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**Amec Foster Wheeler Environment & Infrastructure, Inc.**



Gregory J. Wrenn, P.E.  
Project Manager

# Voluntary Remediation Program Status Report No. 8

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



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**Prepared for:** Scott Figgie LLC  
34407 DuPont Boulevard, Suite 6, Frankfort, DE 19945

**Date:** February, 2016

**Prepared by:** Amec Foster Wheeler Environment & Infrastructure, Inc.  
1075 Big Shanty Road NW, Suite 100, Kennesaw, Georgia 30144

**Project No.:** 6125080149

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February 16, 2016



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. 8  
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. 8 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 June 2015 and December 2015.

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

Sincerely,

**Amec Foster Wheeler Environment & Infrastructure, Inc.**

A handwritten signature in blue ink, reading "Tanya R. Kinnard".

Tanya R. Kinnard, CHMM By  with permission  
Senior Professional

A handwritten signature in blue ink, reading "Gregory J. Wren".

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

Attachment: VRP Status Report No. 8

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

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## 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.

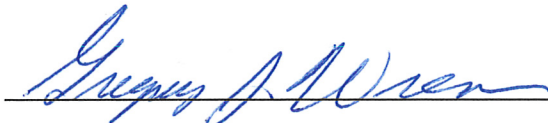
The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

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

Printed Name and GA PE Number

February 16, 2016

Date



Signature and Stamp



## **2.0 Introduction and Background**

This Voluntary Remediation Program (VRP) Semi-Annual Status Report No. 8 (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 eighth Status Report covers the activities conducted subsequent to Semi-Annual Status Report No. 7 submitted to the EPD on August 20, 2015.

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 a recent 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, volatile organic compounds (VOCs) were detected in the subsurface. The VOC impacts have been the primary focus of the recent 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 volatile organic compounds (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 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.
- Amec Foster Wheeler submitted a response to the EPD comments on VRP Status Report No. 6 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.

### **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. An additional voluntary remediation activity (not specified in the VRP Application or VRP Application Addendum), a high vacuum extraction (HVE) event, was conducted during this reporting period 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 December 2015.

#### **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, which is well in excess of the \$190,000 estimated cost to implement the VRP submitted in the VRP Application Addendum. The letter of credit automatically renews each year on March 25. The current estimated cost to implement the VRP is included as Table 2. The estimate contains a contingency cost allowance for conducting additional HVE events (that were not part of the approved VRP). The current estimated cost for continued VRP implementation is \$87,180. Based upon the current site data, the financial assurance appears sufficient for completion of the VRP implementation at the site.

#### **3.2 Groundwater and Surface Water Sampling**

Groundwater and surface water sampling was conducted on December 7-9, 2015. 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 3. The December 2015 groundwater elevations in the shallow zone averaged approximately 0.51 foot higher in elevation than those measured during the June 2015 sampling event. The measured groundwater elevations in the wells screened in the deep zone averaged approximately 0.61 feet higher in elevation than those measