	200	5.74
1220	1.0	0.48	9.0	5.80	0.198	23.63	12.0	200	5.74
1225	1.25	0.46	8.4	5.80	0.198	23.69	10.2	200	5.74
1230	1.5	0.47	7.9	5.80	0.198	23.73	8.66	200	5.74
1235	collect Sample								

NOTES: Teflon lined Tubing

SAMPLE DATE: 12-1-16
SAMPLE TIME: 1235

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ML VIAL	2	HCL	8260B	VOCs
40ML VIAL	2	HCL	SOP-RSK175	METHANE, ETHENE, ETHANE

GENERAL INFORMATION			
WEATHER:	COLD-HUMID-CLEAR		
SHIPPED VIA:	SELF		
SHIPPED TO:	AES		
SAMPLER:	EVER GUILLEN	OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-7
WELL MATERIAL: PVC

SAMPLE METHOD: PERISTACTIC "Soda Straw"
DUP./REP. OF:
Arrived at:
Screen length: 4.6'
Tubing Intake (btoc) = 8.0'

WELL DIAMETER: 2"
DEPTH TO WATER: 5.48
TOTAL DEPTH: 9.75
WATER COLUMN HEIGHT: 4.27 x .17 = 0.72 x 3 = 2.17
PURGE VOLUME: 2.17
GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 940	0.25	2.17	182.7	6.11	0.083	19.69	43.2	200 ( )	5.56
945	0.5	1.58	173.3	5.65	0.085	19.61	37.4	200	5.73
950	1.0	1.78	160.4	5.49	0.085	19.60	30.9	400	6.03
955	1.5	0.89	104.4	5.46	0.082	19.75	24.1	400	6.27
1000	2.0	0.60	79.2	5.43	0.088	19.60	20.2	400	6.53
1005	2.5	0.59	76.8	5.45	0.089	19.71	17.7	400	6.76
1010	3.0	0.55	75.3	5.45	0.088	19.77	13.1	400	6.88
1015	3.5	0.56	74.2	5.45	0.090	19.76	9.2	400	7.03
1020	Collect Sample								

NOTES: Purged 3 WELL VOLUMES DUE TO EXCESSIVE DRAWDOWN @ LOW FLOW
NO WELL CAP — ALSO NEED NEW LOCK - PROTECTIVE CASING HAS BROKEN HINGE
Teflon lined Tubing

SAMPLE DATE: 11-30-16
SAMPLE TIME: 1020

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ML VIAL	2	HCL	8260B	VOCs
40ML VIAL	2	HCL	SOP-RSK175	METHANE, ETHENE, ETHANE

GENERAL INFORMATION		
WEATHER:	WARM - HUMID - CLOUDY	
SHIPPED VIA:	Self	
SHIPPED TO:	AES	
SAMPLER: EVER GUILLEN		OBSERVER:

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

Project Number:
6125.08.0149

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: ✓Standard __ Compliance __Background __Extraction
WELL ID: mw-8
WELL MATERIAL: PVC

SAMPLE METHOD: low flow "Soda Straw"
DUP./REP. OF: DUP-1

Arrived at: _____
Screen length: ~~10~~ 5'
Tubing Intake (btoc) = 4'

WELL DIAMETER: 2in
DEPTH TO WATER: 4.65
TOTAL DEPTH: 8.40
WATER COLUMN HEIGHT: 3.75
PURGE VOLUME: 0.6 x 3 = 1.8

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 0850	0	2.09	14.5	5.58	0.301	17.91	29.4	200 ( )	4.80
0855	<1	1.75	0.4	5.83	0.300	18.42	23.0	200	4.82
0900	<1	0.96	0.2	5.82	0.295	19.00	20.9	200	4.82
0905	<1	0.84	0.2	5.81	0.286	19.25	17.4		4.82
0910	<1	0.46	4.8	5.80	0.280	19.26	12.1		4.82
0915	<1	0.55	11.6	5.77	0.266	19.48	9.0		4.82
0920	1	0.50	12.0	5.76	0.265	19.49	7.3		4.82
0925	>1	0.36	15.6	5.75	0.262	19.49	5.1		4.82
0930	>1	0.18	18.1	5.73	0.260	19.44	4.9		4.82
0935	>1	0.19	19.7	5.72	0.258	19.34	4.3		4.82
0940	2	0.20	23.8	5.71	0.255	19.38	3.3	200	4.83

NOTES: dedicated teflon tubing

SAMPLE DATE: 12/2/16
SAMPLE TIME: 0945

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ml	2	HCL	8260	site VOCs
40ml	2	HCL	RSK175	methane ethane, ether

GENERAL INFORMATION			
WEATHER:	clear 45°		
SHIPPED VIA:			
SHIPPED TO:			
SAMPLER:	T.S. Updyke	OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-9R
WELL MATERIAL: PVC

SAMPLE METHOD: PERISTALTIC "Soda Straw"
DUP./REP. OF:_____
Arrived at:_____
Screen length: 10'
Tubing Intake (btoc) = 9'

WELL DIAMETER: 2"
DEPTH TO WATER: 4.37
TOTAL DEPTH: 11.83
GRAB (x) COMPOSITE ( )
WATER COLUMN HEIGHT: 7.46 X .17 = 1.26 X 3 = 3.80
PURGE VOLUME: 3.80
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1010	0.25	3.48	39.1	5.92	0.202	21.23	64.4	200 ( )	4.43
1015	0.5	0.80	36.0	5.92	0.202	21.55	49.4		4.43
1020	0.75	0.69	38.2	5.91	0.204	21.74	42.3		4.43
1025	1.0	0.57	37.1	5.90	0.208	21.92	34.6		4.43
1030	1.25	0.58	36.0	5.91	0.220	22.11	28.2		4.43
1035	1.5	0.93	44.9	5.96	0.269	21.88	15.9		4.43
1040	1.75	0.99	46.5	5.97	0.268	21.90	11.8		4.43
1045	2.0	0.96	45.7	5.97	0.266	21.85	6.16		4.43
1050	Collect	Sample							

NOTES: Teflon lined Tubing

SAMPLE DATE: 12-1-16
SAMPLE TIME: 1050

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40 ML VIAL	2	HCL	8260B	VOCs
40ML VIAL	2	HCL	SOP-RSK175	METHANE, ETHENE, ETHANE

GENERAL INFORMATION		
WEATHER:	COLD - HUMID - CLEAR	
SHIPPED VIA:	SELF	
SHIPPED TO:	AES	
SAMPLER: EVER GUILLEN		OBSERVER:

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-11
WELL MATERIAL: PVC

SAMPLE METHOD: PERISTALTIC "Soda Straw"
WELL DIAMETER: 2"
DEPTH TO WATER: 5.98
TOTAL DEPTH: 7.23
GRAB (x) COMPOSITE ( )

DUP./REP. OF:
WATER COLUMN HEIGHT: 1.75 X 0.17 = 0.29 X 3 = 0.89
PURGE VOLUME: 0.89

Arrived at:
Screen length: 4.75'
Tubing Intake (btoc) = 6.5

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1055	0.25	2.44	190.8	4.86	0.061	20.47	519.0	200 ( )	6.21
1100	well dry -	will	allow well to recover				Before		
	collecting Sample								
1310	Water level recovered to 6.61'								
1315	Collected	Sample							

NOTES: Well DRAWS DOWN @ LOW FLOW - DROPPED PUMP INTAKE TO BOTTOM
@ WELL DRY - GRAYISH BLACK SEDIMENT IN WATER - ATTEMPT TO REMOVE SEDIMENT FROM BOTTOM OF WELL. TUBING Used Tubing
NO WELL CAP OR LOCK

SAMPLE DATE: 11-30-16
SAMPLE TIME: 1315

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40 ML VIAL	2	HCL	8260B	VOCs
40 ML VIAL	2	HCL	SOP-RSK175	METHANE, ETHENE, ETHANE

GENERAL INFORMATION		
WEATHER:	WARM - HUMID - CLOUDY	
SHIPPED VIA:	SELF	
SHIPPED TO:	AES	
SAMPLER: EVER GUILLEN		OBSERVER:

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-12
WELL MATERIAL: PVC

SAMPLE METHOD: PERISTALTIC "Soda Straw"
DUP./REP. OF: -
Arrived at:
Screen length:
Tubing Intake (btoc) = 6.70'

WELL DIAMETER: 2"
DEPTH TO WATER: 6.03
TOTAL DEPTH: ~~6.94~~ 7.18
GRAB (x) COMPOSITE ( )
WATER COLUMN HEIGHT: 0.91 X 0.17 = 0.15 X 3 = 0.46
PURGE VOLUME: 0.46
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1410	0.25	4.16	244.3	5.05	0.030	21.93	106	200 ( )	6.63
1415	WELL DRY - WILL ALLOW RECOVERY BEFORE SAMPLING								
1515	WATER LEVEL = 6.42'								
1520	Collect Sample								

NOTES: CAN NOT MAINTAIN WATER LEVEL @ LOW FLOW - WELL DRY @ 0.25 GAL. - WILL ALLOW WELL TO RECOVER BEFORE COLLECTING SAMPLE. TEFLON Lined Tubing

SAMPLE DATE: 11-30-16
SAMPLE TIME: 1520

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40 ML VIAL	2	HCL	8260B	VOCs
40 ML VIAL	2	HCL	SOP-RSK175	METHANE, ETHENE, ETHANE

GENERAL INFORMATION		
WEATHER:	HOT - HUMID - CLOUDY	
SHIPPED VIA:	SELF	
SHIPPED TO:	AES	
SAMPLER: EVER GUILLEN		OBSERVER:

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-15
WELL MATERIAL: PVC

SAMPLE METHOD: PERISTALTIC "Soda Straw"
DUP./REP. OF:
Arrived at:
Screen length: 5'
Tubing Intake (btoc) = 9.0'

WELL DIAMETER: 2"
DEPTH TO WATER: 7.41
TOTAL DEPTH: 10.03
WATER COLUMN HEIGHT: 2.62 x 0.17 = 0.44 x 3 = 1.33
PURGE VOLUME: 1.33

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 850	0.25	1.90	-12.5	5.92	0.192	20.02	71.1	200 ( )	7.56
855	0.5	1.08	-3.4	5.94	0.195	20.43	56.8	↓	7.56
900	0.75	0.94	0.6	5.94	0.205	20.31	49.7		7.56
905	1.0	0.56	5.2	5.95	0.207	20.67	28.3		7.56
910	1.25	0.58	6.3	5.94	0.209	20.96	15.2		7.56
915	1.5	0.57	7.4	5.99	0.0209	20.91	5.76		7.56
920	COLLECT		SAMPLE						

NOTES: TRAin Used Tubing

SAMPLE DATE: 12-1-16
SAMPLE TIME: 920

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40 ML VIAL	2	HCL		
40 ML VIAL	2	HCL		

GENERAL INFORMATION		
WEATHER:	COLD - HUMID - CLEAR	
SHIPPED VIA:	SELF	
SHIPPED TO:	AES	
SAMPLER: EVER GUILLEN		OBSERVER:

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-18
WELL MATERIAL: PVC

SAMPLE METHOD: low flow "Soda straw"
DUP./REP. OF:
Arrived at:
Screen length: 10'
Tubing Intake (btoc) = 9'

WELL DIAMETER: 2in
DEPTH TO WATER: 4.50
TOTAL DEPTH: 14.21
WATER COLUMN HEIGHT: 9.71
PURGE VOLUME: 1.6 x 3 = 4.8

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1555	0	2.20	35.2	5.71	0.235	21.90	21.4	200 ( )	4.75
1600	<1	0.61	29.5	5.71	0.240	22.56	23.3	200	4.90
1605	<1	0.31	33.2	5.69	0.239	22.85	22.0	200	4.95
1610	<1	0.18	32.9	5.69	0.239	23.00	19.5	200	5.00
1615	1	0.15	32.6	5.68	0.238	22.87	15.9	200	5.05
16250	>1	0.17	31.6	5.67	0.236	22.82	11.5	200	5.05
1625	>1	0.16	32.4	5.67	0.234	22.77	10.1	200	5.05
1630	1.5	0.17	33.3	5.67	0.233	22.72	8.57	200	5.05

NOTES: dedicated teflon tubing

SAMPLE DATE: 12/1/16
SAMPLE TIME: 1635

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ml	2	HCL	8260	site VOCs
40ml	2	HCL	RSK175	methane ethane, ethene

GENERAL INFORMATION			
WEATHER:			
SHIPPED VIA:			
SHIPPED TO:			
SAMPLER: B. Updyke		OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

Project Number: 6125.08.0149

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-19
WELL MATERIAL: PVC

SAMPLE METHOD: low flow "soda straw"
DUP./REP. OF: _____

Arrived at: 11
Screen length: 10'
Tubing Intake (btoc) = 11'

WELL DIAMETER: 2 in
DEPTH TO WATER: 5.43
TOTAL DEPTH: 16.41
WATER COLUMN HEIGHT: 10.98
PURGE VOLUME: 1.8 x 3 = 5.4

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1435	0	4.63	121.5	5.54	0.149	22.12	40	200 ( )	5.80
1445	>1	2.40	157.1	5.37	0.150	21.59	38	200	5.85
1455	>1	1.95	159.7	5.38	0.152	21.43	36	200	5.85
1505	1	1.33	116.6	5.57	0.170	21.26	37	200	5.85
1515	>1	1.09	94.8	5.66	0.178	21.42	35	200	5.85
1525	2	0.75	79.5	5.71	0.195	21.37	33	200	5.85
1535	2.5	0.59	70.8	5.74	0.207	21.25	29	200	5.85
1545	3	0.52	66.5	5.76	0.210	21.36	27	200	5.85
1555	3.5	0.49	64.3	5.76	0.215	21.25	26	200	5.85
1605	4	0.47	60.4	5.77	0.218	21.32	26	200	5.85

NOTES: dedicated teflon tubing
turbidity slowly dropping

SAMPLE DATE: 11/30/16
SAMPLE TIME: 1610

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ml	2	HCL	8260	site VOCs
40ml	2	HCL	RSK175	methane, ethane, ethene

GENERAL INFORMATION			
WEATHER:	Cloudy 75°		
SHIPPED VIA:			
SHIPPED TO:			
SAMPLER:	Bill Updyke	OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-20
WELL MATERIAL: PVC

SAMPLE METHOD: PERISTALTIC "Soda Straw"
WELL DIAMETER: 2"
DEPTH TO WATER: 6.90
TOTAL DEPTH: 16.53
GRAB (x) COMPOSITE ( )

DUP./REP. OF:_____
WATER COLUMN HEIGHT: 9.63 X .17 = 1.63 X 3 = 4.91
PURGE VOLUME: 4.91

Arrived at:_____
Screen length: 10'
Tubing Intake (btoc) = 13.5'

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1610	0.25	2.15	3.7	5.82	0.339	20.16	26.7	200 ( )	6.93
1615	0.5	0.76	5.1	5.83	0.344	20.60	20.0		6.93
1620	0.75	0.66	2.7	5.83	0.343	20.70	17.8		6.93
1625	1.0	0.40	5.2	5.83	0.343	20.75	16.3		6.93
1630	1.25	0.41	7.1	5.81	0.344	20.65	15.6		6.93
1635	1.5	0.38	6.3	5.81	0.342	20.65	14.7		6.93
1640	1.75	0.36	7.5	5.81	0.341	20.63	9.97		6.93
1645	collect	sample							

NOTES: NEEDS NEW LOCK. teflon lined TUBing

SAMPLE DATE: 12-1-16
SAMPLE TIME: 1645

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40 ML VIAL	2	HCL	8260B	VOCs
40 ML VIAL	2	HCL	SOP-RSK175	METHANE, ETHENE, ETHANE

GENERAL INFORMATION		
WEATHER:	COLD - HUMID - CLEAR	
SHIPPED VIA:	SELF	
SHIPPED TO:	AES	
SAMPLER: EVER GUILLEN		OBSERVER:

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

Project Number:
6125.08.0149
page 1 of 2

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: ✓Standard __ Compliance __Background __Extraction
WELL ID: MW-20D
WELL MATERIAL: PVC

SAMPLE METHOD: low flow "soda straw"
DUP./REP. OF: _____
Arrived at: _____
Screen length: 10'
Tubing Intake (btoc) = 29'

WELL DIAMETER: 2in
DEPTH TO WATER: 7.35
TOTAL DEPTH: 34.44
WATER COLUMN HEIGHT: 27.05
PURGE VOLUME: 4.4 x 3 = 13.2

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1115	0	1.65	216.6	4.68	0.048	19.93	11.7	200 ( )	7.90
1125	<1	0.52	250.1	4.63	0.049	20.00	10.3	150	10.20
1135	<1	0.37	276.5	4.61	0.049	20.10	—	150	12.20
1145	>1	0.47	281.5	4.63	0.049	20.67	8.43	300	15.20
1155	>2	0.82	279.1	4.64	0.049	20.70	7.63	300	18.35
1205	3	1.09	275.5	4.66	0.050	20.67	7.57	300	20.50
1215	>3	0.94	270.3	4.69	0.049	20.70	8.32	300	23.30
1225	4	1.54	268.1	4.71	0.049	20.63	8.36	300	25.05
1235	>4	1.67	265.4	4.70	0.050	20.64	7.96	300	25.60
1245	>5	1.67	262.9	4.70	0.051	20.71	7.83	400	26.15
1255	6	1.08	258.1	4.66	0.053	20.66	7.62	400	26.75
1305	>6	0.61	260.8	4.64	0.053	20.68	8.58	400	27.45
1315	7	0.27	264.7	4.70	0.046	20.69	12.10	500	28.10
1325	7.5	0.27	272.9	4.64	0.048	20.79	15.8	500	28.90
1335	8	0.22	274.0	4.65	0.046	20.73	17.0	500	29.30
1345	8.5	0.19	273.7		0.045	20.71	15.9	500	30.00

NOTES: dedicated teflon tubing. 3 well volumes purged before sampling

SAMPLE DATE: 12/1/16
SAMPLE TIME: 1520

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ml	2	HCL	8260	site VOCs
40ml	2	HCL	RSK175	methane, ethene, ethane

GENERAL INFORMATION			
WEATHER:	60° windy		
SHIPPED VIA:			
SHIPPED TO:			
SAMPLER:	Bill Updyke	OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

Project Number: 6125.09.0149

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-20D
WELL MATERIAL: PVC

SAMPLE METHOD: low flow "Soda straw"

WELL DIAMETER: _____
DEPTH TO WATER: _____
TOTAL DEPTH: _____

GRAB (x) COMPOSITE ( )

DUP./REP. OF: _____

WATER COLUMN HEIGHT: _____
PURGE VOLUME: _____

Arrived at: _____
Screen length: _____
Tubing Intake (btoc) = _____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial:								( )	
1355	9	0.16	270.7	4.69	0.044	20.64	38.8	500	30.40
1405	9.5	0.18	274.1	4.68	0.044	20.57	18.9	500	30.70
1415	10	0.19	273.2	4.68	0.044	20.51	32.8	500	30.95
1425	10.5	0.18	273.8	4.70	0.044	20.46	19.1	500	31.10
1435	11	0.18	273.0	4.70	0.043	20.40	21.4	500	31.25
1445	11.5	0.19	272.7	4.66	0.044	20.41	21.8	500	31.40
1455	12	0.19	272.9	4.70	0.042	20.43	22.0	500	31.45
1505	12.5	0.21	271.8	4.71	0.042	20.39	22.2	500	31.50
1515	13	0.20	272.1	4.70	0.042	20.42	22.3	500	31.55

NOTES:

SAMPLE DATE: _____
SAMPLE TIME: _____

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS

GENERAL INFORMATION	
WEATHER:	
SHIPPED VIA:	
SHIPPED TO:	
SAMPLER:	OBSERVER:

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: MW-21
WELL MATERIAL: PVC

SAMPLE METHOD: PERISTALTIC "Soda Straw"
DUP./REP. OF:
Arrived at:
Screen length: 10'
Tubing Intake (btoc) = 15.0'

WELL DIAMETER: 2"
DEPTH TO WATER: 6.87
TOTAL DEPTH: 17.80
GRAB (x) COMPOSITE ( )
WATER COLUMN HEIGHT: 10.93 X .17 = 1.85 X 3 = 5.47
PURGE VOLUME: 5.47
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1345	0.25	1.21	-5.5	5.89	0.304	18.66	45.3	100 ( )	6.91
1355	0.5	0.55	-0.6	5.90	0.309	18.94	34.8		6.93
1405	0.75	0.37	-6.5	5.91	0.337	18.96	24.5		6.94
1415	1.0	0.39	-6.2	5.92	0.367	18.94	19.6		6.94
1425	1.25	0.35	-4.6	5.92	0.376	18.93	22.5		6.95
1435	1.5	0.37	-6.5	5.92	0.383	18.91	19.4		6.96
1445	1.75	0.33	-5.8	5.92	0.393	18.94	16.1		6.96
1455	2.0	0.31	-6.4	5.92	0.398	18.79	13.0		6.97
1505	2.25	0.32	-5.9	5.92	0.402	18.83	11.3		6.97
1515	2.5	0.34	-6.6	5.92	0.402	18.85	9.92		6.97
1520	Collect Sample								

NOTES: NEEDS NEW LOCK TFAon lined TUBing

SAMPLE DATE: 12-1-16
SAMPLE TIME: 1520

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ML VIAL	2	HCL	8260B	VOCs
40 ML VIAL	2	HCL	SOP-RSK175	METHANE, ETHENE, ETHANE

GENERAL INFORMATION		
WEATHER:	COLD - CLEAR - HUMID	
SHIPPED VIA:	SELF	
SHIPPED TO:	AES	
SAMPLER: EVER GUILLEN		OBSERVER:

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: SW-2
WELL MATERIAL: PVC

SAMPLE METHOD: GRAB

WELL DIAMETER: N/A
DEPTH TO WATER:_____
TOTAL DEPTH:_____

GRAB (x) COMPOSITE ( )

DUP./REP. OF:_____

WATER COLUMN HEIGHT:_____
PURGE VOLUME:_____

Arrived at:_____
Screen length:_____
Tubing Intake (btoc) = _____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 945	NO FLOW @ SAMPLE LOCATION							( )	

NOTES: SURFACE WATER SAMPLE
NOT SAMPLED - NO FLOW - AREA DRY - SOME WATER POOLING IN THE AREA

SAMPLE DATE: 12-2-16
SAMPLE TIME: 945

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS

GENERAL INFORMATION		
WEATHER:	COLD - HUMID - CLEAR	
SHIPPED VIA:	SELF	
SHIPPED TO:	AES	
SAMPLER: EVER GUILLEN		OBSERVER:

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: SW-4
WELL MATERIAL: PVC

SAMPLE METHOD: GRAB

WELL DIAMETER: N/A
DEPTH TO WATER:_____
TOTAL DEPTH:_____

GRAB (x) COMPOSITE ( )

DUP./REP. OF:_____

WATER COLUMN HEIGHT:_____
PURGE VOLUME:_____

Arrived at:_____
Screen length:_____
Tubing Intake (btoc) = _____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 955	NO FLOW @	SAMPLE	LOCATION					( )	

NOTES: SURFACE WATER SAMPLE
NOT SAMPLED - NO FLOW - AREA DRY - SOME WATER POOLING IN THE AREA

SAMPLE DATE: 12-2-16
SAMPLE TIME: 955

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS

GENERAL INFORMATION			
WEATHER:	COLD - HUMID - CLEAR		
SHIPPED VIA:	SELF		
SHIPPED TO:	AES		
SAMPLER: EVER GUILLEN		OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: SW-5
WELL MATERIAL: PVC

SAMPLE METHOD: GRAB

WELL DIAMETER: N/A
DEPTH TO WATER:_____
TOTAL DEPTH:_____

GRAB (x) COMPOSITE ( )

DUP./REP. OF:_____

WATER COLUMN HEIGHT:_____
PURGE VOLUME:_____

Arrived at:_____
Screen length:_____
Tubing Intake (btoc) = _____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1015	—	1.53	14.3	6.59	0.186	11.35	132	— ( )	—

NOTES: SURFACE WATER SAMPLE

SAMPLE DATE: 12-2-16
SAMPLE TIME: 1020

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ML VIAL	2	HCL	8260B	VOCs

GENERAL INFORMATION			
WEATHER:	COLD-HUMID-Clear		
SHIPPED VIA:	Self		
SHIPPED TO:	AES		
SAMPLER:	EVER GUILLEN	OBSERVER:	

PROJECT NAME:
STI

FIELD SAMPLING REPORT

Project Number:

Amec Foster Wheeler
1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: __1ST QUARTER __2ND QUARTER __3RD QUARTER __4TH QUARTER
MONITORING WELL TYPE: __Standard __ Compliance __Background __Extraction
WELL ID: SW-6
WELL MATERIAL: PVC

SAMPLE METHOD: GRAB

WELL DIAMETER: N/A
DEPTH TO WATER:_____
TOTAL DEPTH:_____

GRAB (x) COMPOSITE ( )

DUP./REP. OF:_____

WATER COLUMN HEIGHT:_____
PURGE VOLUME:_____

Arrived at:_____
Screen length:_____
Tubing Intake (btoc) = _____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1040	—	1.34	-29.7	6.65	0.190	11.44	18.1	— ( )	—

NOTES: SW = SURFACE WATER SAMPLE

SAMPLE DATE: 12-2-16
SAMPLE TIME: 1045

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40 ML VIAL	2	HCL	8260B	VOCs

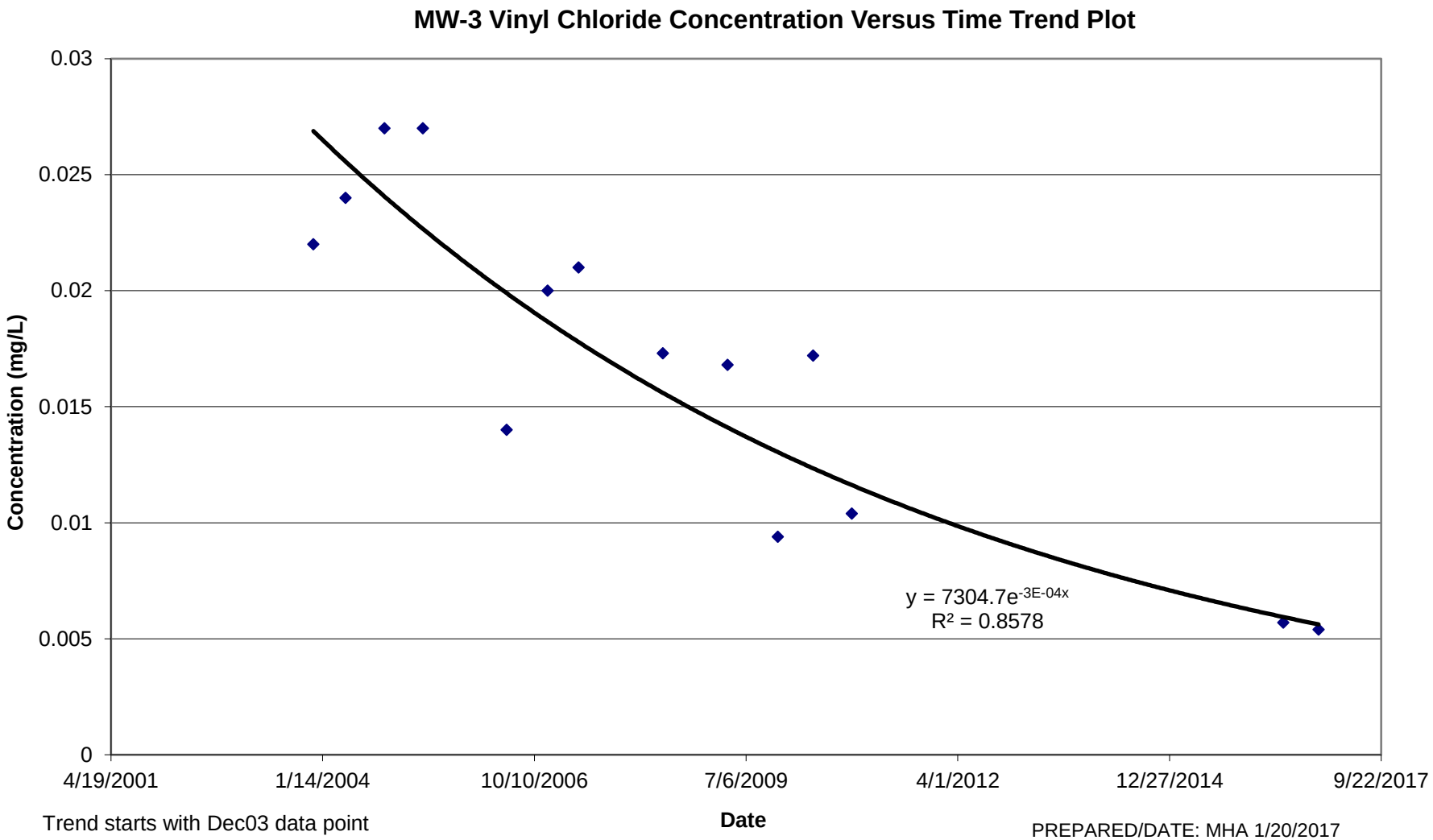
GENERAL INFORMATION			
WEATHER:	COLD - HUMID - CLEAR		
SHIPPED VIA:	SELF		
SHIPPED TO:	RES		
SAMPLER:	EVER GUILLEN	OBSERVER:	

APPENDIX B

VOC CONCENTRATION TREND GRAPHS

Former Automatic Sprinkler Site
Swainsboro, GA

February 2017



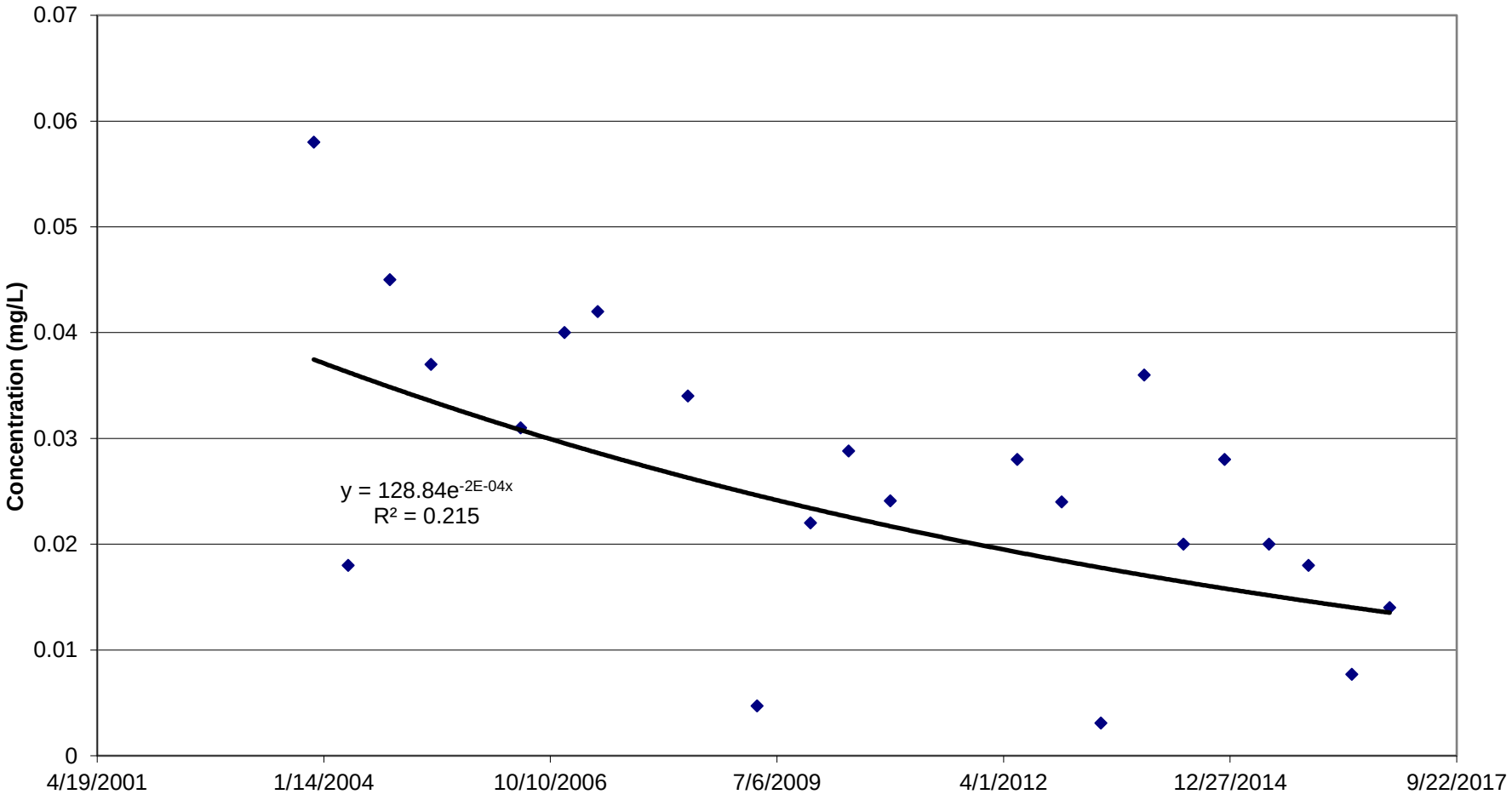
Trend starts with Dec03 data point

PREPARED/DATE: MHA 1/20/2017
CHECKED/DATE: NJM 1/30/2017

Former Automatic Sprinkler Site
Swainsboro, GA

February 2017

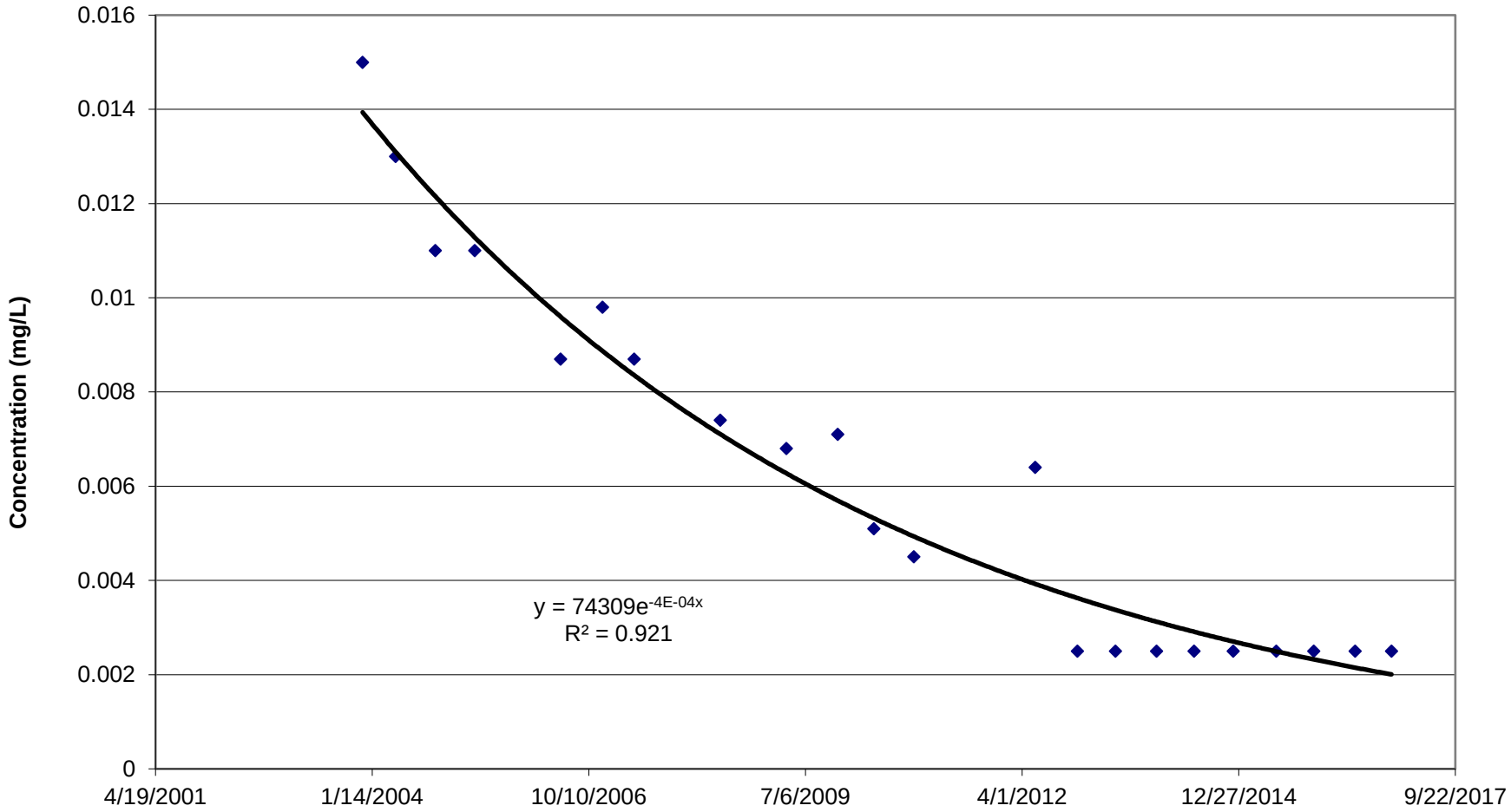
MW-4 Vinyl Chloride Concentration Versus Time Trend Plot



Trend starts with Dec03 data point

PREPARED/DATE: MHA 1/20/2017
CHECKED/DATE: NJM 1/30/2017

MW-5 1,1-Dichloroethene Concentration Versus Time Trend Plot



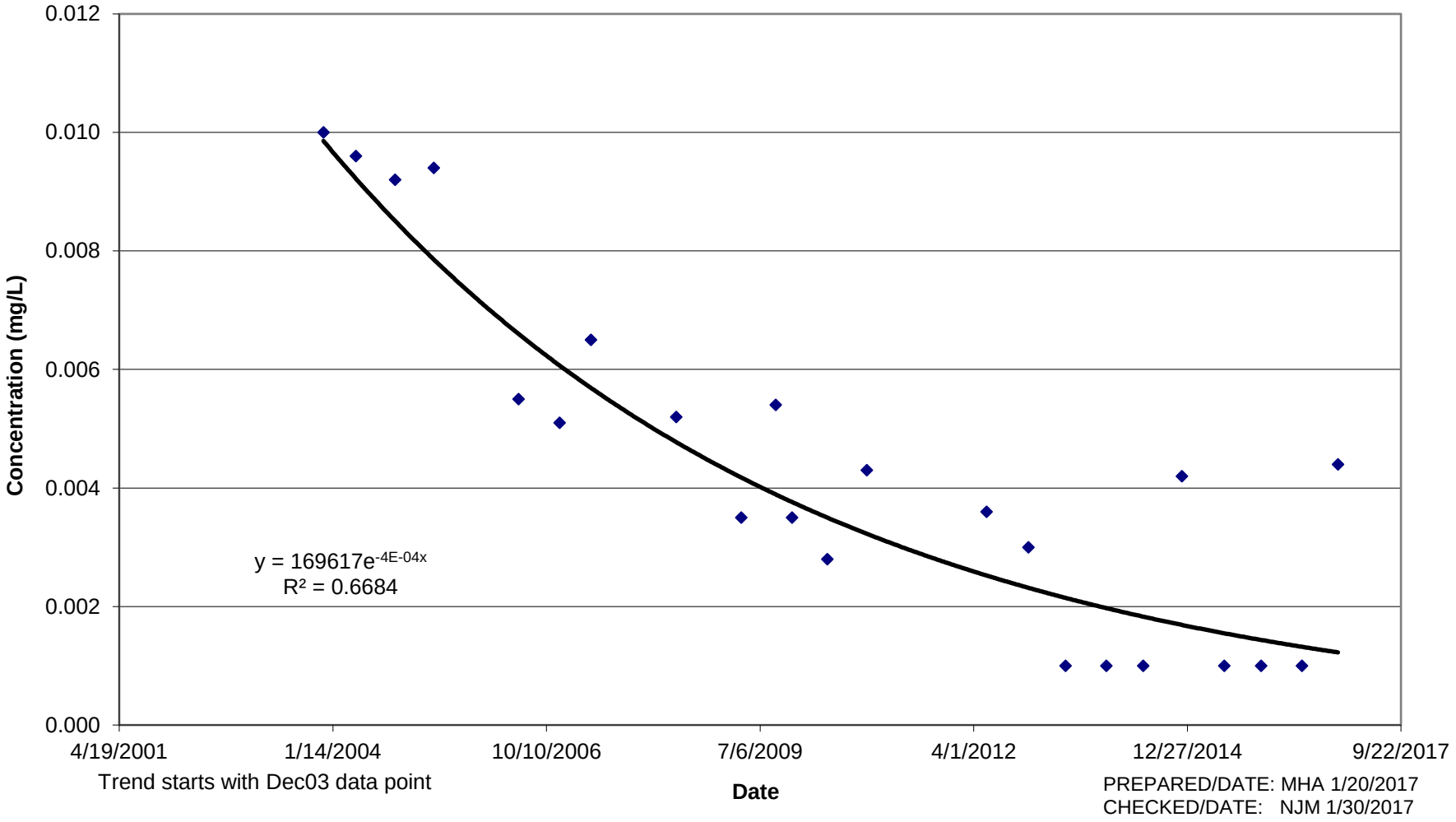
Non-detect represented as one-half detection limit.

PREPARED/DATE: MHA 1/20/2017
CHECKED/DATE: NJM 1/30/2017

Former Automatic Sprinkler Site
Swainsboro, GA

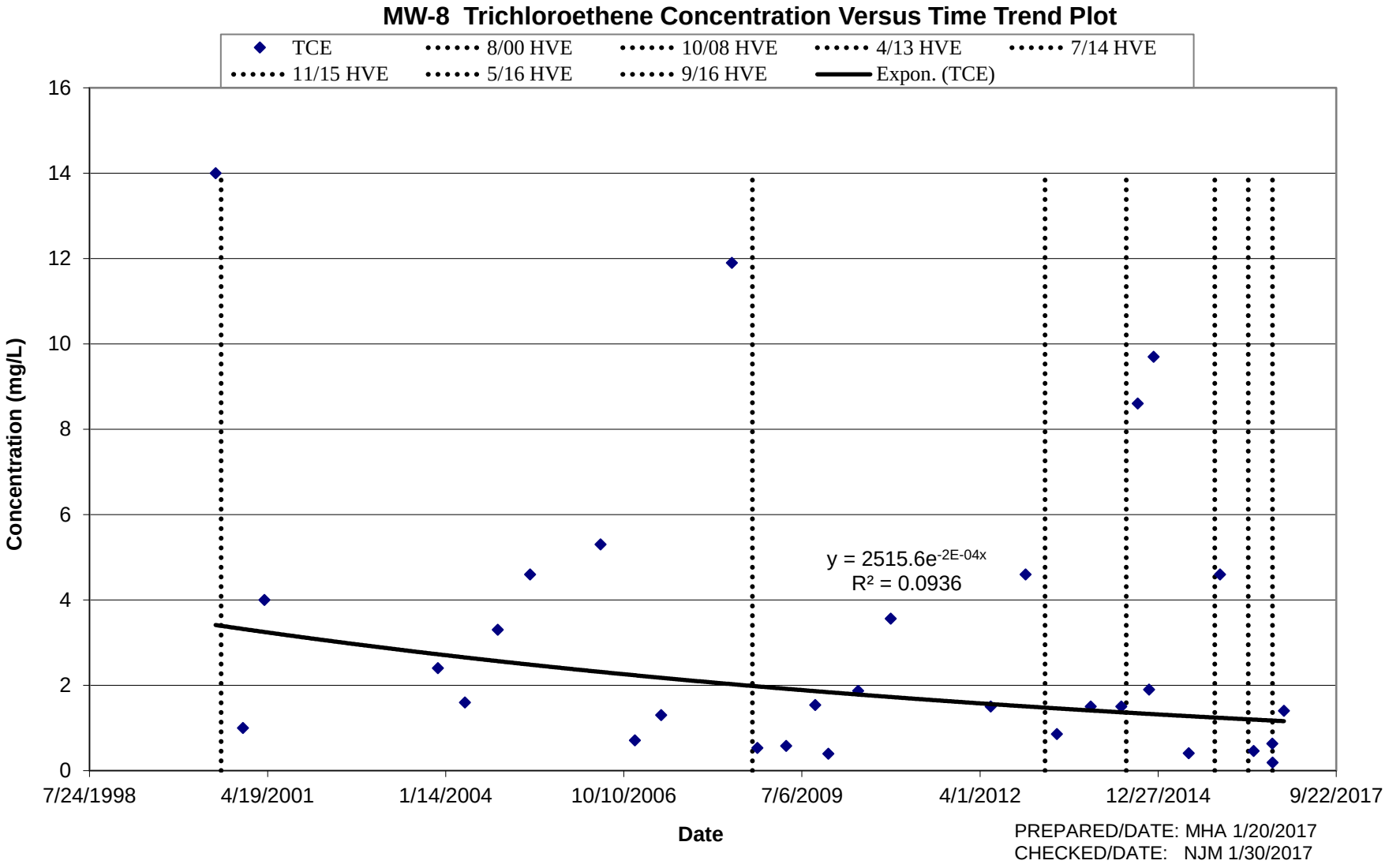
February 2017

MW-6 Vinyl Chloride Concentration Versus Time Trend Plot



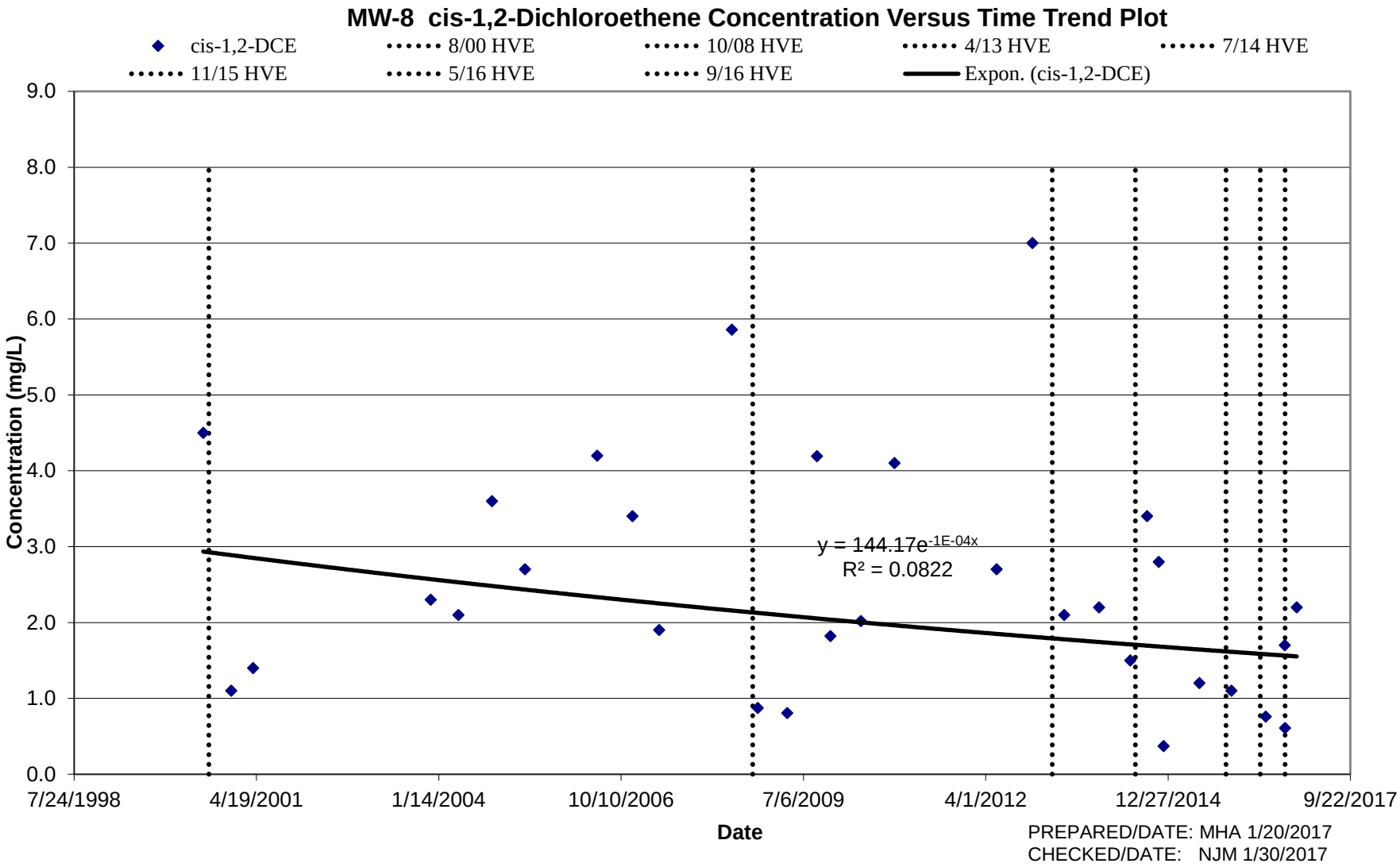
Trend starts with Dec03 data point

PREPARED/DATE: MHA 1/20/2017
CHECKED/DATE: NJM 1/30/2017

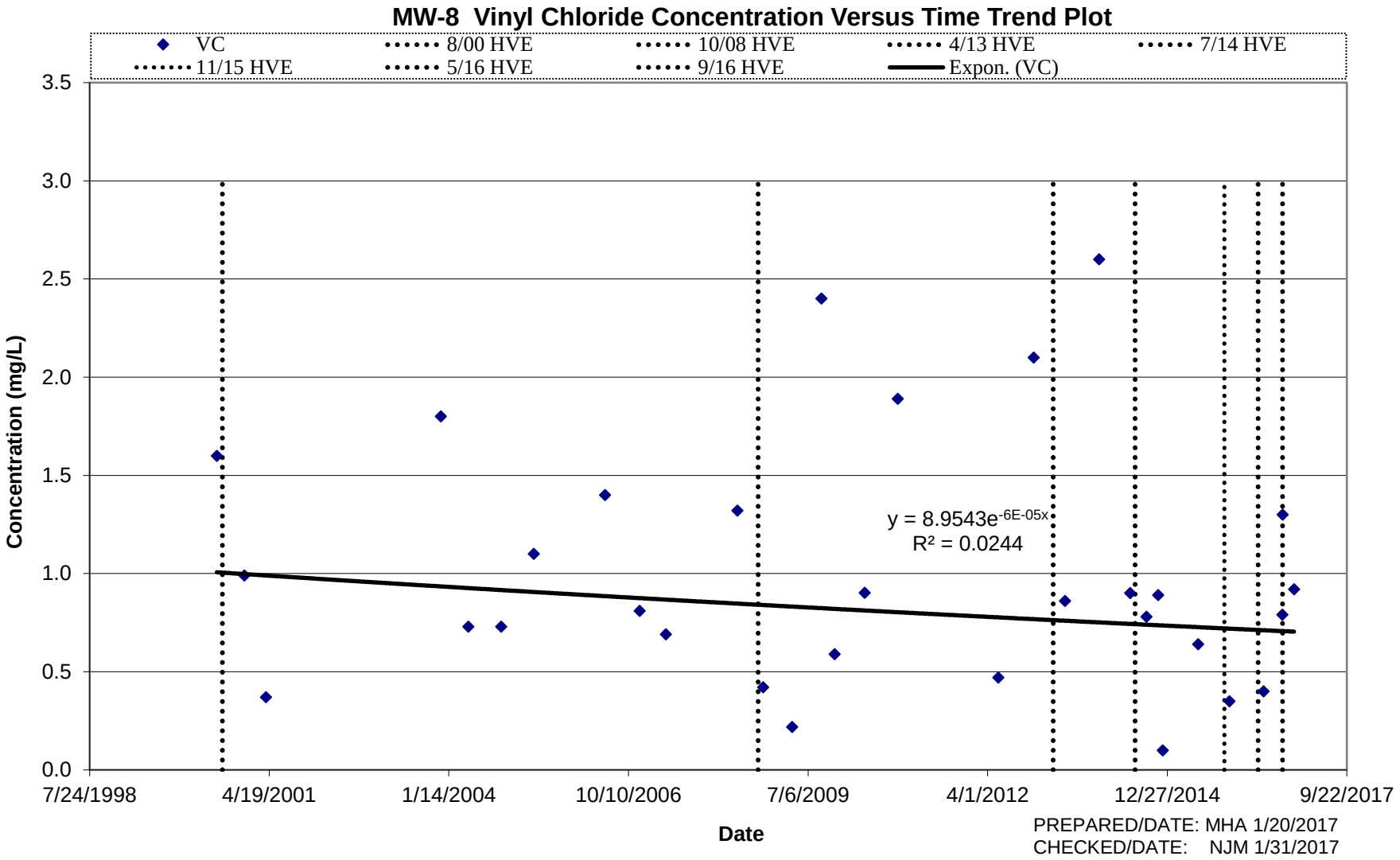

MW-8 Trichloroethene Concentration Versus Time Trend Plot
TCE
8/00 HVE
10/08 HVE
4/13 HVE
7/14 HVE
11/15 HVE
5/16 HVE
9/16 HVE
Expon. (TCE)
Concentration (mg/L)
16
14
12
10
8
6
4
2
0
y = 2515.6e-2E-04x
R² = 0.0936
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
9/22/2017
Date
PREPARED/DATE: MHA 1/20/2017
CHECKED/DATE: NJM 1/30/2017

Former Automatic Sprinkler Site
Swainsboro, GA

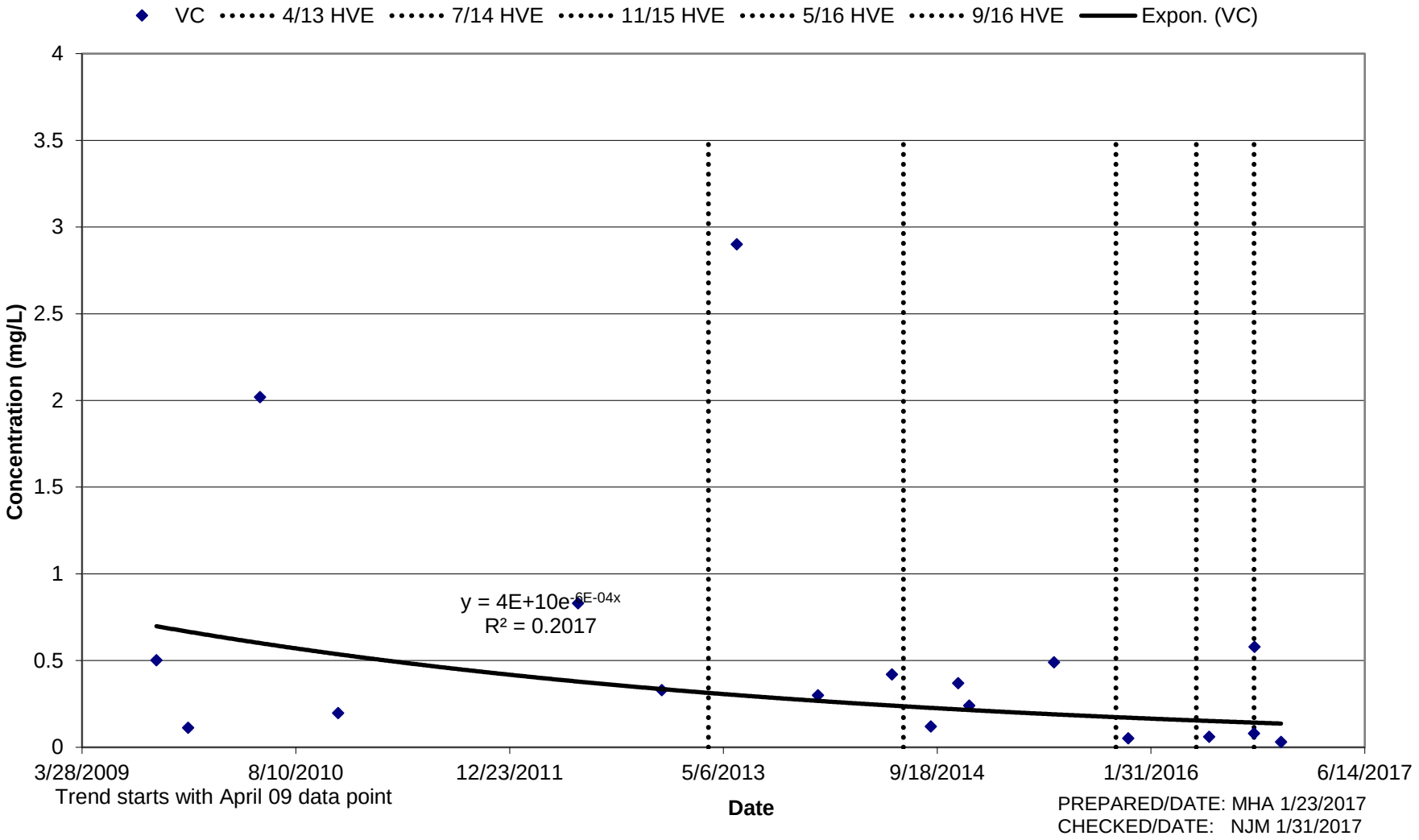
February 2017



PREPARED/DATE: MHA 1/20/2017
CHECKED/DATE: NJM 1/30/2017


MW-8 Vinyl Chloride Concentration Versus Time Trend Plot
VC
8/00 HVE
10/08 HVE
4/13 HVE
7/14 HVE
11/15 HVE
5/16 HVE
9/16 HVE
Expon. (VC)
Concentration (mg/L)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
y = 8.9543e-6E-05x
R² = 0.0244
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
9/22/2017
Date
PREPARED/DATE: MHA 1/20/2017
CHECKED/DATE: NJM 1/31/2017

MW-19 Vinyl Chloride Concentration Versus Time Trend Plot



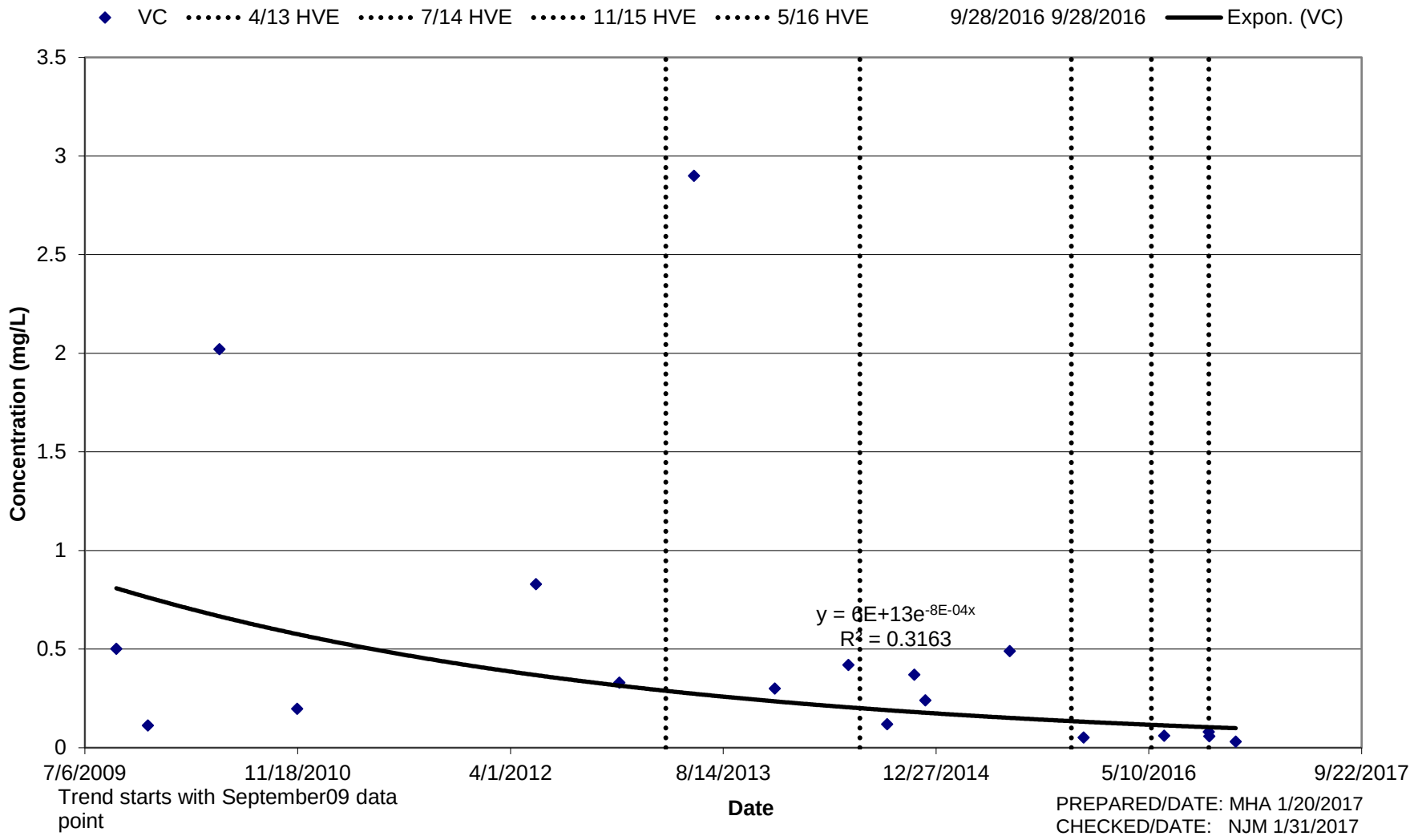
Trend starts with April 09 data point

PREPARED/DATE: MHA 1/23/2017
CHECKED/DATE: NJM 1/31/2017

Former Automatic Sprinkler Site
Swainsboro, GA

February 2017

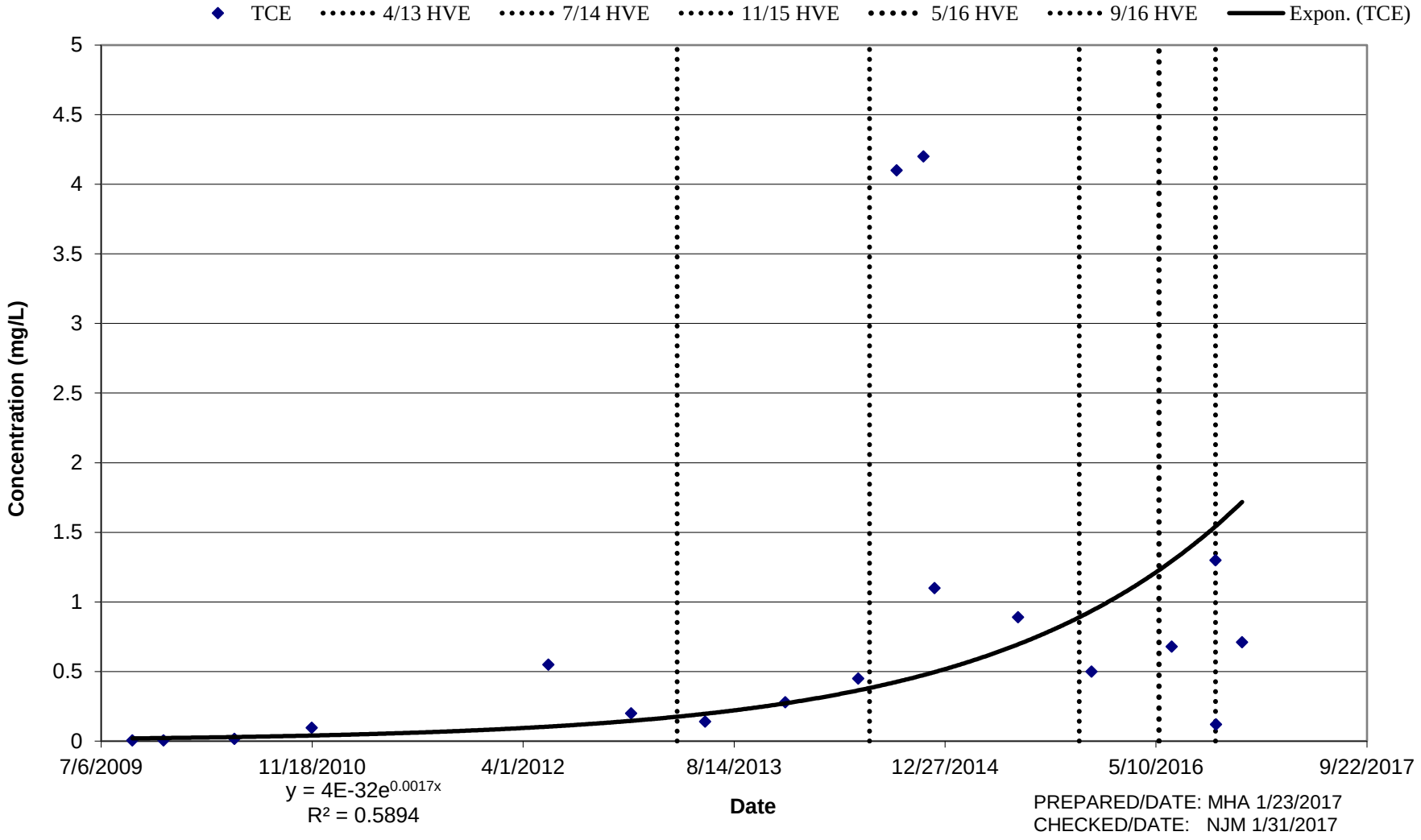
MW-19 Vinyl Chloride Concentration Versus Time Trend Plot



Trend starts with September09 data point

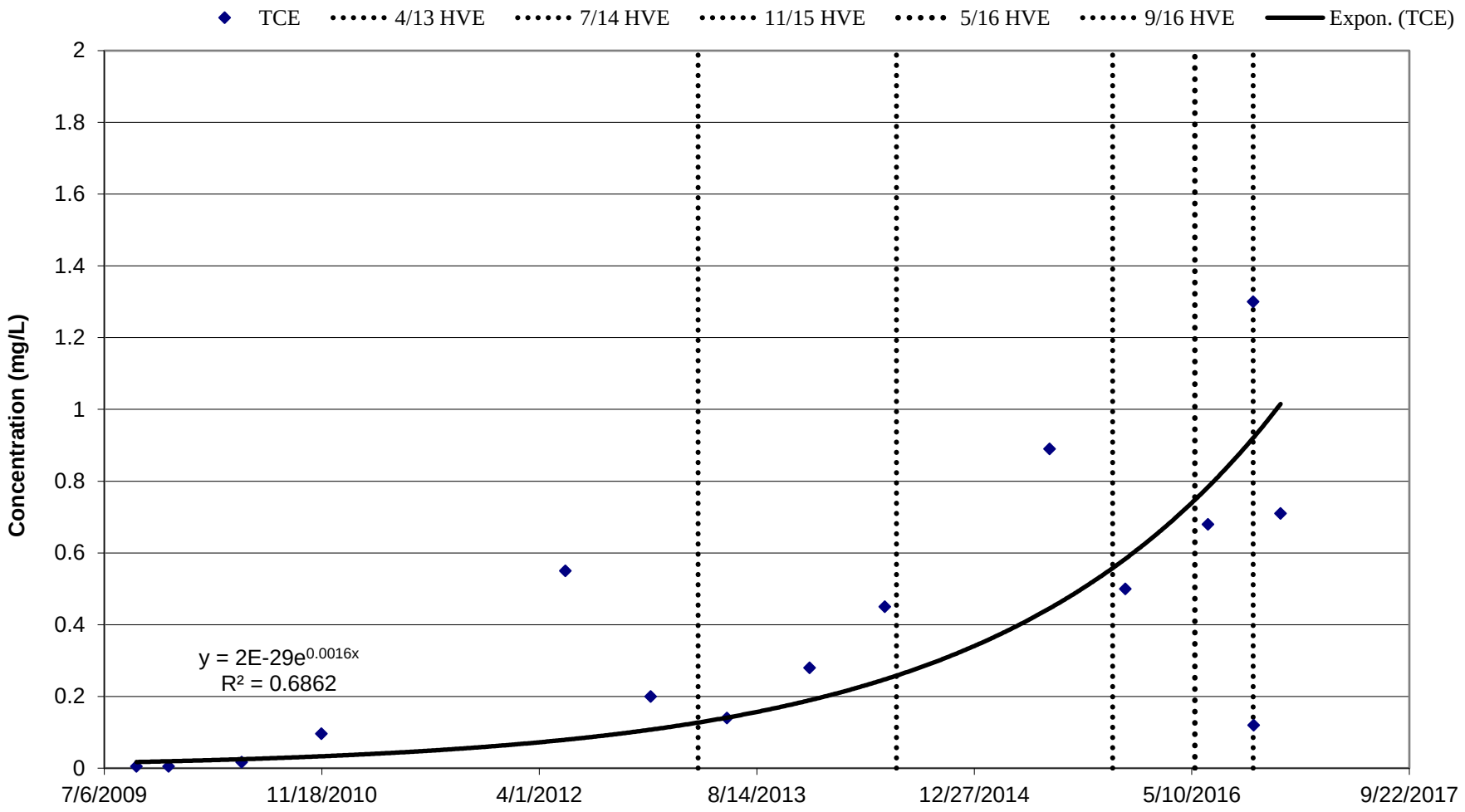
PREPARED/DATE: MHA 1/20/2017
CHECKED/DATE: NJM 1/31/2017

MW-19 Trichloroethene Concentration Versus Time Trend Plot A



PREPARED/DATE: MHA 1/23/2017
CHECKED/DATE: NJM 1/31/2017

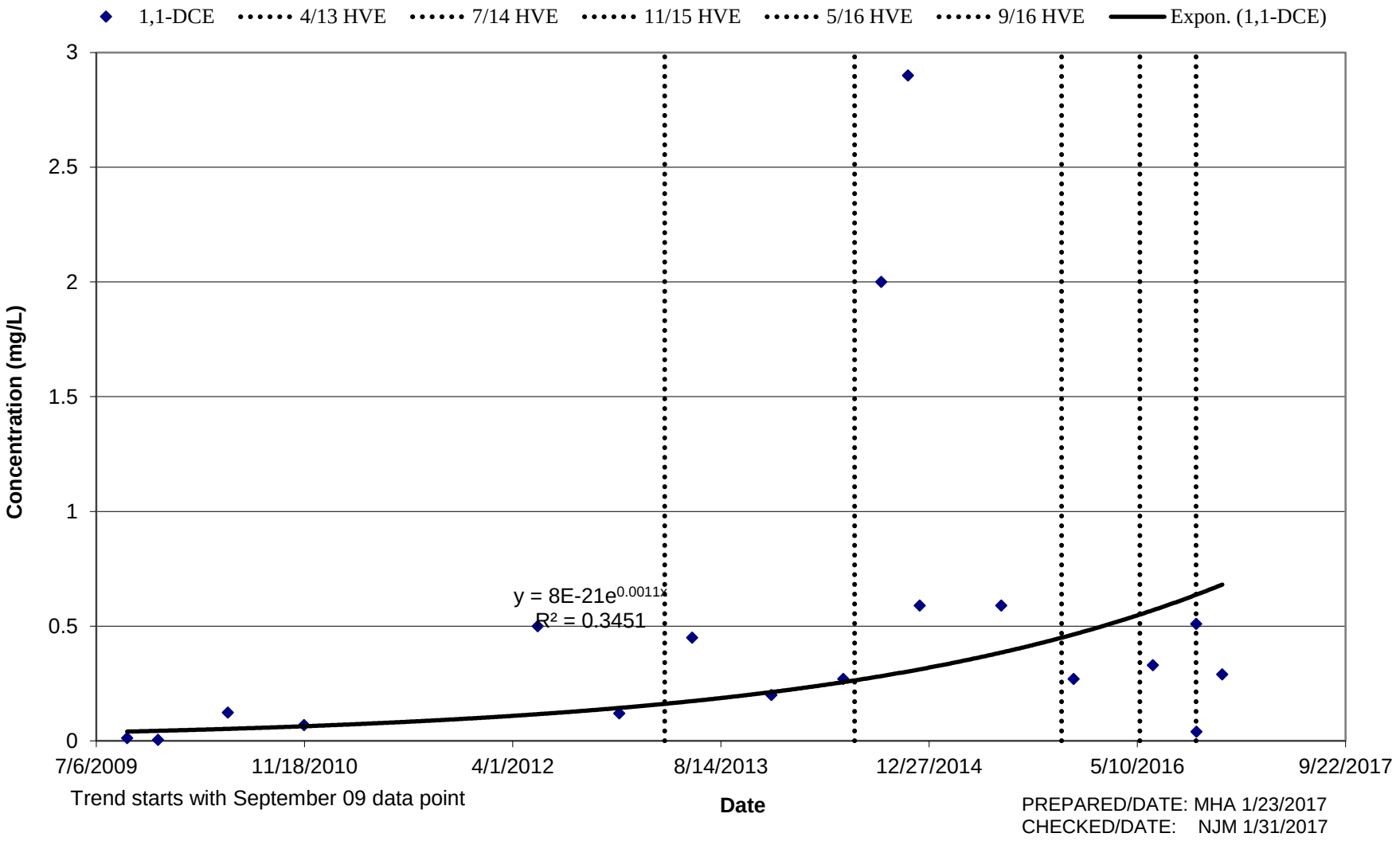
MW-19 Trichloroethene Concentration Versus Time Trend Plot B



Data points for 9/2014, 11/2014, and 12/2014 omitted

PREPARED/DATE: MHA 1/28/2017
CHECKED/DATE: NJM 1/31/2017

MW-19 1,1-Dichloroethene Concentration Versus Time Trend Plot A



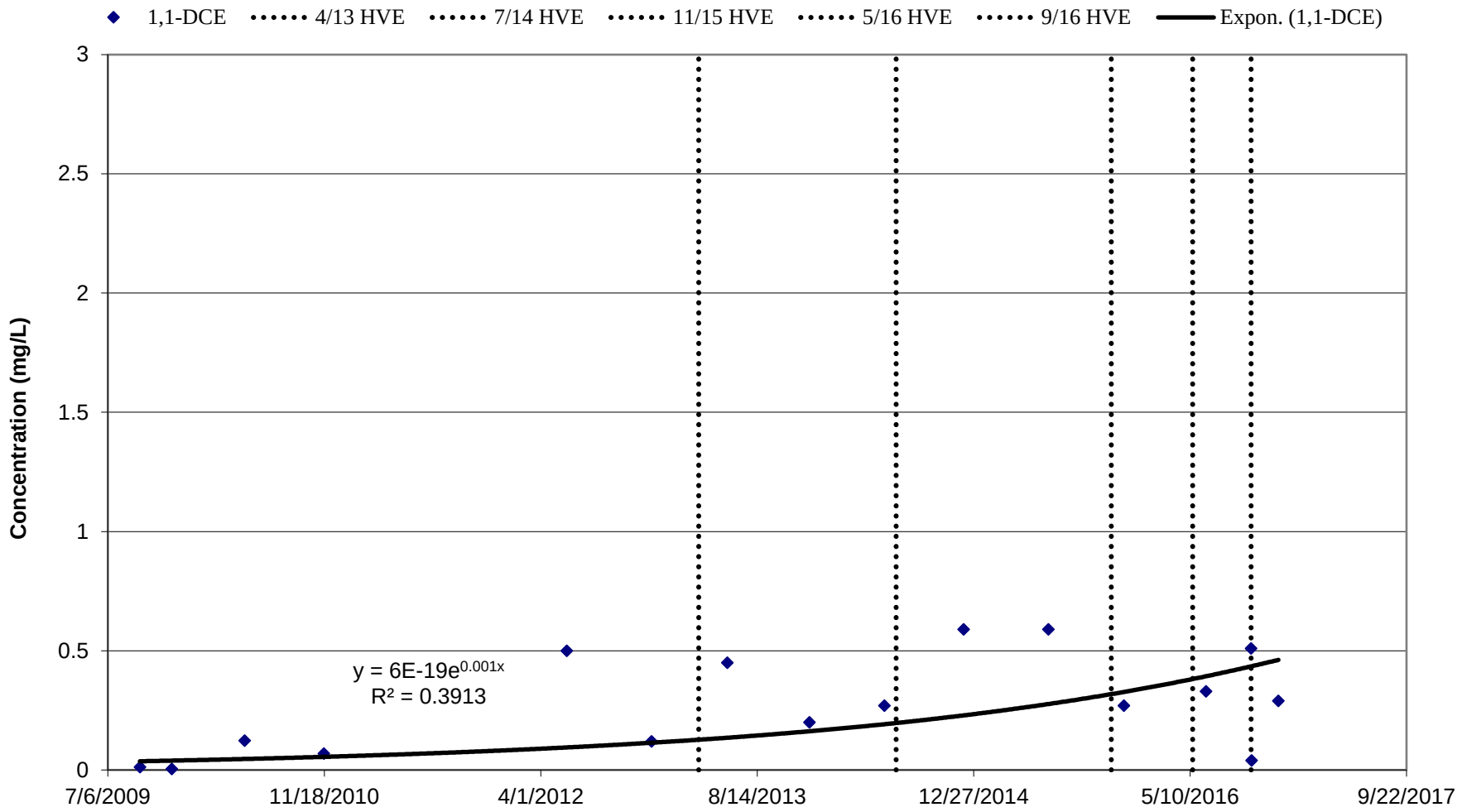
Trend starts with September 09 data point

PREPARED/DATE: MHA 1/23/2017
CHECKED/DATE: NJM 1/31/2017

Former Automatic Sprinkler Site
Swainsboro, GA

February 2017

MW-19 1,1-Dichloroethene Concentration Versus Time Trend Plot B

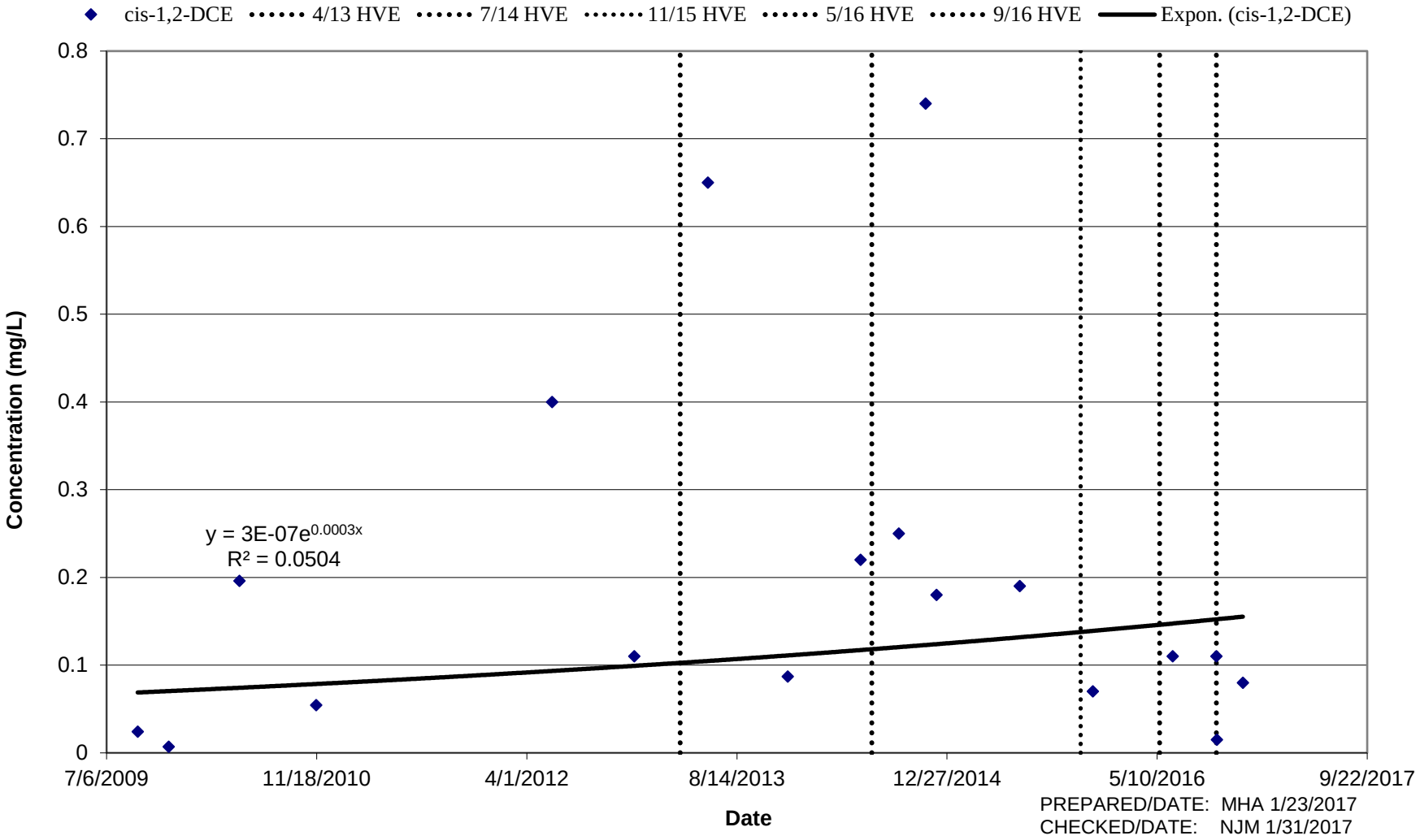


Trend starts with September 09 data point

Data points for 9/2014 and 11/2014 omitted

PREPARED/DATE: MHA 1/23/2017
CHECKED/DATE: NJM 1/31/2017

MW-19 cis-1,2-Dichloroethene Concentration Versus Time Trend Plot A

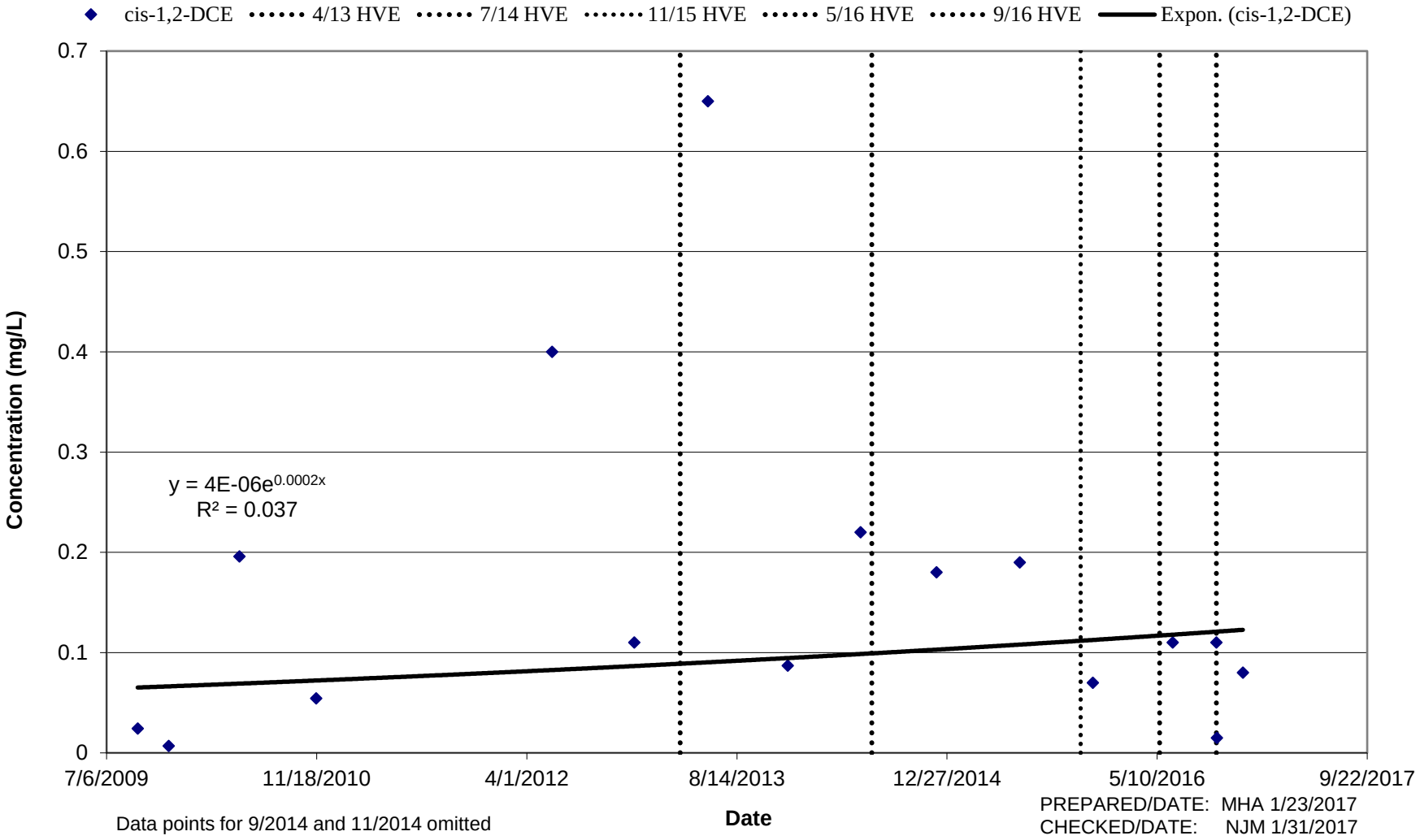


PREPARED/DATE: MHA 1/23/2017
CHECKED/DATE: NJM 1/31/2017

Former Automatic Sprinkler Site
Swainsboro, GA

February 2017

MW-19 cis-1,2-Dichloroethene Concentration Versus Time Trend Plot B



Data points for 9/2014 and 11/2014 omitted

PREPARED/DATE: MHA 1/23/2017
CHECKED/DATE: NJM 1/31/2017

APPENDIX C

LABORATORY REPORTS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-130266-1
Client Project/Site: STI-Swainsboro, GA - MW Samples

For:
AMEC Foster Wheeler E & I, Inc
1075 Big Shanty Road, NW
Suite 100
Kennesaw, Georgia 30144

Attn: Greg Wrenn

Authorized for release by:
9/29/2016 5:44:45 PM

Lisa Harvey, Project Manager II
(912)354-7858 e.3221
lisa.harvey@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW Samples

TestAmerica Job ID: 680-130266-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-130266-1	MW-19	Water	09/28/16 12:00	09/29/16 07:26
680-130266-2	MW-8	Water	09/28/16 13:25	09/29/16 07:26
680-130266-3	Trip Blank	Water	09/28/16 00:00	09/29/16 07:26

Job ID: 680-130266-1

Laboratory: TestAmerica Savannah

Narrative

Client: AMEC Foster Wheeler E & I, Inc
Project: STI-Swainsboro, GA - MW Samples
Report Number: 680-130266-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 09/29/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 14.7 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples MW-19 (680-130266-1), MW-8 (680-130266-2) and Trip Blank (680-130266-3) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 09/29/2016.

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-451525.

Samples MW-19 (680-130266-1)[10X] and MW-8 (680-130266-2)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW Samples

TestAmerica Job ID: 680-130266-1

Client Sample ID: MW-19
Date Collected: 09/28/16 12:00
Date Received: 09/29/16 07:26

Lab Sample ID: 680-130266-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	**6.9**		5.0	2.5	ug/L			09/29/16 11:49	1
cis-1,2-Dichloroethene	**110**		1.0	0.41	ug/L			09/29/16 11:49	1
1,1-Dichloroethane	**7.9**		1.0	0.38	ug/L			09/29/16 11:49	1
1,2-Dichloroethane	1.0	U	1.0	0.50	ug/L			09/29/16 11:49	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.62	ug/L			09/29/16 11:49	1
trans-1,2-Dichloroethene	**2.0**		1.0	0.37	ug/L			09/29/16 11:49	1
1,1,1-Trichloroethane	1.0	U	1.0	0.37	ug/L			09/29/16 11:49	1
1,1,2-Trichloroethane	1.0	U	1.0	0.33	ug/L			09/29/16 11:49	1
Vinyl chloride	**80**		1.0	0.50	ug/L			09/29/16 11:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*09/29/16 11:49*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 122*		*09/29/16 11:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*73 - 131*		*09/29/16 11:49*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/29/16 11:49*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	**510**		10	3.6	ug/L			09/29/16 13:19	10
Trichloroethene	**1300**		10	4.8	ug/L			09/29/16 13:19	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*80 - 120*		*09/29/16 13:19*	*10*
Dibromofluoromethane (Surr)	*103*		*80 - 122*		*09/29/16 13:19*	*10*
1,2-Dichloroethane-d4 (Surr)	*92*		*73 - 131*		*09/29/16 13:19*	*10*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*09/29/16 13:19*	*10*

Client Sample ID: MW-8

Date Collected: 09/28/16 13:25
Date Received: 09/29/16 07:26

Lab Sample ID: 680-130266-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	**8.2**		5.0	2.5	ug/L			09/29/16 12:12	1
1,1-Dichloroethane	**160**		1.0	0.38	ug/L			09/29/16 12:12	1
1,2-Dichloroethane	1.0	U	1.0	0.50	ug/L			09/29/16 12:12	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.62	ug/L			09/29/16 12:12	1
trans-1,2-Dichloroethene	**5.5**		1.0	0.37	ug/L			09/29/16 12:12	1
1,1,2-Trichloroethane	**0.79**	**J**	1.0	0.33	ug/L			09/29/16 12:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*80 - 120*		*09/29/16 12:12*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 122*		*09/29/16 12:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*73 - 131*		*09/29/16 12:12*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/29/16 12:12*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**1700**		10	4.1	ug/L			09/29/16 13:42	10
1,1-Dichloroethene	**1300**		10	3.6	ug/L			09/29/16 13:42	10
1,1,1-Trichloroethane	**390**		10	3.7	ug/L			09/29/16 13:42	10
Trichloroethene	**630**		10	4.8	ug/L			09/29/16 13:42	10
Vinyl chloride	**790**		10	5.0	ug/L			09/29/16 13:42	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*09/29/16 13:42*	*10*
Dibromofluoromethane (Surr)	*103*		*80 - 122*		*09/29/16 13:42*	*10*
1,2-Dichloroethane-d4 (Surr)	*93*		*73 - 131*		*09/29/16 13:42*	*10*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*09/29/16 13:42*	*10*

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW Samples

TestAmerica Job ID: 680-130266-1

Client Sample ID: Trip Blank
Date Collected: 09/28/16 00:00
Date Received: 09/29/16 07:26

Lab Sample ID: 680-130266-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	5.0	U	5.0	2.5	ug/L			09/29/16 11:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.41	ug/L			09/29/16 11:04	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			09/29/16 11:04	1
1,2-Dichloroethane	1.0	U	1.0	0.50	ug/L			09/29/16 11:04	1
1,1-Dichloroethene	1.0	U	1.0	0.36	ug/L			09/29/16 11:04	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.62	ug/L			09/29/16 11:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.37	ug/L			09/29/16 11:04	1
1,1,1-Trichloroethane	1.0	U	1.0	0.37	ug/L			09/29/16 11:04	1
1,1,2-Trichloroethane	1.0	U	1.0	0.33	ug/L			09/29/16 11:04	1
Trichloroethene	1.0	U	1.0	0.48	ug/L			09/29/16 11:04	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			09/29/16 11:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*09/29/16 11:04*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 122*		*09/29/16 11:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*73 - 131*		*09/29/16 11:04*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*09/29/16 11:04*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-451525/8
Matrix: Water
Analysis Batch: 451525

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	5.0	U	5.0	2.5	ug/L			09/29/16 08:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.41	ug/L			09/29/16 08:49	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			09/29/16 08:49	1
1,2-Dichloroethane	1.0	U	1.0	0.50	ug/L			09/29/16 08:49	1
1,1-Dichloroethene	1.0	U	1.0	0.36	ug/L			09/29/16 08:49	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.62	ug/L			09/29/16 08:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.37	ug/L			09/29/16 08:49	1
1,1,1-Trichloroethane	1.0	U	1.0	0.37	ug/L			09/29/16 08:49	1
1,1,2-Trichloroethane	1.0	U	1.0	0.33	ug/L			09/29/16 08:49	1
Trichloroethene	1.0	U	1.0	0.48	ug/L			09/29/16 08:49	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			09/29/16 08:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*09/29/16 08:49*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 122*		*09/29/16 08:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*73 - 131*		*09/29/16 08:49*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/29/16 08:49*	*1*

Lab Sample ID: LCS 680-451525/3
Matrix: Water
Analysis Batch: 451525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	50.0	42.7		ug/L		85	48 - 145
cis-1,2-Dichloroethene	50.0	48.9		ug/L		98	80 - 120
1,1-Dichloroethane	50.0	48.5		ug/L		97	80 - 120
1,2-Dichloroethane	50.0	50.8		ug/L		102	72 - 128
1,1-Dichloroethene	50.0	49.8		ug/L		100	80 - 120
1,1,2,2-Tetrachloroethane	50.0	54.0		ug/L		108	76 - 126
trans-1,2-Dichloroethene	50.0	50.3		ug/L		101	80 - 120
1,1,1-Trichloroethane	50.0	48.0		ug/L		96	80 - 120
1,1,2-Trichloroethane	50.0	53.9		ug/L		108	80 - 120
Trichloroethene	50.0	53.2		ug/L		106	80 - 120
Vinyl chloride	50.0	42.0		ug/L		84	80 - 129

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*80 - 122*
1,2-Dichloroethane-d4 (Surr)	*99*		*73 - 131*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*

Lab Sample ID: LCSD 680-451525/4
Matrix: Water
Analysis Batch: 451525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroethane	50.0	41.7		ug/L		83	48 - 145	2	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-451525/4
Matrix: Water
Analysis Batch: 451525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene			50.0	47.2		ug/L		94	80 - 120	4	20
1,1-Dichloroethane			50.0	47.0		ug/L		94	80 - 120	3	20
1,2-Dichloroethane			50.0	47.2		ug/L		94	72 - 128	7	50
1,1-Dichloroethene			50.0	47.6		ug/L		95	80 - 120	4	20
1,1,2,2-Tetrachloroethane			50.0	52.1		ug/L		104	76 - 126	4	20
trans-1,2-Dichloroethene			50.0	49.2		ug/L		98	80 - 120	2	20
1,1,1-Trichloroethane			50.0	46.9		ug/L		94	80 - 120	2	20
1,1,2-Trichloroethane			50.0	52.1		ug/L		104	80 - 120	3	20
Trichloroethene			50.0	51.8		ug/L		104	80 - 120	3	20
Vinyl chloride			50.0	40.5		ug/L		81	80 - 129	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 122*
1,2-Dichloroethane-d4 (Surr)	*95*		*73 - 131*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW Samples

TestAmerica Job ID: 680-130266-1

GC/MS VOA

Analysis Batch: 451525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-130266-1	MW-19	Total/NA	Water	8260B	
680-130266-1 - DL	MW-19	Total/NA	Water	8260B	
680-130266-2	MW-8	Total/NA	Water	8260B	
680-130266-2 - DL	MW-8	Total/NA	Water	8260B	
680-130266-3	Trip Blank	Total/NA	Water	8260B	
MB 680-451525/8	Method Blank	Total/NA	Water	8260B	
LCS 680-451525/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-451525/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW Samples

TestAmerica Job ID: 680-130266-1

Client Sample ID: MW-19

Lab Sample ID: 680-130266-1

Date Collected: 09/28/16 12:00

Matrix: Water

Date Received: 09/29/16 07:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	451525	09/29/16 11:49	JD1	TAL SAV
	Instrument ID: CMSP2									
Total/NA	Analysis	8260B	DL	10	5 mL	5 mL	451525	09/29/16 13:19	JD1	TAL SAV
	Instrument ID: CMSP2									

Client Sample ID: MW-8

Lab Sample ID: 680-130266-2

Date Collected: 09/28/16 13:25

Matrix: Water

Date Received: 09/29/16 07:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	451525	09/29/16 12:12	JD1	TAL SAV
	Instrument ID: CMSP2									
Total/NA	Analysis	8260B	DL	10	5 mL	5 mL	451525	09/29/16 13:42	JD1	TAL SAV
	Instrument ID: CMSP2									

Client Sample ID: Trip Blank

Lab Sample ID: 680-130266-3

Date Collected: 09/28/16 00:00

Matrix: Water

Date Received: 09/29/16 07:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	451525	09/29/16 11:04	JD1	TAL SAV
	Instrument ID: CMSP2									

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW Samples

TestAmerica Job ID: 680-130266-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 680-130266-1

Login Number: 130266

List Source: TestAmerica Savannah

List Number: 1

Creator: White, Menica R

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Serial Number 116188

681-Atlanta

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
STI Swainsboro	6125.08.0149	GA
TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Lisa Harvey	CLIENT PHONE	CLIENT FAX
CLIENT NAME: Amec Foster Wheeler	CLIENT E-MAIL: Greg.Wrenn@amecfw.com; bill.updyke@amecfw.com	
CLIENT ADDRESS: 1075 Big Shanty Rd Kennesaw, GA		
COMPANY CONTRACTING THIS WORK (if applicable)		

MATRIX TYPE (COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...))

REQUIRED ANALYSIS: 57th Sparkle, VOCs - 8260; HCl

PAGE: OF

STANDARD REPORT DELIVERY — DATE DUE 10/5/16

EXPEDITED REPORT DELIVERY (SURCHARGE) — DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
9/28/16	1200	MW-19	G	X				3	
9/28/16	1325	MW-8	G	X				3	
		Trip Blank		Y				2	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	9/29/16	0726						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
	92916	7:26	YES ○ NO ○			14.8/14.7

680-130266 Chain of Custody

TAL8240-680 (1008)

Page 14 of 15

9/29/2016

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW Samples

TestAmerica Job ID: 680-130266-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Georgia	State Program	4	803	06-30-17

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-130263-1
Client Project/Site: STI-Swainsboro, GA

For:
AMEC Foster Wheeler E & I, Inc
1075 Big Shanty Road, NW
Suite 100
Kennesaw, Georgia 30144

Attn: Greg Wrenn

Authorized for release by:
9/29/2016 2:42:20 PM

Lisa Harvey, Project Manager II
(912)354-7858 e.3221
lisa.harvey@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Definitions/Glossary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA

TestAmerica Job ID: 680-130263-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA

TestAmerica Job ID: 680-130263-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-130263-1	HVR Water	Water	09/28/16 20:40	09/29/16 07:26

Job ID: 680-130263-1

Laboratory: TestAmerica Savannah

Narrative

Client: AMEC Foster Wheeler E & I, Inc
Project: STI-Swainsboro, GA
Report Number: 680-130263-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 09/29/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 14.7 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Sample HVR Water (680-130263-1) was analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 09/29/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA

TestAmerica Job ID: 680-130263-1

Client Sample ID: HVR Water
Date Collected: 09/28/16 20:40
Date Received: 09/29/16 07:26

Lab Sample ID: 680-130263-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	5.0	U	5.0	2.5	ug/L			09/29/16 11:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.41	ug/L			09/29/16 11:27	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			09/29/16 11:27	1
1,2-Dichloroethane	1.0	U	1.0	0.50	ug/L			09/29/16 11:27	1
1,1-Dichloroethene	1.0	U	1.0	0.36	ug/L			09/29/16 11:27	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.62	ug/L			09/29/16 11:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.37	ug/L			09/29/16 11:27	1
1,1,1-Trichloroethane	1.0	U	1.0	0.37	ug/L			09/29/16 11:27	1
1,1,2-Trichloroethane	1.0	U	1.0	0.33	ug/L			09/29/16 11:27	1
Trichloroethene	1.0	U	1.0	0.48	ug/L			09/29/16 11:27	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			09/29/16 11:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*80 - 120*		*09/29/16 11:27*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 122*		*09/29/16 11:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*73 - 131*		*09/29/16 11:27*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*09/29/16 11:27*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-451525/8
Matrix: Water
Analysis Batch: 451525

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	5.0	U	5.0	2.5	ug/L			09/29/16 08:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.41	ug/L			09/29/16 08:49	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			09/29/16 08:49	1
1,2-Dichloroethane	1.0	U	1.0	0.50	ug/L			09/29/16 08:49	1
1,1-Dichloroethene	1.0	U	1.0	0.36	ug/L			09/29/16 08:49	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.62	ug/L			09/29/16 08:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.37	ug/L			09/29/16 08:49	1
1,1,1-Trichloroethane	1.0	U	1.0	0.37	ug/L			09/29/16 08:49	1
1,1,2-Trichloroethane	1.0	U	1.0	0.33	ug/L			09/29/16 08:49	1
Trichloroethene	1.0	U	1.0	0.48	ug/L			09/29/16 08:49	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			09/29/16 08:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*09/29/16 08:49*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 122*		*09/29/16 08:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*73 - 131*		*09/29/16 08:49*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/29/16 08:49*	*1*

Lab Sample ID: LCS 680-451525/3
Matrix: Water
Analysis Batch: 451525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	50.0	42.7		ug/L		85	48 - 145
cis-1,2-Dichloroethene	50.0	48.9		ug/L		98	80 - 120
1,1-Dichloroethane	50.0	48.5		ug/L		97	80 - 120
1,2-Dichloroethane	50.0	50.8		ug/L		102	72 - 128
1,1-Dichloroethene	50.0	49.8		ug/L		100	80 - 120
1,1,2,2-Tetrachloroethane	50.0	54.0		ug/L		108	76 - 126
trans-1,2-Dichloroethene	50.0	50.3		ug/L		101	80 - 120
1,1,1-Trichloroethane	50.0	48.0		ug/L		96	80 - 120
1,1,2-Trichloroethane	50.0	53.9		ug/L		108	80 - 120
Trichloroethene	50.0	53.2		ug/L		106	80 - 120
Vinyl chloride	50.0	42.0		ug/L		84	80 - 129

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*80 - 122*
1,2-Dichloroethane-d4 (Surr)	*99*		*73 - 131*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*

Lab Sample ID: LCSD 680-451525/4
Matrix: Water
Analysis Batch: 451525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroethane	50.0	41.7		ug/L		83	48 - 145	2	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-451525/4
Matrix: Water
Analysis Batch: 451525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene			50.0	47.2		ug/L		94	80 - 120	4	20
1,1-Dichloroethane			50.0	47.0		ug/L		94	80 - 120	3	20
1,2-Dichloroethane			50.0	47.2		ug/L		94	72 - 128	7	50
1,1-Dichloroethene			50.0	47.6		ug/L		95	80 - 120	4	20
1,1,2,2-Tetrachloroethane			50.0	52.1		ug/L		104	76 - 126	4	20
trans-1,2-Dichloroethene			50.0	49.2		ug/L		98	80 - 120	2	20
1,1,1-Trichloroethane			50.0	46.9		ug/L		94	80 - 120	2	20
1,1,2-Trichloroethane			50.0	52.1		ug/L		104	80 - 120	3	20
Trichloroethene			50.0	51.8		ug/L		104	80 - 120	3	20
Vinyl chloride			50.0	40.5		ug/L		81	80 - 129	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 122*
1,2-Dichloroethane-d4 (Surr)	*95*		*73 - 131*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA

TestAmerica Job ID: 680-130263-1

GC/MS VOA

Analysis Batch: 451525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-130263-1	HVR Water	Total/NA	Water	8260B	
MB 680-451525/8	Method Blank	Total/NA	Water	8260B	
LCS 680-451525/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-451525/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA

TestAmerica Job ID: 680-130263-1

Client Sample ID: HVR Water
Date Collected: 09/28/16 20:40
Date Received: 09/29/16 07:26

Lab Sample ID: 680-130263-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	451525	09/29/16 11:27	JD1	TAL SAV
	Instrument ID: CMSP2									

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA

TestAmerica Job ID: 680-130263-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 680-130263-1

Login Number: 130263
List Number: 1
Creator: White, Menica R

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	N/A	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

PROJECT REFERENCE: STI Swainsboro	PROJECT NO.: 6125.08.0119	PROJECT LOCATION: GA
TESTAMERICA (LAB) PROJECT MANAGER: Lisa Harvey	P.O NUMBER:	CONTRACT NO:
CLIENT (SITE) PM: Greg Wienn	CLIENT PHONE: 770-421-3400	CLIENT FAX:
CLIENT NAME: Amec Foster Wheeler	CLIENT EMAIL: Greg.wienn bill.ypodyki@amecfw.com kristie.lamb@ch2m.com	
CLIENT ADDRESS: 1075 Big Shanty Rd Kennesaw, GA		
COMPANY CONTRACTING THIS WORK (if applicable):		

PAGE 1 OF 1

STANDARD REPORT DELIVERY ○
DATE DUE

EXPEDITED REPORT DELIVERY (SURCHARGE) ●
DATE DUE: same day by 1600 hrs

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	MATRIX TYPE: AQUEOUS (WATER)	MATRIX TYPE: SOLID OR SEMISOLID	MATRIX TYPE: AIR	MATRIX TYPE: NONAQUEOUS LIQUID (OIL, SOLVENT, ETC)	REQUIRED ANALYSES: Site Specific VOCs - 8260	NUMBER OF CONTAINERS SUBMITTED	REMARKS
9/28/16	2040	HVR water	G	X					3	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
				9/29/16	0726			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS:
	9-29-16	7:20	YES ○ NO ●			148/147

680-130263 Chain of Custody

FCU052:01.02.08:2

Page 13 of 13

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA

TestAmerica Job ID: 680-130263-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Georgia	State Program	4	803	06-30-17

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-130372-1
Client Project/Site: STI-Swainsboro, GA - MW

For:
AMEC Foster Wheeler E & I, Inc
1075 Big Shanty Road, NW
Suite 100
Kennesaw, Georgia 30144

Attn: Greg Wrenn

Authorized for release by:
10/6/2016 10:31:16 AM
Robert Bearden, Project Manager I
(912)354-7858
robert.bearden@testamericainc.com

Designee for

Lisa Harvey, Project Manager II
(912)354-7858 e.3221
lisa.harvey@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW

TestAmerica Job ID: 680-130372-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-130372-1	MW-19	Water	09/29/16 15:15	09/30/16 09:01
680-130372-2	MW-8	Water	09/29/16 16:40	09/30/16 09:01
680-130372-3	Trip Blank	Water	09/29/16 00:00	09/30/16 09:01

Job ID: 680-130372-1

Laboratory: TestAmerica Savannah

Narrative

Client: AMEC Foster Wheeler E & I, Inc
Project: STI-Swainsboro, GA - MW
Report Number: 680-130372-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 09/30/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.2 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples MW-19 (680-130372-1), MW-8 (680-130372-2) and Trip Blank (680-130372-3) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 10/04/2016 and 10/05/2016.

Sample MW-8 (680-130372-2)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-452290.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW

TestAmerica Job ID: 680-130372-1

Client Sample ID: MW-19
Date Collected: 09/29/16 15:15
Date Received: 09/30/16 09:01

Lab Sample ID: 680-130372-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	**15**		5.0	2.5	ug/L			10/04/16 23:51	1
cis-1,2-Dichloroethene	**15**		1.0	0.41	ug/L			10/04/16 23:51	1
1,1-Dichloroethane	**6.5**		1.0	0.38	ug/L			10/04/16 23:51	1
1,2-Dichloroethane	1.0	U	1.0	0.50	ug/L			10/04/16 23:51	1
1,1-Dichloroethene	**37**		1.0	0.36	ug/L			10/04/16 23:51	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.62	ug/L			10/04/16 23:51	1
trans-1,2-Dichloroethene	**0.65**	**J**	1.0	0.37	ug/L			10/04/16 23:51	1
1,1,1-Trichloroethane	1.0	U	1.0	0.37	ug/L			10/04/16 23:51	1
1,1,2-Trichloroethane	1.0	U	1.0	0.33	ug/L			10/04/16 23:51	1
Trichloroethene	**120**		1.0	0.48	ug/L			10/04/16 23:51	1
Vinyl chloride	**58**		1.0	0.50	ug/L			10/04/16 23:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*10/04/16 23:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*73 - 131*		*10/04/16 23:51*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 122*		*10/04/16 23:51*	*1*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*10/04/16 23:51*	*1*

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW

TestAmerica Job ID: 680-130372-1

Client Sample ID: MW-8
Date Collected: 09/29/16 16:40
Date Received: 09/30/16 09:01

Lab Sample ID: 680-130372-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	30		5.0	2.5	ug/L			10/05/16 00:32	1
1,1-Dichloroethane	100		1.0	0.38	ug/L			10/05/16 00:32	1
1,2-Dichloroethane	0.58	J	1.0	0.50	ug/L			10/05/16 00:32	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.62	ug/L			10/05/16 00:32	1
trans-1,2-Dichloroethene	2.7		1.0	0.37	ug/L			10/05/16 00:32	1
1,1,1-Trichloroethane	150		1.0	0.37	ug/L			10/05/16 00:32	1
1,1,2-Trichloroethane	1.0	U	1.0	0.33	ug/L			10/05/16 00:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*10/05/16 00:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*73 - 131*		*10/05/16 00:32*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 122*		*10/05/16 00:32*	*1*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*10/05/16 00:32*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	610		10	4.1	ug/L			10/04/16 23:10	10
1,1-Dichloroethene	440		10	3.6	ug/L			10/04/16 23:10	10
Trichloroethene	190		10	4.8	ug/L			10/04/16 23:10	10
Vinyl chloride	1300		10	5.0	ug/L			10/04/16 23:10	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*10/04/16 23:10*	*10*
1,2-Dichloroethane-d4 (Surr)	*103*		*73 - 131*		*10/04/16 23:10*	*10*
Dibromofluoromethane (Surr)	*100*		*80 - 122*		*10/04/16 23:10*	*10*
4-Bromofluorobenzene (Surr)	*112*		*80 - 120*		*10/04/16 23:10*	*10*

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW

TestAmerica Job ID: 680-130372-1

Client Sample ID: Trip Blank
Date Collected: 09/29/16 00:00
Date Received: 09/30/16 09:01

Lab Sample ID: 680-130372-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	5.0	U	5.0	2.5	ug/L			10/04/16 22:09	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.41	ug/L			10/04/16 22:09	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/04/16 22:09	1
1,2-Dichloroethane	1.0	U	1.0	0.50	ug/L			10/04/16 22:09	1
1,1-Dichloroethene	1.0	U	1.0	0.36	ug/L			10/04/16 22:09	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.62	ug/L			10/04/16 22:09	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.37	ug/L			10/04/16 22:09	1
1,1,1-Trichloroethane	1.0	U	1.0	0.37	ug/L			10/04/16 22:09	1
1,1,2-Trichloroethane	1.0	U	1.0	0.33	ug/L			10/04/16 22:09	1
Trichloroethene	1.0	U	1.0	0.48	ug/L			10/04/16 22:09	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			10/04/16 22:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*10/04/16 22:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*73 - 131*		*10/04/16 22:09*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 122*		*10/04/16 22:09*	*1*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*		*10/04/16 22:09*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-452290/10
Matrix: Water
Analysis Batch: 452290

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	5.0	U	5.0	2.5	ug/L			10/04/16 21:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.41	ug/L			10/04/16 21:48	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/04/16 21:48	1
1,2-Dichloroethane	1.0	U	1.0	0.50	ug/L			10/04/16 21:48	1
1,1-Dichloroethene	1.0	U	1.0	0.36	ug/L			10/04/16 21:48	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.62	ug/L			10/04/16 21:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.37	ug/L			10/04/16 21:48	1
1,1,1-Trichloroethane	1.0	U	1.0	0.37	ug/L			10/04/16 21:48	1
1,1,2-Trichloroethane	1.0	U	1.0	0.33	ug/L			10/04/16 21:48	1
Trichloroethene	1.0	U	1.0	0.48	ug/L			10/04/16 21:48	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			10/04/16 21:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*10/04/16 21:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*73 - 131*		*10/04/16 21:48*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 122*		*10/04/16 21:48*	*1*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*10/04/16 21:48*	*1*

Lab Sample ID: LCS 680-452290/5
Matrix: Water
Analysis Batch: 452290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	50.0	47.3		ug/L		95	48 - 145
cis-1,2-Dichloroethene	50.0	50.5		ug/L		101	80 - 120
1,1-Dichloroethane	50.0	51.8		ug/L		104	80 - 120
1,2-Dichloroethane	50.0	53.3		ug/L		107	72 - 128
1,1-Dichloroethene	50.0	51.5		ug/L		103	80 - 120
1,1,2,2-Tetrachloroethane	50.0	47.3		ug/L		95	76 - 126
trans-1,2-Dichloroethene	50.0	50.3		ug/L		101	80 - 120
1,1,1-Trichloroethane	50.0	57.0		ug/L		114	80 - 120
1,1,2-Trichloroethane	50.0	48.3		ug/L		97	80 - 120
Trichloroethene	50.0	50.3		ug/L		101	80 - 120
Vinyl chloride	50.0	48.5		ug/L		97	80 - 129

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*99*		*73 - 131*
Dibromofluoromethane (Surr)	*97*		*80 - 122*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*

Lab Sample ID: LCSD 680-452290/6
Matrix: Water
Analysis Batch: 452290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroethane	50.0	49.1		ug/L		98	48 - 145	4	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-452290/6
Matrix: Water
Analysis Batch: 452290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene			50.0	51.3		ug/L		103	80 - 120	2	20
1,1-Dichloroethane			50.0	51.8		ug/L		104	80 - 120	0	20
1,2-Dichloroethane			50.0	53.7		ug/L		107	72 - 128	1	50
1,1-Dichloroethene			50.0	51.0		ug/L		102	80 - 120	1	20
1,1,2,2-Tetrachloroethane			50.0	48.1		ug/L		96	76 - 126	2	20
trans-1,2-Dichloroethene			50.0	50.2		ug/L		100	80 - 120	0	20
1,1,1-Trichloroethane			50.0	57.0		ug/L		114	80 - 120	0	20
1,1,2-Trichloroethane			50.0	49.2		ug/L		98	80 - 120	2	20
Trichloroethene			50.0	50.9		ug/L		102	80 - 120	1	20
Vinyl chloride			50.0	49.5		ug/L		99	80 - 129	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*73 - 131*
Dibromofluoromethane (Surr)	*98*		*80 - 122*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW

TestAmerica Job ID: 680-130372-1

GC/MS VOA

Analysis Batch: 452290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-130372-1	MW-19	Total/NA	Water	8260B	
680-130372-2 - DL	MW-8	Total/NA	Water	8260B	
680-130372-2	MW-8	Total/NA	Water	8260B	
680-130372-3	Trip Blank	Total/NA	Water	8260B	
MB 680-452290/10	Method Blank	Total/NA	Water	8260B	
LCS 680-452290/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-452290/6	Lab Control Sample Dup	Total/NA	Water	8260B	

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW

TestAmerica Job ID: 680-130372-1

Client Sample ID: MW-19

Lab Sample ID: 680-130372-1

Date Collected: 09/29/16 15:15

Matrix: Water

Date Received: 09/30/16 09:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	452290	10/04/16 23:51	JD1	TAL SAV
	Instrument ID: CMSB									

Client Sample ID: MW-8

Lab Sample ID: 680-130372-2

Date Collected: 09/29/16 16:40

Matrix: Water

Date Received: 09/30/16 09:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	10	5 mL	5 mL	452290	10/04/16 23:10	JD1	TAL SAV
	Instrument ID: CMSB									
Total/NA	Analysis	8260B		1	5 mL	5 mL	452290	10/05/16 00:32	JD1	TAL SAV
	Instrument ID: CMSB									

Client Sample ID: Trip Blank

Lab Sample ID: 680-130372-3

Date Collected: 09/29/16 00:00

Matrix: Water

Date Received: 09/30/16 09:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	452290	10/04/16 22:09	JD1	TAL SAV
	Instrument ID: CMSB									

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW

TestAmerica Job ID: 680-130372-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 680-130372-1

Login Number: 130372

List Source: TestAmerica Savannah

List Number: 1

Creator: White, Menica R

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Serial Number 112382

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
STL Swainsboro	6125.08.0149	GA
TAL (LAB) PROJECT MANAGER: Lisa Harvey	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Greg Wrenn	CLIENT PHONE: 770-421-3400	CLIENT FAX
CLIENT NAME: Anne Foster Wheeler	CLIENT E-MAIL: on file	
CLIENT ADDRESS: 1075 Big Shanty Rd		
COMPANY CONTRACTING THIS WORK (if applicable)		

MATRIX TYPE (COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT...))

REQUIRED ANALYSIS: STL Specific VOCs - 8260; TCL

PAGE: OF

STANDARD REPORT DELIVERY — DATE DUE: 10/6/16

EXPEDITED REPORT DELIVERY (SURCHARGE) — DATE DUE:

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT...)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
9/29/16	1515	MW-19	G	X				3	
9/29/16	1640	MW-8	G	X				3	
		Trip Blank		X				2	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	9/30/16	11:00						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
LE	9/30/16	11:00						

680-130372 Chain of Custody

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
	9/30/16	1215	YES ○ NO ○			3.3 / 3.2

9-30-16 12:15

TAL8240-680 (1008)

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: STI-Swainsboro, GA - MW

TestAmerica Job ID: 680-130372-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Georgia	State Program	4	803	06-30-17

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

December 12, 2016

Greg Wrenn
AMEC E&I, Inc. -Kennesaw
1075 Big Shanty Rd NW
Kennesaw GA 30144

TEL: (770) 421-3444
FAX: (770) 421-3486

RE: STI

Dear Greg Wrenn: Order No: 1612334

Analytical Environmental Services, Inc. received 19 samples on 12/3/2016 12:10:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/16-06/30/17.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/16-06/30/17.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

Ioana Pacurar

Ioana Pacurar
Project Manager

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1612334

Date: 12-2-16 Page 1 of 1

COMPANY:	ADDRESS:
AMEC FOSTER WHEELER	1075 BIG SHANTY RD #100 KENNESAW, GA 30144
PHONE: 770 421 3400	FAX:
SAMPLED BY: EVER GUILLEN	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B (VOCs)	SOP-RSK175 METHANE, ETHENE, ETHANE	PRESERVATION (See codes)	REMARKS	No # of Containers
1	MW-7	11-30-16	1020	X		GW	X	X			4
2	MW-11	11-30-16	1315	X		GW	X	X			4
3	MW-12	11-30-16	1520	X		GW	X	X			4
4	MW-15	12-1-16	920	X		GW	X	X			4
5	MW-9R	12-1-16	1050	X		GW	X	X			4
6	MW-6	12-1-16	1235	X		GW	X	X			4
7	MW-21	12-1-16	1520	X		GW	X	X			4
8	MW-20	12-1-16	1645	X		GW	X	X			4
9	SW-5	12-2-16	1020	X		SW	X				2
10	SW-6	12-2-16	1045	X		SW	X				2
11	TRIP			X		W	X				2
12											
13											
14											

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1:	12-3-16 / 1210	1:	12/3/16 12:10 PM
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD:

OUT / / VIA:

IN / / VIA:

(CLIENT) FedEx UPS MAIL COURIER GREYHOUND OTHER_____

PROJECT INFORMATION

PROJECT NAME: STI

PROJECT #: 6125 08 0149

SITE ADDRESS: SWAINSBORO, GA

SEND REPORT TO: G. WRENN

INVOICE TO:

(IF DIFFERENT FROM ABOVE)

QUOTE #:_____ PO#:_____

RECEIPT

Total # of Containers

Turnaround Time Request

- [x] Standard 5 Business Days
- [ ] 2 Business Day Rush
- [ ] Next Business Day Rush
- [ ] Same Day Rush (auth req.)
- [ ] Other_____

STATE PROGRAM (if any): _____

E-mail? Fax?

DATA PACKAGE: I ○ II ○ III ○ IV ○

SAMPLES RECEIVED AFTER 3PM OR SATURDAY ARE CONSIDERED AS RECEIVED ON THE NEXT BUSINESS DAY. IF NO TAT IS MARKED ON COC AES WILL PROCEED AS STANDARD TAT.

SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water WW = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

AES

CHAIN OF CUSTODY

Work Order: 1411044

Date: 12/2/16 Page 1 of 1

COMPANY: AMEC Foster Wheeler

ADDRESS: 1075 Big Shanty Rd #100 Kennesaw, GA 30144

PHONE: (404-817-0231

FAX:

SAMPLED BY: B. Lepdyke

SIGNATURE:

ANALYSIS REQUESTED

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)	REMARKS	No # of Containers
							Site Specific VOCs: Methane, Ethane, Ethene		
1	MW-4	11/30/16	1135	X		GW	X X X X		4
2	MW-3	11/30/16	1415	X			X X X X		4
3	MW-19	11/30/16	1610	X			X X X X		4
4	MW-5	12/1/16	1030	X			X X X X		4
5	MW-20D	12/1/16	1520	X			X X X X		4
6	MW-18	12/1/16	1635	X			X X X X		4
7	MW-8	12/2/16	0945	X			X X X X		4
8	DUP-1	12/2/16	0945	X		GW	X X X X		4
9									
10									
11									
12									
13									
14									

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	12/2/16 1200	1:	12-2-16/1200
2:	12-3-16/1210	2:	12/3/2016 12:10PM
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
(CLIENT) FedEx UPS MAIL COURIER
GREYHOUND OTHER_____

PROJECT INFORMATION
PROJECT NAME: STI
PROJECT #: 6125.09.0149
SITE ADDRESS: Swainsboro, GA
SEND REPORT TO: B. Lepdyke, G Wrenn
INVOICE TO:
(IF DIFFERENT FROM ABOVE)
QUOTE #:_____ PO#:_____

RECEIPT
Total # of Containers: 32

Turnaround Time Request
(●) Standard 5 Business Days
( ) 2 Business Day Rush
( ) Next Business Day Rush
( ) Same Day Rush (auth req.)
( ) Other _____

STATE PROGRAM (if any): _____
E-mail? (Y) / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 12-Dec-16

Client: AMEC E&I, Inc. -Kennesaw
Project: STI
Lab ID: 1612334

Case Narrative

Volatile Organic Compounds Analysis by Method 8260B:

1,1-Dichloroethene value for the QC sample 1612334-018AMS/MSD is "E" qualified indicating estimated value over linear calibration range due to the level of target analyte present in the unspiked sample.

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-7
Project Name:	STI	**Collection Date:**	11/30/2016 10:20:00 AM
Lab ID:	1612334-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:06	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:06	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:06	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:06	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 21:06	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:06	NP
Chloroethane	BRL	10		ug/L	234507	1	12/08/2016 21:06	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 21:06	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 21:06	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 21:06	NP
Vinyl chloride	BRL	2.0		ug/L	234507	1	12/08/2016 21:06	NP
Surr: 4-Bromofluorobenzene	90.8	66.1-129		%REC	234507	1	12/08/2016 21:06	NP
Surr: Dibromofluoromethane	108	83.6-123		%REC	234507	1	12/08/2016 21:06	NP
Surr: Toluene-d8	95.9	81.8-118		%REC	234507	1	12/08/2016 21:06	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 09:55	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 09:55	EI
Methane	430	20		ug/L	234312	5	12/08/2016 10:31	EI

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-11
Project Name:	STI	**Collection Date:**	11/30/2016 1:15:00 PM
Lab ID:	1612334-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:30	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:30	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:30	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:30	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 21:30	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:30	NP
Chloroethane	BRL	10		ug/L	234507	1	12/08/2016 21:30	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 21:30	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 21:30	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 21:30	NP
Vinyl chloride	2.5	2.0		ug/L	234507	1	12/08/2016 21:30	NP
Surr: 4-Bromofluorobenzene	90.1	66.1-129		%REC	234507	1	12/08/2016 21:30	NP
Surr: Dibromofluoromethane	110	83.6-123		%REC	234507	1	12/08/2016 21:30	NP
Surr: Toluene-d8	96.5	81.8-118		%REC	234507	1	12/08/2016 21:30	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 10:00	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 10:00	EI
Methane	5.4	4.0		ug/L	234312	1	12/08/2016 10:00	EI

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-12
Project Name:	STI	**Collection Date:**	11/30/2016 3:20:00 PM
Lab ID:	1612334-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:53	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:53	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:53	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:53	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 21:53	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 21:53	NP
Chloroethane	BRL	10		ug/L	234507	1	12/08/2016 21:53	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 21:53	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 21:53	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 21:53	NP
Vinyl chloride	BRL	2.0		ug/L	234507	1	12/08/2016 21:53	NP
Surr: 4-Bromofluorobenzene	91.9	66.1-129		%REC	234507	1	12/08/2016 21:53	NP
Surr: Dibromofluoromethane	108	83.6-123		%REC	234507	1	12/08/2016 21:53	NP
Surr: Toluene-d8	97.1	81.8-118		%REC	234507	1	12/08/2016 21:53	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 10:06	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 10:06	EI
Methane	BRL	4.0		ug/L	234312	1	12/08/2016 10:06	EI

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-15
Project Name:	STI	**Collection Date:**	12/1/2016 9:20:00 AM
Lab ID:	1612334-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 22:17	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 22:17	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 22:17	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 22:17	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 22:17	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 22:17	NP
Chloroethane	BRL	10		ug/L	234507	1	12/08/2016 22:17	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 22:17	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 22:17	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 22:17	NP
Vinyl chloride	BRL	2.0		ug/L	234507	1	12/08/2016 22:17	NP
Surr: 4-Bromofluorobenzene	90.6	66.1-129		%REC	234507	1	12/08/2016 22:17	NP
Surr: Dibromofluoromethane	109	83.6-123		%REC	234507	1	12/08/2016 22:17	NP
Surr: Toluene-d8	97	81.8-118		%REC	234507	1	12/08/2016 22:17	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 10:11	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 10:11	EI
Methane	5400	400		ug/L	234312	100	12/08/2016 10:36	EI

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-9R
Project Name:	STI	**Collection Date:**	12/1/2016 10:50:00 AM
Lab ID:	1612334-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 22:40	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 22:40	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 22:40	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 22:40	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 22:40	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 22:40	NP
Chloroethane	BRL	10		ug/L	234507	1	12/08/2016 22:40	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 22:40	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 22:40	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 22:40	NP
Vinyl chloride	BRL	2.0		ug/L	234507	1	12/08/2016 22:40	NP
Surr: 4-Bromofluorobenzene	90.3	66.1-129		%REC	234507	1	12/08/2016 22:40	NP
Surr: Dibromofluoromethane	108	83.6-123		%REC	234507	1	12/08/2016 22:40	NP
Surr: Toluene-d8	96.7	81.8-118		%REC	234507	1	12/08/2016 22:40	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 10:16	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 10:16	EI
Methane	290	20		ug/L	234312	5	12/08/2016 10:42	EI

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-6
Project Name:	STI	**Collection Date:**	12/1/2016 12:35:00 PM
Lab ID:	1612334-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:03	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:03	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:03	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:03	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 23:03	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:03	NP
Chloroethane	BRL	10		ug/L	234507	1	12/08/2016 23:03	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 23:03	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 23:03	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 23:03	NP
Vinyl chloride	4.4	2.0		ug/L	234507	1	12/08/2016 23:03	NP
Surr: 4-Bromofluorobenzene	90.2	66.1-129		%REC	234507	1	12/08/2016 23:03	NP
Surr: Dibromofluoromethane	108	83.6-123		%REC	234507	1	12/08/2016 23:03	NP
Surr: Toluene-d8	96.7	81.8-118		%REC	234507	1	12/08/2016 23:03	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 10:21	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 10:21	EI
Methane	2800	200		ug/L	234312	50	12/08/2016 10:50	EI

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-21
Project Name:	STI	**Collection Date:**	12/1/2016 3:20:00 PM
Lab ID:	1612334-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:26	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:26	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:26	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:26	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 23:26	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:26	NP
Chloroethane	BRL	10		ug/L	234507	1	12/08/2016 23:26	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 23:26	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 23:26	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 23:26	NP
Vinyl chloride	4.0	2.0		ug/L	234507	1	12/08/2016 23:26	NP
Surr: 4-Bromofluorobenzene	89.8	66.1-129		%REC	234507	1	12/08/2016 23:26	NP
Surr: Dibromofluoromethane	108	83.6-123		%REC	234507	1	12/08/2016 23:26	NP
Surr: Toluene-d8	97.9	81.8-118		%REC	234507	1	12/08/2016 23:26	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 10:56	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 10:56	EI
Methane	5300	800		ug/L	234312	200	12/08/2016 11:41	EI

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-20
Project Name:	STI	**Collection Date:**	12/1/2016 4:45:00 PM
Lab ID:	1612334-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:49	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:49	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:49	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:49	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 23:49	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 23:49	NP
Chloroethane	BRL	10		ug/L	234507	1	12/08/2016 23:49	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 23:49	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 23:49	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 23:49	NP
Vinyl chloride	4.1	2.0		ug/L	234507	1	12/08/2016 23:49	NP
Surr: 4-Bromofluorobenzene	91.1	66.1-129		%REC	234507	1	12/08/2016 23:49	NP
Surr: Dibromofluoromethane	109	83.6-123		%REC	234507	1	12/08/2016 23:49	NP
Surr: Toluene-d8	96.7	81.8-118		%REC	234507	1	12/08/2016 23:49	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 11:04	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 11:04	EI
Methane	5000	800		ug/L	234312	200	12/08/2016 11:50	EI

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	SW-5
Project Name:	STI	**Collection Date:**	12/2/2016 10:20:00 AM
Lab ID:	1612334-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:13	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:13	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:13	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:13	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 00:13	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:13	NP
Chloroethane	BRL	10		ug/L	234507	1	12/09/2016 00:13	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 00:13	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 00:13	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 00:13	NP
Vinyl chloride	BRL	2.0		ug/L	234507	1	12/09/2016 00:13	NP
Surr: 4-Bromofluorobenzene	88.8	66.1-129		%REC	234507	1	12/09/2016 00:13	NP
Surr: Dibromofluoromethane	110	83.6-123		%REC	234507	1	12/09/2016 00:13	NP
Surr: Toluene-d8	97.9	81.8-118		%REC	234507	1	12/09/2016 00:13	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	SW-6
Project Name:	STI	**Collection Date:**	12/2/2016 10:45:00 AM
Lab ID:	1612334-010	**Matrix:**	Surface Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:36	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:36	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:36	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:36	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 00:36	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:36	NP
Chloroethane	BRL	10		ug/L	234507	1	12/09/2016 00:36	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 00:36	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 00:36	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 00:36	NP
Vinyl chloride	BRL	2.0		ug/L	234507	1	12/09/2016 00:36	NP
Surr: 4-Bromofluorobenzene	92.5	66.1-129		%REC	234507	1	12/09/2016 00:36	NP
Surr: Dibromofluoromethane	110	83.6-123		%REC	234507	1	12/09/2016 00:36	NP
Surr: Toluene-d8	98.7	81.8-118		%REC	234507	1	12/09/2016 00:36	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-4
Project Name:	STI	**Collection Date:**	11/30/2016 11:35:00 AM
Lab ID:	1612334-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:59	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:59	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:59	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:59	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 00:59	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 00:59	NP
Chloroethane	BRL	10		ug/L	234507	1	12/09/2016 00:59	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 00:59	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 00:59	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 00:59	NP
Vinyl chloride	14	2.0		ug/L	234507	1	12/09/2016 00:59	NP
Surr: 4-Bromofluorobenzene	90.1	66.1-129		%REC	234507	1	12/09/2016 00:59	NP
Surr: Dibromofluoromethane	108	83.6-123		%REC	234507	1	12/09/2016 00:59	NP
Surr: Toluene-d8	95.2	81.8-118		%REC	234507	1	12/09/2016 00:59	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 11:13	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 11:13	EI
Methane	4200	400		ug/L	234312	100	12/08/2016 11:57	EI

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-3
Project Name:	STI	**Collection Date:**	11/30/2016 2:15:00 PM
Lab ID:	1612334-012	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 01:23	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 01:23	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 01:23	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 01:23	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 01:23	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 01:23	NP
Chloroethane	BRL	10		ug/L	234507	1	12/09/2016 01:23	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 01:23	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 01:23	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 01:23	NP
Vinyl chloride	5.4	2.0		ug/L	234507	1	12/09/2016 01:23	NP
Surr: 4-Bromofluorobenzene	90.4	66.1-129		%REC	234507	1	12/09/2016 01:23	NP
Surr: Dibromofluoromethane	108	83.6-123		%REC	234507	1	12/09/2016 01:23	NP
Surr: Toluene-d8	97.7	81.8-118		%REC	234507	1	12/09/2016 01:23	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 11:24	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 11:24	EI
Methane	4800	400		ug/L	234312	100	12/08/2016 12:05	EI

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-19
Project Name:	STI	**Collection Date:**	11/30/2016 4:10:00 PM
Lab ID:	1612334-013	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 17:37	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 17:37	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 17:37	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 17:37	NP
1,1-Dichloroethene	290	50		ug/L	234507	10	12/08/2016 18:00	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 17:37	NP
Chloroethane	BRL	10		ug/L	234507	1	12/08/2016 17:37	NP
cis-1,2-Dichloroethene	80	5.0		ug/L	234507	1	12/08/2016 17:37	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 17:37	NP
Trichloroethene	710	50		ug/L	234507	10	12/08/2016 18:00	NP
Vinyl chloride	31	2.0		ug/L	234507	1	12/08/2016 17:37	NP
Surr: 4-Bromofluorobenzene	89.8	66.1-129		%REC	234507	10	12/08/2016 18:00	NP
Surr: 4-Bromofluorobenzene	91.7	66.1-129		%REC	234507	1	12/08/2016 17:37	NP
Surr: Dibromofluoromethane	107	83.6-123		%REC	234507	10	12/08/2016 18:00	NP
Surr: Dibromofluoromethane	108	83.6-123		%REC	234507	1	12/08/2016 17:37	NP
Surr: Toluene-d8	95.8	81.8-118		%REC	234507	1	12/08/2016 17:37	NP
Surr: Toluene-d8	97	81.8-118		%REC	234507	10	12/08/2016 18:00	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	11	9.0		ug/L	234312	1	12/08/2016 11:31	EI
Ethylene	34	7.0		ug/L	234312	1	12/08/2016 11:31	EI
Methane	1600	80		ug/L	234312	20	12/08/2016 12:55	EI

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-5
Project Name:	STI	**Collection Date:**	12/1/2016 10:30:00 AM
Lab ID:	1612334-014	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 01:46	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 01:46	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 01:46	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 01:46	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 01:46	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 01:46	NP
Chloroethane	BRL	10		ug/L	234507	1	12/09/2016 01:46	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 01:46	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 01:46	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 01:46	NP
Vinyl chloride	BRL	2.0		ug/L	234507	1	12/09/2016 01:46	NP
Surr: 4-Bromofluorobenzene	89.8	66.1-129		%REC	234507	1	12/09/2016 01:46	NP
Surr: Dibromofluoromethane	111	83.6-123		%REC	234507	1	12/09/2016 01:46	NP
Surr: Toluene-d8	97.6	81.8-118		%REC	234507	1	12/09/2016 01:46	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 12:59	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 12:59	EI
Methane	11	4.0		ug/L	234312	1	12/08/2016 12:59	EI

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-20D
Project Name:	STI	**Collection Date:**	12/1/2016 3:20:00 PM
Lab ID:	1612334-015	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 02:10	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 02:10	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 02:10	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 02:10	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 02:10	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 02:10	NP
Chloroethane	BRL	10		ug/L	234507	1	12/09/2016 02:10	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 02:10	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 02:10	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 02:10	NP
Vinyl chloride	BRL	2.0		ug/L	234507	1	12/09/2016 02:10	NP
Surr: 4-Bromofluorobenzene	88.8	66.1-129		%REC	234507	1	12/09/2016 02:10	NP
Surr: Dibromofluoromethane	109	83.6-123		%REC	234507	1	12/09/2016 02:10	NP
Surr: Toluene-d8	96.6	81.8-118		%REC	234507	1	12/09/2016 02:10	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 13:08	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 13:08	EI
Methane	BRL	4.0		ug/L	234312	1	12/08/2016 13:08	EI

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-18
Project Name:	STI	**Collection Date:**	12/1/2016 4:35:00 PM
Lab ID:	1612334-016	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 02:33	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 02:33	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 02:33	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 02:33	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 02:33	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/09/2016 02:33	NP
Chloroethane	BRL	10		ug/L	234507	1	12/09/2016 02:33	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 02:33	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 02:33	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/09/2016 02:33	NP
Vinyl chloride	BRL	2.0		ug/L	234507	1	12/09/2016 02:33	NP
Surr: 4-Bromofluorobenzene	89.8	66.1-129		%REC	234507	1	12/09/2016 02:33	NP
Surr: Dibromofluoromethane	109	83.6-123		%REC	234507	1	12/09/2016 02:33	NP
Surr: Toluene-d8	97.7	81.8-118		%REC	234507	1	12/09/2016 02:33	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 13:12	EI
Ethylene	BRL	7.0		ug/L	234312	1	12/08/2016 13:12	EI
Methane	4900	400		ug/L	234312	100	12/08/2016 13:49	EI

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	MW-8
Project Name:	STI	**Collection Date:**	12/2/2016 9:45:00 AM
Lab ID:	1612334-017	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	870	50		ug/L	234507	10	12/08/2016 18:47	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 18:24	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 18:24	NP
1,1-Dichloroethane	160	5.0		ug/L	234507	1	12/08/2016 18:24	NP
1,1-Dichloroethene	1800	50		ug/L	234507	10	12/08/2016 18:47	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 18:24	NP
Chloroethane	11	10		ug/L	234507	1	12/08/2016 18:24	NP
cis-1,2-Dichloroethene	2200	100		ug/L	234507	20	12/09/2016 10:22	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 18:24	NP
Trichloroethene	1400	50		ug/L	234507	10	12/08/2016 18:47	NP
Vinyl chloride	920	20		ug/L	234507	10	12/08/2016 18:47	NP
Surr: 4-Bromofluorobenzene	91.2	66.1-129		%REC	234507	1	12/08/2016 18:24	NP
Surr: 4-Bromofluorobenzene	91.5	66.1-129		%REC	234507	10	12/08/2016 18:47	NP
Surr: 4-Bromofluorobenzene	89.9	66.1-129		%REC	234507	20	12/09/2016 10:22	NP
Surr: Dibromofluoromethane	111	83.6-123		%REC	234507	20	12/09/2016 10:22	NP
Surr: Dibromofluoromethane	112	83.6-123		%REC	234507	10	12/08/2016 18:47	NP
Surr: Dibromofluoromethane	118	83.6-123		%REC	234507	1	12/08/2016 18:24	NP
Surr: Toluene-d8	95.5	81.8-118		%REC	234507	1	12/08/2016 18:24	NP
Surr: Toluene-d8	96.4	81.8-118		%REC	234507	10	12/08/2016 18:47	NP
Surr: Toluene-d8	95.3	81.8-118		%REC	234507	20	12/09/2016 10:22	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 13:23	EI
Ethylene	16	7.0		ug/L	234312	1	12/08/2016 13:23	EI
Methane	5800	800		ug/L	234312	200	12/08/2016 13:54	EI

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	DUP-1
Project Name:	STI	**Collection Date:**	12/2/2016 9:45:00 AM
Lab ID:	1612334-018	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	910	50		ug/L	234507	10	12/08/2016 19:34	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 19:10	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 19:10	NP
1,1-Dichloroethane	160	5.0		ug/L	234507	1	12/08/2016 19:10	NP
1,1-Dichloroethene	1800	50		ug/L	234507	10	12/08/2016 19:34	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 19:10	NP
Chloroethane	12	10		ug/L	234507	1	12/08/2016 19:10	NP
cis-1,2-Dichloroethene	2300	100		ug/L	234507	20	12/09/2016 10:46	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 19:10	NP
Trichloroethene	1500	50		ug/L	234507	10	12/08/2016 19:34	NP
Vinyl chloride	1000	20		ug/L	234507	10	12/08/2016 19:34	NP
Surr: 4-Bromofluorobenzene	91.3	66.1-129		%REC	234507	1	12/08/2016 19:10	NP
Surr: 4-Bromofluorobenzene	94	66.1-129		%REC	234507	10	12/08/2016 19:34	NP
Surr: 4-Bromofluorobenzene	89.7	66.1-129		%REC	234507	20	12/09/2016 10:46	NP
Surr: Dibromofluoromethane	110	83.6-123		%REC	234507	20	12/09/2016 10:46	NP
Surr: Dibromofluoromethane	113	83.6-123		%REC	234507	10	12/08/2016 19:34	NP
Surr: Dibromofluoromethane	118	83.6-123		%REC	234507	1	12/08/2016 19:10	NP
Surr: Toluene-d8	95.5	81.8-118		%REC	234507	1	12/08/2016 19:10	NP
Surr: Toluene-d8	96.9	81.8-118		%REC	234507	10	12/08/2016 19:34	NP
Surr: Toluene-d8	95.9	81.8-118		%REC	234507	20	12/09/2016 10:46	NP
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9.0		ug/L	234312	1	12/08/2016 13:43	EI
Ethylene	16	7.0		ug/L	234312	1	12/08/2016 13:43	EI
Methane	6000	800		ug/L	234312	200	12/08/2016 13:59	EI

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 12-Dec-16

Client:	AMEC E&I, Inc. -Kennesaw	**Client Sample ID:**	TRIP BLANK
Project Name:	STI	**Collection Date:**	12/3/2016
Lab ID:	1612334-019	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 17:13	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 17:13	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 17:13	NP
1,1-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 17:13	NP
1,1-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 17:13	NP
1,2-Dichloroethane	BRL	5.0		ug/L	234507	1	12/08/2016 17:13	NP
Chloroethane	BRL	10		ug/L	234507	1	12/08/2016 17:13	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 17:13	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 17:13	NP
Trichloroethene	BRL	5.0		ug/L	234507	1	12/08/2016 17:13	NP
Vinyl chloride	BRL	2.0		ug/L	234507	1	12/08/2016 17:13	NP
Surr: 4-Bromofluorobenzene	90.6	66.1-129		%REC	234507	1	12/08/2016 17:13	NP
Surr: Dibromofluoromethane	108	83.6-123		%REC	234507	1	12/08/2016 17:13	NP
Surr: Toluene-d8	96.5	81.8-118		%REC	234507	1	12/08/2016 17:13	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client AMEC/KENNESAW Work Order Number 1411334

Checklist completed by Jessica Mills 12/3/2014
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 1.6°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: AMEC E&I, Inc. -Kennesaw
Project Name: STI
Workorder: 1612334

ANALYTICAL QC SUMMARY REPORT

BatchID: 234312

Sample ID: **MB-234312** Client ID: Units: **ug/L** Prep Date: **12/08/2016** Run No: **331683**
SampleType: **MBLK** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **234312** Analysis Date: **12/08/2016** Seq No: **7220299**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	BRL	9.0									
Ethylene	BRL	7.0									
Methane	BRL	4.0									

Sample ID: **LCS-234312** Client ID: Units: **ug/L** Prep Date: **12/08/2016** Run No: **331683**
SampleType: **LCS** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **234312** Analysis Date: **12/08/2016** Seq No: **7220300**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	129.2	9.0	200.0		64.6	40.9	115				
Ethylene	92.50	7.0	200.0		46.3	26.8	115				
Methane	138.2	4.0	200.0		69.1	45.9	115				

Sample ID: **LCSD-234312** Client ID: Units: **ug/L** Prep Date: **12/08/2016** Run No: **331683**
SampleType: **LCSD** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **234312** Analysis Date: **12/08/2016** Seq No: **7220301**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	125.0	9.0	200.0		62.5	40.9	115	129.2	3.23	20	
Ethylene	89.41	7.0	200.0		44.7	26.8	115	92.50	3.40	20	
Methane	134.0	4.0	200.0		67.0	45.9	115	138.2	3.12	20	

Sample ID: **1612334-003BMS** Client ID: **MW-12** Units: **ug/L** Prep Date: **12/08/2016** Run No: **331683**
SampleType: **MS** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **234312** Analysis Date: **12/08/2016** Seq No: **7220354**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	118.3	9.0	200.0		59.1	40.5	115				
Ethylene	79.94	7.0	200.0		40.0	23	115				
Methane	131.1	4.0	200.0	2.392	64.4	40	115				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: AMEC E&I, Inc. -Kennesaw
Project Name: STI
Workorder: 1612334

ANALYTICAL QC SUMMARY REPORT

BatchID: 234312

Sample ID: **1612334-003BMSD** Client ID: **MW-12** Units: **ug/L** Prep Date: **12/08/2016** Run No: **331683**
SampleType: **MSD** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **234312** Analysis Date: **12/08/2016** Seq No: **7220355**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	120.7	9.0	200.0		60.4	40.5	115	118.3	2.05	20	
Ethylene	81.22	7.0	200.0		40.6	23	115	79.94	1.59	20	
Methane	132.9	4.0	200.0	2.392	65.3	40	115	131.1	1.40	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: AMEC E&I, Inc. -Kennesaw
Project Name: STI
Workorder: 1612334

ANALYTICAL QC SUMMARY REPORT

BatchID: 234507

Sample ID: **MB-234507** Client ID: Units: **ug/L** Prep Date: **12/08/2016** Run No: **331710**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **234507** Analysis Date: **12/08/2016** Seq No: **7221275**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
Chloroethane	BRL	10									
cis-1,2-Dichloroethene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
Trichloroethene	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	46.09	0	50.00		92.2	66.1	129				
Surr: Dibromofluoromethane	53.89	0	50.00		108	83.6	123				
Surr: Toluene-d8	47.55	0	50.00		95.1	81.8	118				

Sample ID: **LCS-234507** Client ID: Units: **ug/L** Prep Date: **12/08/2016** Run No: **331710**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **234507** Analysis Date: **12/08/2016** Seq No: **7221273**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	45.00	5.0	50.00		90.0	68	139				
Trichloroethene	46.29	5.0	50.00		92.6	70.6	129				
Surr: 4-Bromofluorobenzene	45.53	0	50.00		91.1	66.1	129				
Surr: Dibromofluoromethane	52.59	0	50.00		105	83.6	123				
Surr: Toluene-d8	47.20	0	50.00		94.4	81.8	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: AMEC E&I, Inc. -Kennesaw
Project Name: STI
Workorder: 1612334

ANALYTICAL QC SUMMARY REPORT

BatchID: 234507

Sample ID: **1612334-018AMS**	Client ID: **DUP-1**	Units: **ug/L**	Prep Date: **12/08/2016**	Run No: **331710**
SampleType: **MS**	TestCode: **TCL VOLATILE ORGANICS SW8260B**	BatchID: **234507**	Analysis Date: **12/08/2016**	Seq No: **7221287**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	2330	50	500.0	1711	124	64.3	149				E
Trichloroethene	1971	50	500.0	1477	98.7	70.2	132				
Surr: 4-Bromofluorobenzene	459.0	0	500.0		91.8	66.1	129				
Surr: Dibromofluoromethane	554.0	0	500.0		111	83.6	123				
Surr: Toluene-d8	474.8	0	500.0		95.0	81.8	118				

Sample ID: **1612334-018AMSD**	Client ID: **DUP-1**	Units: **ug/L**	Prep Date: **12/08/2016**	Run No: **331710**
SampleType: **MSD**	TestCode: **TCL VOLATILE ORGANICS SW8260B**	BatchID: **234507**	Analysis Date: **12/08/2016**	Seq No: **7221288**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	2300	50	500.0	1711	118	64.3	149	2330	1.30	30.8	E
Trichloroethene	1928	50	500.0	1477	90.1	70.2	132	1971	2.22	27.7	
Surr: 4-Bromofluorobenzene	463.4	0	500.0		92.7	66.1	129	459.0	0	0	
Surr: Dibromofluoromethane	554.7	0	500.0		111	83.6	123	554.0	0	0	
Surr: Toluene-d8	476.0	0	500.0		95.2	81.8	118	474.8	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

APPENDIX D

MODEL UPDATE

MODEL CALIBRATION – YEAR 2016 (YR 20)
STI SWAINSBORO, GA

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

STI
Swainsboro, GA
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
or 2. Calculate by filling in gray
0.02 cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → **Natural Attenuation Screening Protocol**

TYPE OF CHLORINATED SOLVENT: Ethenes / Ethanes

1. ADVECTION

Seepage Velocity*	Vs	50.0	(ft/yr)
or			
Hydraulic Conductivity	K	7.1E-04	(cm/sec)
Hydraulic Gradient	i	0.0136	(ft/ft)
Effective Porosity	n	0.2	(-)

2. DISPERSION

Alpha x*	11.739	(ft)
(Alpha y) / (Alpha x)*	0.1	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)	
Fraction Organic Carbon, foc	1.0E-3	(-)	
Partition Coefficient	Koc		
PCE	426	(L/kg)	4.41 (-)
TCE	130	(L/kg)	2.04 (-)
DCE	125	(L/kg)	2.00 (-)
VC	30	(L/kg)	1.24 (-)
ETH	302	(L/kg)	3.42 (-)
Common R (used in model)* =			**2.04**

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.000		0.79
TCE → DCE	2.400		0.74
DCE → VC	2.200		0.64
VC → ETH	1.900		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	20	(yr)
Modeled Area Width*	100	(ft)
Modeled Area Length*	350	(ft)
Zone 1 Length*	350	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying / Single Planar

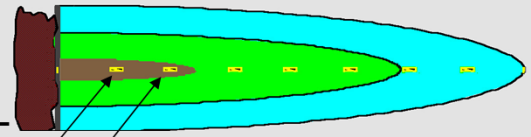
Source Options

Source Thickness in Sat. Zone* 10 (ft)

Y1
Width* (ft) 20

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.1
TCE	28.0	0.1
DCE	18.0	0.1
VC	4.0	0.1
ETH	0.23	0.1

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)			
TCE Conc. (mg/L)	.94	.003	.003
DCE Conc. (mg/L)	1.37	.003	.003
VC Conc. (mg/L)	0.8	.004	.001
ETH Conc. (mg/L)			
Distance from Source (ft)	10	100	350
Date Data Collected	2016		

8. CHOOSE TYPE OF OUTPUT TO SEE:

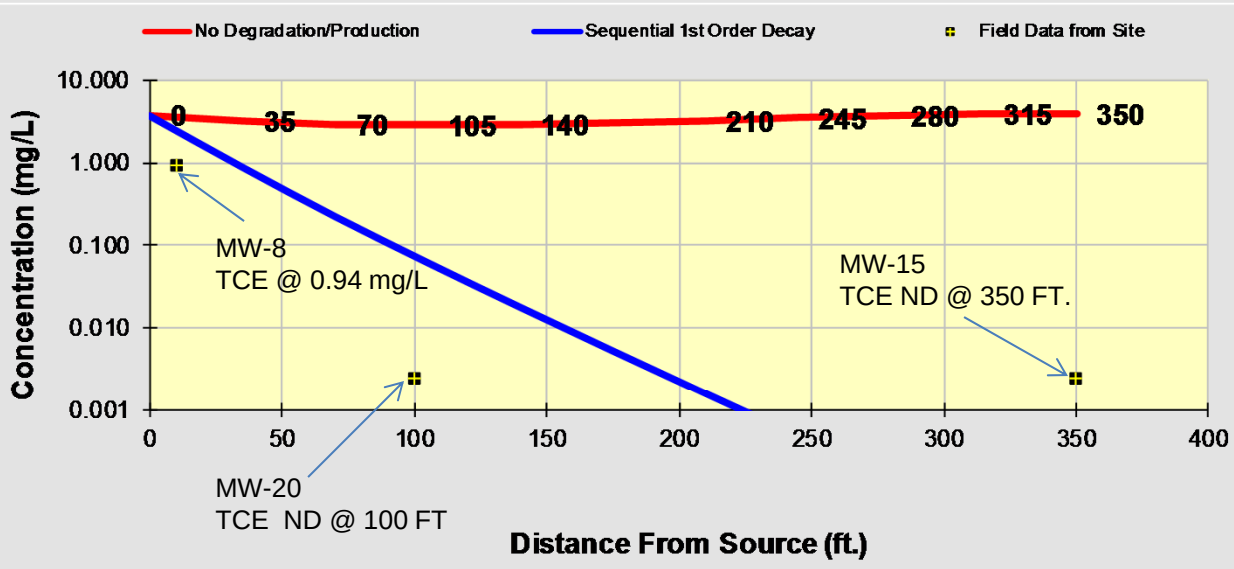
RUN CENTERLINE | **RUN ARRAY** | **Help** | Restore | RESET | SEE OUTPUT | Paste | Unprotect

MODEL CALIBRATION – TCE IN YEAR 2016 (YR 20)
STI SWAINSBORO, GA

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

	Distance from Source (ft)										
TCE	0	35	70	105	140	175	210	245	280	315	350
No Degradation	3.789	3.216	2.891	2.831	2.894	3.032	3.219	3.434	3.649	3.821	3.900
Biotransformation	3.7894	0.904	0.228	0.063	0.018	0.005	0.002	0.000	0.000	0.000	0.000

	Monitoring Well Locations (ft)										
	10	100	350								
Field Data from Site	0.940	0.003	0.003								



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

20.0 Years

Log ⟺ Linear

Unprotect Sheet

Return to Input

To All

To Array

MODEL CALIBRATION – DCE IN YEAR 2016 (YR 20)
STI SWAINSBORO, GA

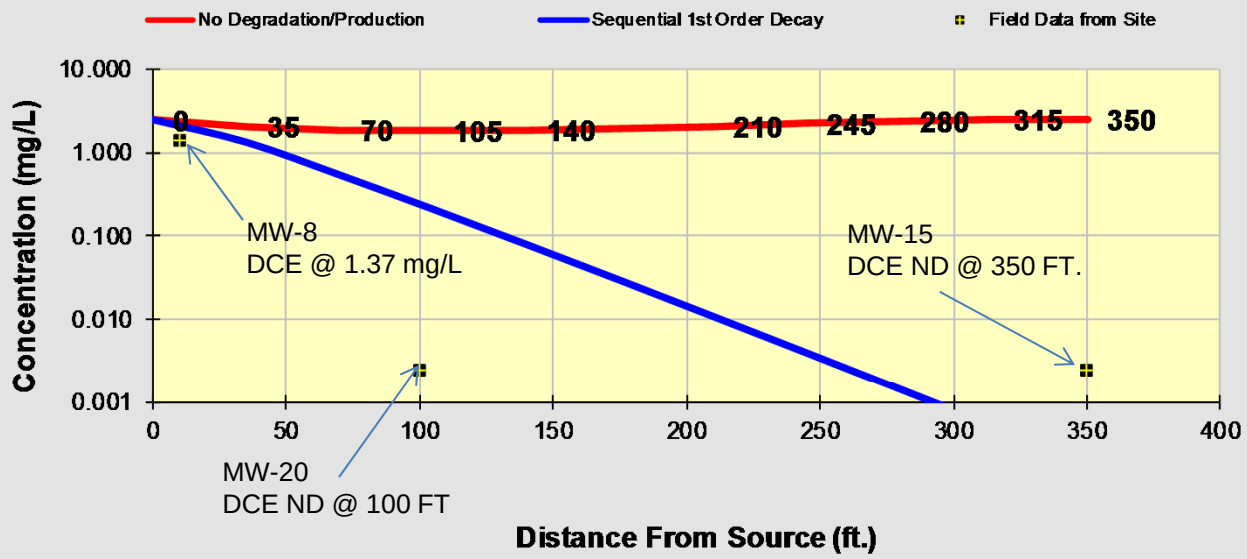
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	35	70	105	140	175	210	245	280	315	350
No Degradation	2.436	2.067	1.859	1.820	1.861	1.949	2.069	2.208	2.346	2.456	2.507
Biotransformation	2.4360	1.308	0.530	0.205	0.078	0.029	0.011	0.004	0.001	0.001	0.000

Monitoring Well Locations (ft)

	10	100	350								
Field Data from Site	1.370	0.003	0.003								



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

20.0 Years

Log ⟺ Linear

Unprotect Sheet

Return to Input

To All

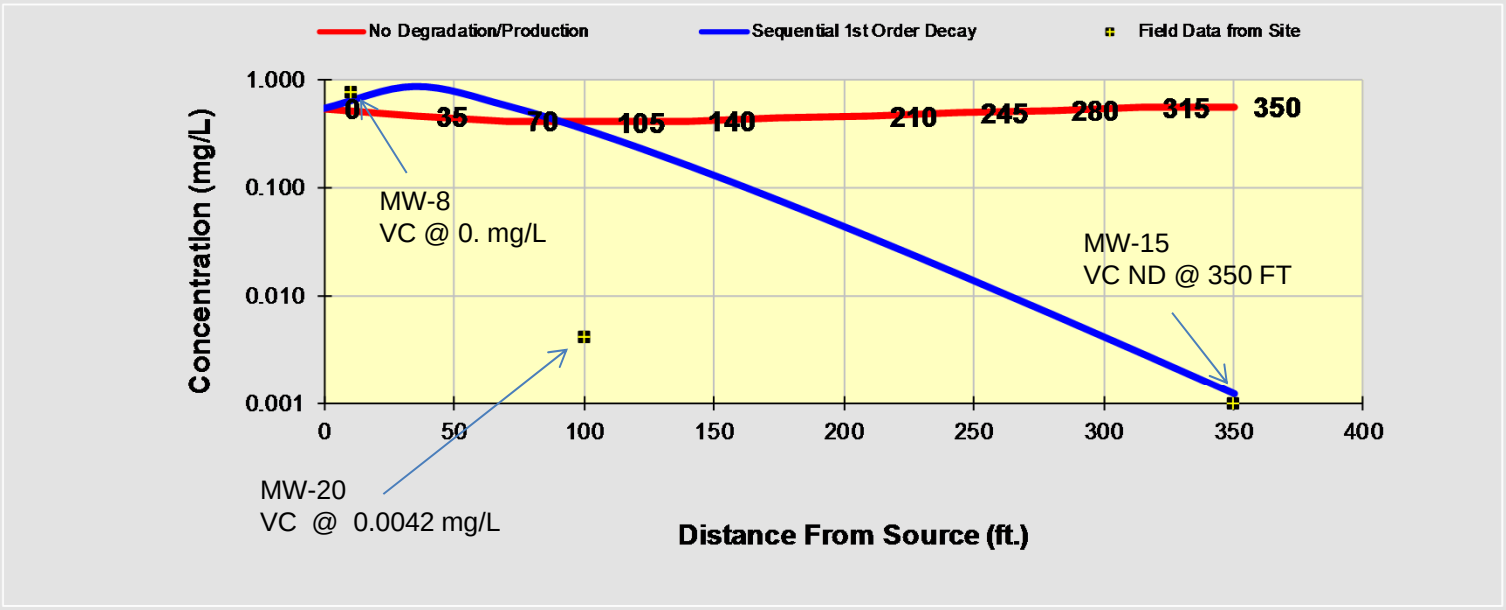
To Array

MODEL CALIBRATION – VC IN YEAR 2016 (YR 20)
STI SWAINSBORO, GA

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

	Distance from Source (ft)										
VC	0	35	70	105	140	175	210	245	280	315	350
No Degradation	0.541	0.459	0.413	0.404	0.413	0.433	0.460	0.491	0.521	0.546	0.557
Biotransformation	0.5413	0.865	0.576	0.318	0.160	0.076	0.035	0.015	0.007	0.003	0.001

	Monitoring Well Locations (ft)										
	10	100	350								
Field Data from Site	0.770	0.004	0.001								



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

20.0 Years

Log ⟺ Linear

Unprotect Sheet

Return to Input

To All

To Array

APPENDIX E

HVE CONTRACTOR REPORT

227 Sandy Springs Place
Suite D-122
Atlanta, Georgia 30328-5918
Phone 404 256 0667
Fax 404 256 0668

October 5, 2016

Mark Andrews
AMEC
1075 Big Shanty Road, NW, Suite 100
Kennesaw, GA 30144

Subject: 8-Hour Multi-Phase Extraction Event
STI Properties, Inc.
162 East Meadowlake Parkway
Swainsboro, GA
Project No. GA91656
AMEC PO No.: C012403501

Dear Mr. Andrews:

Brown Remediation, Inc. is pleased to provide you with this report of our Multi-Phase Extraction (MPE) service conducted at the subject facility on September 28, 2016.

Site monitoring wells MW-8, MW-19, MW-18, MW-20, and MW-21 were gauged before the MPE event with an oil-water interface probe to determine the static depth to groundwater and the presence of light non-aqueous phase liquid (LNAPL). Detectable levels of LNAPL were not observed in monitoring wells measured during the initial gauging event.

MW-8 and MW-19 were used as extraction wells during the MPE event. A drop tube was connected to the vacuum port of the MPE unit before lowering it below the static groundwater level in each extraction well. Vacuum was applied to the drop tube, thereby creating a vacuum influence, which was not detected in adjacent monitoring wells MW-18, MW-20, and MW-21.

Following the MPE event, all wells were again gauged to determine the new static depth to groundwater and the presence of LNAPL. The differences in water levels before and after the event were recorded. No LNAPL was detected in any of the wells measured.

Following is a summary of the site data recorded during the event.

MPE Event Gauging Data Summary

Well	Before Event			Influence Vacuum	After Event			Change in
Number	DTP (ft)	DTW (ft)	Prod.(ft)	Time (EST): 7:00	DTP (ft)	DTW (ft)	Prod.(ft)	Elevation (ft)
MW-8		3.77		7.0" Hg		6.83		-3.06
MW-19		4.30		5.0" Hg		16.23		-11.93
MW-18		3.65		0.00		3.84		-0.19
MW-20		5.51		0.00		5.62		-0.11
MW-21		5.90		0.00		5.96		-0.06

Calculated values for carbon, methane, and hydrocarbon recorded during the MPE event are presented below. In addition, the amount of recovered groundwater, propane consumption, and total MPE event time are noted.

Event Totals	
Total Carbon (lbs)	0.10
Total Methane (lbs)	0.00
Total Hydrocarbon (lbs)	208.21
Equiv. Hydrocarbons (gallons)	17.10
Total Liquid (gallons)	485
Total Propane (gallons)	150.0
Total Event Time (hours)	11.8

Cumulative Totals	
Total Carbon (lbs)	0.38
Total Methane (lbs)	0.00
Total Hydrocarbon (lbs)	976.54
Equiv. Hydrocarbons (gallons)	80.20
Total Liquid (gallons)	4010
Total Propane (gallons)	455.0
Events	4

All extracted groundwater was transported to the local waste water treatment plant located adjacent to the facility.

We appreciate the opportunity to provide you with these services. Please do not hesitate to call if you have any questions.

Sincerely,

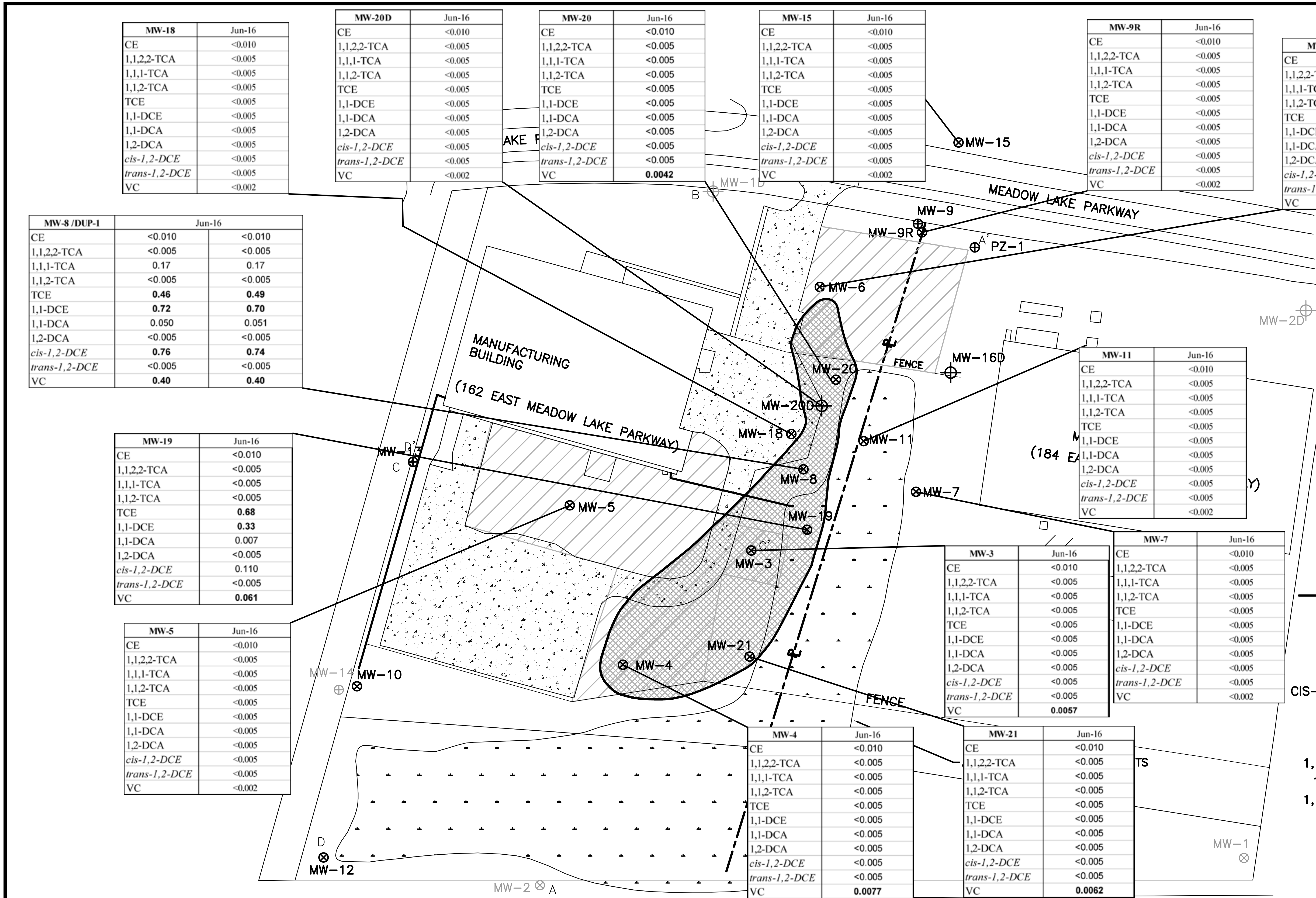
Brown Remediation, Inc.

Thomas Brown

Thomas Brown
Director of Operations

Attachments: Site Map
MPE Event Data Summary
Field Data Sheet
Flow and Hydrocarbon Removal Rates
MPE Technology Description and Calculations
Disposal Manifest

J:\STI\JUNE 2016\FIG 5-VOC CONCEN IN GW-JUNE2016.dwg - Layout1 06/30/2016 4:01pm tonya.gladstone



MW-18	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-20D	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-20	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0042**

MW-15	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-9R	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-6	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-8 /DUP-1	Jun-16	
CE	<0.010	<0.010
1,1,2,2-TCA	<0.005	<0.005
1,1,1-TCA	0.17	0.17
1,1,2-TCA	<0.005	<0.005
TCE	**0.46**	**0.49**
1,1-DCE	**0.72**	**0.70**
1,1-DCA	0.050	0.051
1,2-DCA	<0.005	<0.005
cis-1,2-DCE	**0.76**	**0.74**
trans-1,2-DCE	<0.005	<0.005
VC	**0.40**	**0.40**

MW-19	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	**0.68**
1,1-DCE	**0.33**
1,1-DCA	0.007
1,2-DCA	<0.005
cis-1,2-DCE	0.110
trans-1,2-DCE	<0.005
VC	**0.061**

MW-5	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-11	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-3	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0057**

MW-7	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	<0.002

MW-4	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0077**

MW-21	Jun-16
CE	<0.010
1,1,2,2-TCA	<0.005
1,1,1-TCA	<0.005
1,1,2-TCA	<0.005
TCE	<0.005
1,1-DCE	<0.005
1,1-DCA	<0.005
1,2-DCA	<0.005
cis-1,2-DCE	<0.005
trans-1,2-DCE	<0.005
VC	**0.0062**

LEGEND

⊗	SHALLOW MONITORING WELL
⊕	DEEP MONITORING WELL
	PAVED SURFACE
	FLOODPLAIN
	VOC PLUME ABOVE RISK REDUCTION STANDARDS FOR VC (0.0033 mg/L) IN SHALLOW AQUIFER
	RECENTLY CONSTRUCTED PARKING AREA (PAVED) AND BUILDINGS
— - —	PROPERTY LINE
PPM	PARTS PER MILLION
VOC	VOLATILE ORGANIC COMPOUNDS
1,1,1-TCA	1,1,1-TRICHLOROETHANE (ppm)
TCE	TRICHLOROETHENE (ppm)
CIS-1,2-DCE	CIS-1,2-DICHLOROETHENE (ppm)
1,1-DCE	1,1-DICHLOROETHENE (ppm)
VC	VINYL CHLORIDE (ppm)
CE	CHLOROETHANE (ppm)
1,1,1,2-TCA	1,1,1,2-TETRACHLOROETHANE
1,1,2-TCA	1,1,2-TETRACHLOROETHANE
1,1,-DCA	1,1 - DICHLOROETHANE

SCALE IN FEET

0 100 200

SOURCE: BASE MAP EMCON, 12/98 AND 6/99. NEW SURVEYED POINTS, MW-3, 4, 5, 18, 19, 20 AND 20D, SEPTEMBER 22, 2009.

FORMER AUTOMATIC SPRINKLER SITE
162 EAST MEADOWLAKE PKWY
SWAINSBORO, GEORGIA

amec foster wheeler
Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD, NW, SUITE 100
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 5
VOC CONCENTRATIONS IN GROUNDWATER
JUNE 2016

JOB NO. 6125-08-0149

PREPARED BY/DATE MHA 6/29/2016
CHECKED BY/DATE TRK 6/29/2016

MPE Event Data Summary

STI Properties, Inc.
162 East Meadowlake Parkway, Swainsboro, GA
Operator Name: Chuck Parsons
Date: September 28, 2016
Project # GA91656

Time (EST)	Time Interval (minutes)	Applied Well Head Vacuum					Addl. Ambient Air	Total Velocity	Total Effluent Flow	Well Field Flow	Pump Effluent Temp.	Total Influent FID	Filtered (CH_4) FID	Hydrocarbon Compounds		Before off-gas treatment				Stack Gas Temp.	Effluent Conc. Data	Total Flow Rate	After off-gas treatment		
		MW-8	MW-19													Total Methane Removed	Total Carbon Removed	Total Hydrocarbon Removed					Carbon Emission Rate	Equiv. Hydrocarbon Rate	Destruction Efficiency Rating
		(in/Hg)	(in/Hg)	(in/Hg)	(in/Hg)	(in/Hg)	(SCFM)	ft/sec.	(SCFM)	(SCFM)	(F^0)	(PPMv)	(PPMv)	(PPMv)	(mg/m3)	(lbs./ reading)	(lbs./ reading)	(lbs./ reading)	(gal./ reading)	(F^0)	(PPMv)	(SCFM)	(lbs./ reading)	(lbs./ reading)	%
19:30	0 min.	8.0	8.0				31.2	7.9	95.5	54.3	212.0	130	1	129	137,234	0.000	0.00	0.01	0.001	1217.0		95.46			
20:00	30 min.	8.0	8.0				31.3	9.7	116.5	75.2	210.0	101	1	100	106,383	0.000	0.01	23.19	1.904	1216.0		116.46			
20:30	30 min.	8.0	8.0				31.2	9.7	117.1	75.9	232.0	76	1	75	79,787	0.000	0.01	17.48	1.435	1165.0		117.06			
21:00	30 min.	8.0	8.0				31.0	9.9	119.0	77.9	210.0	45	1	44	46,809	0.000	0.00	10.42	0.856	957.0	7.90	118.96	0.0009	1.8710	82.05%
21:30	30 min.	8.0	8.0				31.0	10.1	121.4	80.4	197.0	48	1	47	50,000	0.000	0.01	11.36	0.933	943.0		121.38			
22:00	30 min.	8.0	8.0				31.1	9.8	117.7	76.6	196.0	42	1	41	43,617	0.000	0.00	9.61	0.789	918.0		117.69			
22:30	30 min.	8.0	8.0				31.1	9.9	118.8	77.6	198.0	43	1	42	44,681	0.000	0.00	9.93	0.816	892.0		118.79			
AVG	435 min.	8.0	5.0				31.1	9.6	115.6	74.5	205.0	35	1	34	36,170	0.002	0.05	113.48	9.319	945.0		115.62			
5:45	0 min.	8.0	8.0				31.1	9.2	111.1	70.0	212.0	27	1	26	27,660	0.000	0.00	0.00	0.000	989.0		111.11			
6:15	30 min.	8.0	8.0				31.1	9.2	111.3	70.1	210.0	25	1	24	25,532	0.000	0.00	5.32	0.437	987.0		111.28			
6:45	30 min.	8.0	8.0				31.1	9.2	110.4	69.2	205.0	20	1	19	20,213	0.000	0.00	4.17	0.343	945.0		110.36			
7:15	30 min.	8.0	8.0				31.2	9.0	108.8	67.6	208.0	16	1	15	15,957	0.000	0.00	3.25	0.267	918.0		108.76			
Average Reading:		**8.0**	**7.8**				**31.1**	**9.4**	**113.6**	**72.4**	**207.9**	**50.7**	**1.0**	**Total Removed:**		**0.003**	**0.10**	**208.21**	**17.099**	**Total Lbs Discharged:**			0.00088	1.87102	82.05%

Comments
AMEC was on site for this event.
Recovered approximately 30 gallons of well purge water from drums on site.

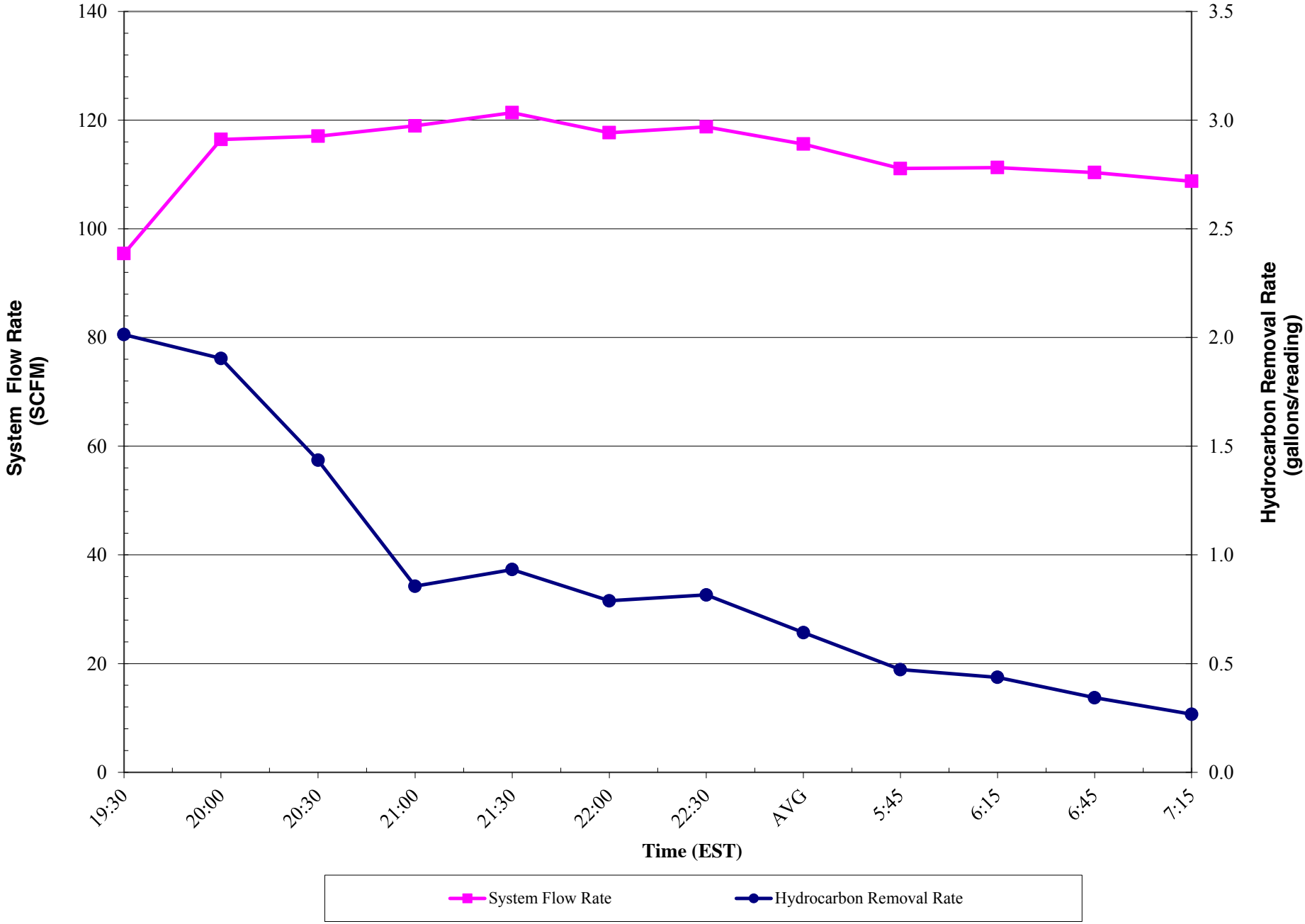
Field Data Sheet

STI Properties, Inc.
162 East Meadowlake Parkway, Swainsboro, GA
Operator Name: Chuck Parsons
Date: September 28, 2016
Project # GA91656

Response Ratio : 0.94
(Gas=600, Diesel=203, JetA=198)
Specific Gravity : 1.46
(Gas=0.74, Diesel=0.83, JetA=0.80)

LINE #	Time (EST)	Time Interval	Dilution Stream		Pump Discharge Stream				Extraction Well #		MW-8	Extraction Well #		MW-19	Extraction Well #			Extraction Well #			Extraction Well #			LINE#
			Bleed Air Diff Press. ("WC)	Bleed Air Temp	Effluent Pressure (psi)	Manifold Vacuum ("Hg")	Effluent Separator Temp	Effluent Diff Press ("WC)	Wellhead Vacuum ("Hg)	Ambient Air (SCFM)	Stinger Depth (ft.)	Wellhead Vacuum ("Hg)	Ambient Air (SCFM)	Stinger Depth (ft.)	Wellhead Vacuum ("Hg)	Ambient Air (SCFM)	Stinger Depth (ft.)	Wellhead Vacuum ("Hg)	Ambient Air (SCFM)	Stinger Depth (ft.)	Wellhead Vacuum ("Hg)	Ambient Air (SCFM)	Stinger Depth (ft.)	
1	19:30	0.01	0.05	87	0.1	17	212	0.31	8	5	6	8	5	6										1
2	20:00	30	0.05	84	0.1	17	210	0.46	8	5	6	8	5	11										2
3	20:30	30	0.05	86	0.1	17	232	0.48	8	5	6	8	5	16										3
4	21:00	30	0.05	92	0.1	17	210	0.48	8	5	6	8	5	16										4
5	21:30	30	0.05	93	0.1	17	197	0.49	8	5	6	8	5	16										5
6	22:00	30	0.05	91	0.1	17	196	0.46	8	5	6	8	5	16										6
7	22:30	30	0.05	88	0.1	17	198	0.47	8	5	6	8	5	16										7
8	AVG	435	0.05	88	0.1	17	205	0.45	8	5	6	5	5	16										8
9	5:45	0.01	0.05	89	0.1	17	212	0.42	8	5	6	8	5	16										9
10	6:15	30	0.05	88	0.1	17	210	0.42	8	5	6	8	5	16										10
11	6:45	30	0.05	89	0.1	17	205	0.41	8	5	6	8	5	16										11
12	7:15	30	0.05	87	0.1	17	208	0.4	8	5	6	8	5	16										12
Average Reading:			0.01	24.14	0.03	4.64	56.70	0.12	2.18	1.36	1.64	2.11	1.36	4.02										

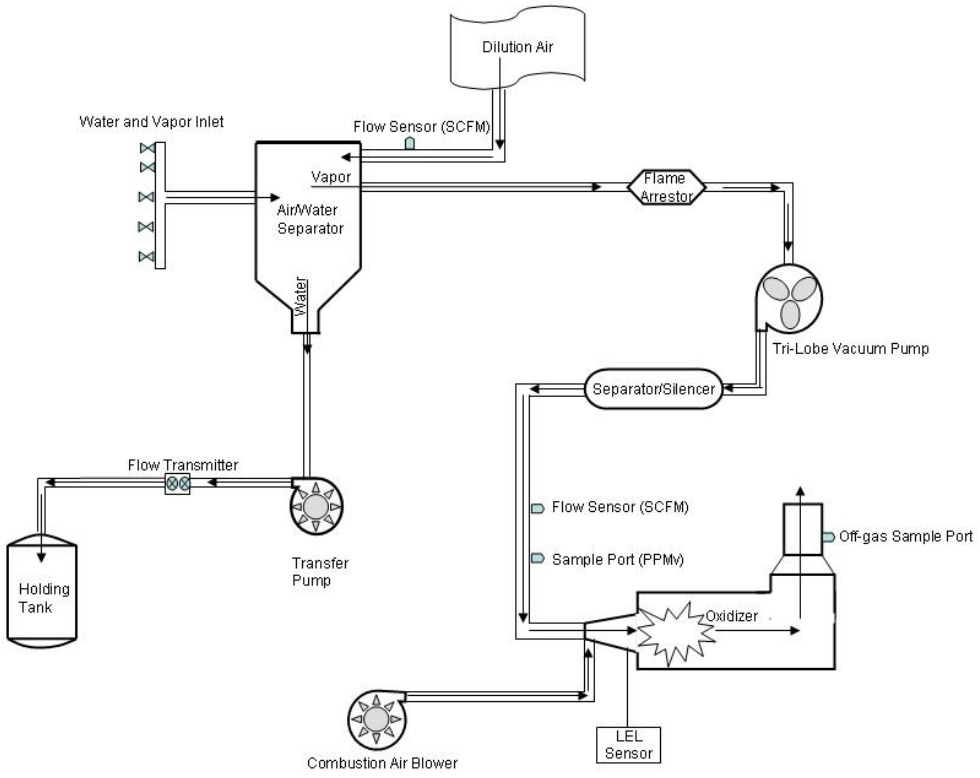
System Flow and Hydrocarbon Removal Rates



Multi-Phase Extraction Technology

Multi-phase extraction (MPE) systems remove vapors and liquids simultaneously from the subsurface. Ambient air (5 to 20 cubic feet per minute) is drawn down the casing of monitoring wells, across the groundwater interface, and back up a drop tube, providing the necessary lift to extract subsurface groundwater. An airflow gauge attached to a well head is used to measure the amount of ambient air, which is subtracted from the total flow. Additionally, vacuum gauges are used to measure the extraction vacuum, as well as the vacuum applied to the subsurface stratigraphy.

The extracted vapors and liquids are transferred to a mobile treatment system, where the liquids are separated and discharged into a storage tank for proper disposal. Soil vapors are transferred to a forced air thermal oxidation (ThOx) unit and incinerated at approximately 1,500 degrees Fahrenheit. The treated air is then discharged into the atmosphere. Following is a process flow diagram for the Brown Remediation, Inc. MPE system.



Summary of Calculations

During the MPE event, a total flow rate measurement of the process stream is taken on the discharge side of the vacuum extraction pump and before off-gas treatment. This measurement is performed using an averaging pitot tube (Dwyer DS-300) attached to a digital differential pressure sensor. This measurement is used to calculate the removal rates and the off-gas emission rates and is reported in actual cubic feet per minute. A separate flow rate is calculated for the extraction well field, as well as for any additional ambient air introduced into the influent stream. To determine the volume of hydrocarbon removed during the event, samples of the extracted vapors are collected from a sample port located before the vapor stream enters the ThOx unit. A second sample port located on the exhaust stack of the ThOx unit provides access for determining the destruction efficiency of the combustion process.

Concentration measurements are taken using a TVA-1000A flame ionization detector (FID) calibrated to methane. This FID instrument has a dynamic range of 0 to 50,000 parts per million (PPM) as methane, and 0 to 100,000 PPM as hydrocarbon. The concentration measurements of the process stream are made after the addition of ambient air at the phase separator and prior to the addition of combustion air at the oxidizer; however, the concentration of the process stream at the sample port exceed the dynamic range of the FID instrument. To accurately record the high concentrations commonly observed during an MPE event, a calibrated 10:1 dilution assembly is used to accurately dilute the sample. This dilution assembly, along with the FID instrument, is calibrated before the start of each event.

To account for naturally occurring methane present during a typical MPE event, two concentration measurements are taken. One unfiltered sample measures the total volatile organic compounds (VOCs) in the subsurface. The other sample is collected using an in-line activated carbon filter, which adsorbs the hydrocarbon compounds, leaving only methane. This methane-only result is then subtracted from the total VOC measurement for use in the mass hydrocarbon removal calculation. However, as with any FID instrument, the non-methane organic compound results are recorded as parts per million by volume (PPMv) as if the concentrations were equivalent to methane gas. A conversion from methane to hydrocarbon, and from volume to weight, is necessary to calculate the accurate hydrocarbon removal. By using the TVA-1000's factory-certified response ratio for various hydrocarbons, the measurements are converted to equivalent hydrocarbon in milligrams per liter (mg/L). For example, a TVA-1000 FID has an average response ratio of 600 PPMv per mg/L for unleaded gasoline and 200 PPMv per mg/L for diesel. Following is a summary of calculations.

Flow

$$Q = 128.8 \times K \times D \times SQRT((P \times dP) / (T + 460) \times Ss)$$

Where:

Q =	Flow expressed in Standard Cubic Feet per Minute (SCFM)
K =	Flow coefficient (provided by Dwyer Instruments, Inc.)
D =	Inside diameter of process line in inches
SQRT =	Square Root
P =	Static line pressure
dP =	Differential pressure expressed in inches of water column (WC)
T =	Temperature in degrees Fahrenheit (plus 460 equals degrees Rankine)

Ss = Specific gravity at 60 degrees Fahrenheit

Conversion of Field Data (PPMv to mg/m^3)

C = (PPMv / R) x (1000 L / 1 m^3)

Where:

R = TVA response ratio supplied in The Foxboro Monitor, Volume 3, Issue 1A (600 PPMv / (mg/L) for gasoline and 200 PPMv / (mg/L) for diesel)

Hydrocarbon Loading Rate

M = Q x C x c

Where:

M = Contaminant loading rate (lbs/hr)

Q = Air flow rate (SCFM)

C = Contaminant concentration (mg/m^3)

c = (1m^3 / 35.31 ft) x (1 lb / 454 x 10^3) x (60 min / 1 hr) = 3.743 x 10^{-6}

Conversion of Pounds of Hydrocarbon to Equivalent Gallons

Equivalent Gallons = Ss x c

Where:

Ss = Specific gravity (0.74 = gasoline, 0.84 = diesel fuel)

c = 8.34 lbs/gallon

227 Sandy Springs Place
Suite D-122
Atlanta, Georgia 30328-5918
Phone 404 256 0667
Fax 404 256 0668

BROWN REMEDIATION

Non-Hazardous Waste Manifest

Manifest No.: 6249 Project No: GA 91658 Quantity in U.S. Gallons: 450

Section 1: Generator

Company Name: STI Properties Inc
Address: 162 East Meadow Lake Pkwy
City: Smithsboro State: GA ZIP:
Phone No.: Fax No.:
Location:
Address:
City: State: ZIP:
Phone No.: Fax No.:
Description of Waste: ~~Pale~~ TCE Contacted WATER

This is to certify that the above-named material is properly described and is in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that the above-named material is not a hazardous waste as defined by 40 CFR, Parts 261 and 279, or any applicable federal, state, or local laws.

Chuck Parsons on Behalf of STI Properties — Authorized Agent
Signature
9/29/16 — Date

Section 2: Transporter

Primary

Company Name: Brown Remediation, Inc
Address: 227 Sandy Springs Place
Suite D-122
City: Atlanta State: GA ZIP: 30328
Phone No.: (404) 256-0667 Fax No.: (404) 256-0668
Driver Name: Chuck Parsons
Truck No.: 1 Vehicle Tag: TP846M

Driver Signature
9/29/16 — Date

Secondary

Company Name:
Address:
City: State: ZIP:
Phone No.: Fax No.:
Driver Name:
Truck No.: Vehicle Tag:

Driver Signature
Date

Section 3: Destination

Company Name: City of Smithsboro
Address:
City: State: ZIP:
Phone No.: Fax No.:

I hereby certify that the above material has been accepted, and to the best of my knowledge, the foregoing is true and accurate.

Kristie Henry — Authorized Agent
Signature
9-29-16 — Date

White – Destination Yellow – Brown Remediation

APPENDIX B
ENVIRONMENTAL COVENANT

After Recording Return to:

Emanuel County Development Authority
124 N. Main St., Swainsboro, GA 30401

CROSS-REFERENCE: Deed Book: 68
Page: 148

Environmental Covenant

This instrument is an Environmental Covenant executed pursuant to the Georgia Uniform Environmental Covenants Act, OCGA § 44-16-1, *et seq.* This Environmental Covenant subjects the Property identified below to the activity and/or use limitations specified in this document. The effective date of this Environmental Covenant shall be the date upon which the fully executed Environmental Covenant has been recorded in accordance with OCGA § 44-16-8(a).

Fee Owner of Property/Grantor: Emanuel County Development Authority
124 N. Main St., Swainsboro, GA 30401

Grantee/Holder: Scott Figgie LLC
34407 DuPont Boulevard, Suite 6, Frankford, DE 19945

Grantee/Entity with express power to enforce: State of Georgia
Department of Natural Resources
Environmental Protection Division
2 Martin Luther King Jr. Drive, SE
Suite 1456 East Tower
Atlanta, GA 30334

Parties with interest in the Property: Kongsberg Interior Systems II dba Kongsberg Automotive (Lessee)
162 East Meadowlake Parkway, Swainsboro, GA 30401

Property:

The property subject to this Environmental Covenant is the Former Automatic Sprinkler Company, located on 162 East Meadowlake Parkway in Swainsboro, Emanuel County, Georgia (hereinafter "Property"). This tract of land was conveyed on November 25, 1994 from Figgie International Real Estate, Inc. to Emanuel County Development Authority recorded in Deed Book 68, Page 148, Emanuel County Records. The Property is located in the 53rd District of Emanuel County, Georgia. The parcel consists of 6.91 acres as described in the Plat of Survey prepared by Lamar O. Reddick dated January 24, 1989 and recorded in Plat Book 14, Page 212. A complete legal description of the Property is attached as Exhibit A and a map of the Property is attached as Exhibit B.

Tax Parcel Number(s):

S12 005 of Emanuel County, Georgia

Name and Location of Administrative Records:

The corrective action at the Property that is the subject of this Environmental Covenant is described in the following documents (as same may be amended from time to time with written approval from EPD):

- Voluntary Remediation Program (VRP) Application (April 2011) and VRP Application Addendum (November 2011)
- Semi-Annual VRP Status Reports 1 through 10 (August 2012 through February 2017)
- VRP Compliance Status Report (February 2017)

These documents are available at the following locations in the files for HSI No. 10268:

Georgia Environmental Protection Division
Response and Remediation Program
2 MLK Jr. Drive, SE, Suite 1054 East Tower
Atlanta, GA 30334
M-F 8:00 AM to 4:30 PM excluding state holidays

Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Rd., Kennesaw, GA 30144

Description of Contamination and Corrective Action:

This Property has been listed on the state's hazardous site inventory and has been designated as needing corrective action due to the presence of hazardous wastes, hazardous constituents, or hazardous substances regulated under state law. Contact the property owner or the Georgia Environmental Protection Division for further information concerning this Property. This notice is provided in compliance with the Georgia Hazardous Site Response Act.

This Declaration of Covenant is made pursuant to the Georgia Uniform Environmental Covenants Act, O.C.G.A. § 44-16-1 *et seq*. by Emanuel County Development Authority, its successors and assigns, Scott Figgie LLC, and the State of Georgia, Department of Natural Resources, Environmental Protection Division (hereinafter "EPD"), its successors and assigns. This Environmental Covenant is required because a release of regulated substances occurred on the Property. Trichloroethene (TCE), 1,1-dichloroethene, cis-1,2-dichloroethene, vinyl chloride, 1,1,1-trichloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, and 1,2-dichloroethane are "regulated substances" as defined under the Georgia Hazardous Site Response Act, O.C.G.A. § 12-8-90 *et seq.*, and the rules promulgated thereunder (hereinafter "HSRA" and "Rules", respectively). The Corrective Action consists of engineering controls (natural attenuation groundwater monitoring system and control of vapor intrusion, and, as appropriate, in the event future buildings are built over impacted areas) and institutional controls (restrict groundwater usage, limit property use to non-residential activities) to protect human health and the environment.

Grantor, Emanuel County Development Authority, hereby binds Grantor, its successors and assigns to the activity and use restriction(s) for the Property identified herein and grants such other rights under this Environmental Covenant in favor of Scott Figgie LLC and the EPD. EPD shall have full right of enforcement of the rights conveyed under this Environmental Covenant pursuant to HSRA, O.C.G.A. § 12-8-90 *et seq*., and the rules promulgated thereunder. Failure to timely enforce compliance with this Environmental Covenant or the use or activity limitations contained herein by any person shall not bar subsequent enforcement by such person and shall not be deemed a waiver of the person's right to take

action to enforce any non-compliance. Nothing in this Environmental Covenant shall restrict EPD from exercising any authority under applicable law.

Emanuel County Development Authority makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, pursuant to O.C.G.A. § 44-16-5(a); is perpetual, unless modified or terminated pursuant to the terms of this Covenant pursuant to O.C.G.A. § 44-16-9 and 10; and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereinafter "Owner"). Should a transfer or sale of the Property occur before such time as this Environmental Covenant has been amended or revoked then said Environmental Covenant shall be binding on the transferee(s) or purchaser(s).

The Environmental Covenant shall inure to the benefit of Scott Figgie LLC, EPD, Emanuel County Development Authority and their respective successors and assigns and shall be enforceable by the Director or his agents or assigns, Scott Figgie LLC or its successors and assigns, Emanuel County Development Authority or its successors and assigns, and other party(ies) as provided for in O.C.G.A. § 44-16-11 in a court of competent jurisdiction.

Activity and/or Use Limitation(s).

1. Registry. Pursuant to O.C.G.A. § 44-16-12, this Environmental Covenant and any amendment or termination thereof, may be contained in EPD's registry for environmental covenants.

2. Notice. The Owner of the Property must give thirty (30) day advance written notice to EPD of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Corrective Action. The Owner of the Property must also give thirty (30) day advance written notice to EPD of the Owner's intent to change the use of the Property, apply for building permit(s), or propose any site work that would affect the Property.

3. Notice of Limitation in Future Conveyances. Each instrument hereafter conveying an interest in the Property subject to this Environmental Covenant shall contain a notice of the activity and use limitations set forth in this Environmental Covenant and shall provide the recorded location of the Environmental Covenant.

4. Monitoring. A Revised Monitoring Plan will be detailed in the VRP CSR (to be submitted in February 2017) and must be implemented by Scott Figgie LLC to evaluate if the groundwater contaminant fate and transport modeling predictions remain valid and to monitor that groundwater concentrations do not migrate off-site at concentrations above allowable drinking water levels.

5. Periodic Reporting. Annually, by no later than February 28, 2018 following the effective date of this Environmental Covenant, Scott Figgie LLC shall submit to EPD an Annual Report as specified in the Revised Monitoring Plan including, but not limited to: groundwater monitoring results, inspection activities, certification of non-residential use of the Property, and documentation stating whether or not the activity and use limitations in this Environmental Covenant are being abided by. A copy of each Report will be provided to the Owner and Lessee.

6. Activity and Use Limitation(s). The Property shall be used only for non-residential uses, as defined in Section 391-3-19-.02 of the Rules and defined in and allowed under the Emanuel County's zoning regulations as of the date of this Environmental Covenant. Any residential use on the Property shall be prohibited. Any activity on the Property that may result in the release or exposure to the regulated substances that were contained as part of the Corrective Action, or create a new exposure

pathway, is prohibited. With the exception of work necessary for the maintenance, repair, replacement of engineering controls, or as otherwise approved by EPD, activities that are prohibited include construction of a new building over impacted areas without additional assessment/mitigation of the vapor intrusion exposure pathway.

7. Groundwater Limitation. The use or extraction of groundwater beneath the Property for drinking water or for any other non-remedial purposes shall be prohibited.

8. Permanent Markers. Permanent markers on each side of the Property shall be installed and maintained, by Scott Figgie LLC, that delineate the restricted area as specified in Section 391-3-19-.07(10) of the Rules. Disturbance or removal of such markers is prohibited.

9. Right of Access. In addition to any rights already possessed by EPD and/or Scott Figgie LLC, the Owner shall allow, or arrange for, authorized representatives of EPD and/or Scott Figgie LLC the right to enter the Property at reasonable times and with reasonable notice for the purpose of evaluating the Corrective Action; taking samples, undertaking and inspecting the Corrective Action conducted at the Property, and determining compliance with this Environmental Covenant. Reasonable accommodations, such as nighttime or weekend work, must be made, at no cost to the Owner or Lessee, if the activities will substantially disrupt the ability of the Lessee to conduct its business.

10. Recording of Environmental Covenant and Proof of Notification. Within thirty (30) days after the date of the Director's signature, the Owner shall file this Environmental Covenant with the Recorders of Deeds for each County in which the Property is located. Scott Figgie LLC shall send a file stamped copy of this Environmental Covenant to EPD within thirty (30) days of recording. Within that time period, Scott Figgie LLC shall also send a file-stamped copy to each of the following: (1) the Owner, (2) each person holding a recorded interest in the Property subject to the covenant, (3) each person in possession of the real property subject to the covenant, (4) each municipality, county, consolidated government, or other unit of local government in which real property subject to the covenant is located, and (5) each owner in fee simple whose property abuts the property subject to the Environmental Covenant.

11. Termination or Modification. The Environmental Covenant shall remain in full force and effect in accordance with O.C.G.A. § 44-16-1 *et seq*., unless and until the Director determines that the Property is in compliance with the Type 1, 2, 3, or 4 Risk Reduction Standards, as defined in Georgia Rules of Hazardous Site Response (Rules) Section 391-3-19-.07, whereupon the Environmental Covenant may be amended or revoked in accordance with Section 391-3-19-08(7) of the Rules and O.C.G.A. § 44-16-1 *et seq*.

12. Severability. If any provision of this Environmental Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

13. No EPD Interest in Property Created. This Environmental Covenant does not in any way create any interest by EPD in the Property that is subject to the Environmental Covenant. Furthermore, the act of approving this Environmental Covenant does not in any way create any interest by EPD in the Property in accordance with O.C.G.A. § 44-16-3(b).

Representations and Warranties.

Grantor hereby represents and warrants to the other signatories hereto:

a) That the Grantor has the power and authority to enter into this Environmental Covenant, to grant the rights and interests herein provided and to carry out all obligations hereunder;
b) That the Grantor is the sole owner of the Property and holds fee simple title which is free, clear and unencumbered;

c) That the Grantor has identified all other parties that hold any interest (e.g., encumbrance) in the Property and notified such parties of the Grantor's intention to enter into this Environmental Covenant;
d) That this Environmental Covenant will not materially violate, contravene, or constitute a material default under any other agreement, document or instrument to which Grantor is a party, by which Grantor may be bound or affected;
e) That the Grantor has served each of the people or entities referenced in Activity 10 above with an identical copy of this Environmental Covenant in accordance with O.C.G.A. § 44-16-4(d);
f) That this Environmental Covenant will not materially violate or contravene any zoning law or other law regulating use of the Property; and
g) That this Environmental Covenant does not authorize a use of the Property that is otherwise prohibited by a recorded instrument that has priority over the Environmental Covenant.

Notices.

Any document or communication required to be sent pursuant to the terms of this Environmental Covenant shall be sent to the following persons:

Georgia Environmental Protection Division
Branch Chief, Land Protection Branch
2 Martin Luther King Jr. Drive SE
Suite 1054 East Tower
Atlanta, GA 30334

Scott Figgie LLC
Attention: Troy Chute
34407 DuPont Boulevard, Suite 6
Frankford, DE 19945

Grantor has caused this Environmental Covenant to be executed pursuant to The Georgia Uniform Environmental Covenants Act, on the 10th day of FEBRUARY, 2017.

Signed, sealed, and delivered in the presence of:

Donna Haddock
Unofficial Witness (*Signature*)

Donna Haddock
Unofficial Witness Name (*Print*)

102 South Main Street
Swainsboro, GA 30401
Unofficial Witness Address (*Print*)

Eliza R. Noles
Notary Public (*Signature*)

My Commission Expires: 2/21/17

For the Grantor:

Emanuel County Development Authority
Name of Grantor (*Print*)

Grantor's Authorized Representative (*Signature*)

G William Donaldson II
Authorized Representative Name (*Print*)

Chairman
Title of Authorized Representative (*Print*)

Dated: 2/10/17

(NOTARY SEAL)

ELIZA RENEE NOLES
NOTARY PUBLIC
Candler County
State of Georgia
My Comm. Expires Feb. 21, 2017

Signed, sealed, and delivered in the presence of:

_____
Unofficial Witness *(Signature)*

_____
Unofficial Witness Name *(Print)*

_____
Unofficial Witness Address *(Print)*

_____
Notary Public *(Signature)*

My Commission Expires:_____

For the State of Georgia
Environmental Protection Division:

_____ (Seal)
(Signature)

Judson H. Turner
Director

Dated:_____

(NOTARY SEAL)

Signed, sealed, and delivered in the presence of:

Carlyn Vickers
Unofficial Witness *(Signature)*

Carlyn Vickers
Unofficial Witness Name *(Print)*

904 Coastal Hwy
Fenwick Island DE 19944
Unofficial Witness Address *(Print)*

Notary Public *(Signature)* Melissa von Bank

My Commission Expires: 10/30/18

For the Holder:

Scott Figgie LLC
Name of Holder *(Print)*

Holder's Authorized Representative *(Signature)*

Troy L. Chute
Authorized Representative Name *(Print)*

Claims Manager
Title of Authorized Representative *(Print)*

Dated: 2/22/17
(NOTARY SEAL)

MELISSA LYNN VON BANK
Notary Public
State of Delaware
My Commission Expires On
October 20, 2018

Exhibit A
Legal Description

Emanuel County, Georgia
REAL ESTATE TRANSFER TAX
Paid 170.00
Date Dec. 20, 1994
Jay Lawson
Clerk of Superior Court

E8-0148

LIMITED WARRANTY DEED

GEORGIA, EMANUEL COUNTY.

THIS INDENTURE, Made and entered into this 25th day of December, 1994, between **FIGGIE INTERNATIONAL REAL ESTATE, INC.**, a corporation organized and existing under and by virtue of the laws of the State of Delaware with its principal office in Lake County, Ohio, of the First Part, and **EMANUEL COUNTY DEVELOPMENT AUTHORITY**, an instrumentality and public corporation of the State of Georgia, of the County of Emanuel and State of Georgia, of the Second Part: WITNESSETH:

That the said Party of the First Part, for and in consideration of the sum of OTHER VALUABLE CONSIDERATION AND TEN AND NO/100 DOLLARS in hand paid, at and before the sealing and delivering of these presents, the receipt whereof is hereby acknowledged, has granted, bargained, sold, aliened, conveyed, and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm unto the said Party of the Second Part, its heirs and assigns, all the following described property, to-wit:

All those tracts or parcels of land, lying and being in the City of Swainsboro, 53rd G.M. District of Emanuel County, Georgia, and being designated as **PARCEL NO. 3, TRACT NO. 1**, containing 5.01 acres, **PARCEL NO. 3, TRACT NO. 2**, containing .52 of an acre, and **PARCEL NO. 3, TRACT NO. 3**, containing 1.38 acres, all as shown on a plat of survey prepared by Lamar O. Reddick, Georgia Registered Surveyor No. 1387, dated January 24, 1989, and recorded in Plat Book 14, page 212, Emanuel County Clerk's Office. Reference is hereby made to said plat for descriptive and all other legal purposes.

Said property is the same as that described in a Limited Warranty Deed dated October 27, 1989, from Figgie International, Inc., to Figgie International Real Estate, Inc., which is recorded in the Office of Clerk, Emanuel Superior Court in Deed Book 17,

page 124. Parcel No. 3, Tract No. 1, containing 5.01 acres, is the same as a 4.976 acre tract conveyed by A-T-O, Inc., formerly "Automatic" Sprinkler Corporation of America, to American LaFrance, Inc., by a Warranty Deed dated June 5, 1972, which is recorded in Emanuel County Records in Deed Book FX, pages 354-356. Parcel No. 3, Tract No. 2 is the same as that described as Parcel No. 2, conveyed by A-T-O, Inc., formerly "Automatic" Sprinkler Corporation of America, to American LaFrance, Inc., by a Warranty Deed dated June 5, 1972, which is recorded in Emanuel County Records in Deed Book FX, pages 354-356. Parcel No. 3, Tract No. 3, containing 1.38 acres is the same as a 1.377 acre tract conveyed by a Warranty Deed dated August 22, 1972, from Emanuel County Development Authority to American LaFrance, Inc., which is recorded in Emanuel County Records in Deed Book FY, page 312. Pursuant to a Merger Name Change dated June 6, 1975, American LaFrance, Inc., became A-T-O, Inc. Said Merger Name Change being recorded in Emanuel County Records in Deed Book 12, pages 124-129. Pursuant to Articles of Incorporation dated May 20, 1981, A-T-O, Inc., became Figgie International, Inc. Said Articles of Incorporation are recorded in Emanuel County Records in Deed Book 12, pages 130-132.

Said property is subject to the following:

1. Easement to American Telephone and Telegraph Company, recorded in Deed Book DB, page 516, Emanuel County Records.

2. Easement to The Altamaha Electric Membership Corporation recorded in Deed Book ER, page 117, Emanuel County Records.

3. Easement to Emanuel County, recorded in Deed Book EY, page 534, Emanuel County Records.

4. Easement to State Highway Department of Georgia, recorded in Deed Book FB, page 88, Emanuel County Records.

5. Easements to Georgia Power Company, recorded in Deed Book FF, page 470, Deed Book FI, page 298, Deed Book FB, page 333, and Deed Book FG, page 491, Emanuel County Records.

6. All other easements for utilities and road right-of-ways that are currently in use.

68-150

TO HAVE AND TO HOLD the said above granted and described property, with all and singular the rights, members and appurtenances thereunto appertaining, to the only proper use, benefit and behoof of the said Party of the Second Part, its heirs, executors, administrators and assigns, in FEE SIMPLE; and said Party of the First Part specifically warrants the title to the said bargained property above described against the lawful claims of all persons claiming by, through or under the Party of the First Part.

IN WITNESS WHEREOF, the said Party of the First Part has hereunto set its hand and seal, and delivered these presents, the day and year first above written.

FIGGIE INTERNATIONAL REAL ESTATE, INC.

BY: _____, Pres. LS

SEAL

ATTEST: _____, Secy. LS

Signed, Sealed and Delivered
in the Presence of:

_____
Witness

_____
Notary Public

SHARON D. SILVER
Notary Public, State of Ohio
Recorded in Cuyahoga County
My Commission Expires June 8, 1999

N. P.
SEAL

RECORDED
THIS 20 DAY OF Dec. 1994

_____
CLERK

Exhibit B
Map of the Property

PARCEL INFORMATION TABLE	
Selected Parcel	S12 005
Class Code (NOTE: Not Zoning Info)	E1
Taxing District	SWAINSBORO
Acres	6.91

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

BT-OH LLC
Real Estate
P.O. Box 2806
Atlanta, GA 30358

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* [illegible] C. Date of Delivery 10/6

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7011 2970 0000 1477 8680

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ogeechee Steel
P.O. Box 1469
Swainsboro, GA
30401

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Lorella Dixon ☒ Agent ☐ Addressee

B. Received by *(Printed Name)* Lorella Dixon C. Date of Delivery 10/7/16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7011 2970 0000 1477 8673

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Lyndon Singletary
County Admin.
P.O. Box 787
Swainsboro, GA
30401

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Danny Holden ☒ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 10-16-17

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service* 7011 2970 0000 1477 8710

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Gerald Scott
149 E Meadowlake
Swainsboro, GA
30401

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Joyce Scott ☐ Agent ☐ Addressee

B. Received by (Printed Name) Joyce Scott
C. Date of Delivery 10/17/16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 1870 0000 0937 5837

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Jerry Rich
155 Royal Dr.
Brunswick, GA
31523

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Marie Rich ☐ Agent ☒ Addressee

B. Received by (Printed Name) Marie Rich
C. Date of Delivery 10-18-16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 1870 0000 0937 5820

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Anita Bucci
Kongsberg Auto
111 Kayaker Way
Easley, SC 29642

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name)
C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7011 2970 0000 1477 8727

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mayor Charles Schwabe
City Hall
101 W. Main St.
Swainsboro, GA
30401

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☑ Agent ☐ Addressee

B. Received by *(Printed Name)* Renee Price
C. Date of Delivery 10-14-16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☑ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7011 2970 0000 1477 8703

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1

APPENDIX C
ACTIVITY AND USE LIMITATION INSPECTION FORM

ACTIVITY AND USE LIMITATIONS INSPECTION FORM

Former Automatic Sprinkler Site
162 East Meadowlake Parkway
Swainsboro, Georgia

VERIFICATION OF SITE ACTIVITY AND USE LIMITATIONS		
ONSITE	Has the property ownership changed?	Yes ☐ No ☐
	Has the property lessee (tenant) changed?	Yes ☐ No ☐
	Is the property being used for non-residential purposes?	Yes ☐ No ☐
	Are monitoring wells being used for unauthorized purposes?	Yes ☐ No ☐
	Have any new water wells been installed on the property?	Yes ☐ No ☐
	Have any new structures been constructed on the property?	Yes ☐ No ☐
	Are all permanent markers/signage still in place as designed?	Yes ☐ No ☐
OFFSITE	Are adjacent properties being used for non-residential purposes?	Yes ☐ No ☐
	Has adjacent property usage or ownership changed?	Yes ☐ No ☐
	Have any water wells been installed on adjacent properties?	Yes ☐ No ☐

REMARKS (provide additional information on all "Yes" responses and/or other relevant site detail)

INSPECTOR INFORMATION	
Inspector Name:	Inspector Title:
Inspector Signature:	Inspection Date:

REGISTERED PROFESSIONAL CERTIFICATION

I certify that I have personnally examined and am familiar with the information in the evaluation form and based on my inquiry of those persons immediately responsible for completion of this evaluation, I believe the information is true, accurate, and complete.

Name and Title: _____

Signature and Date: _____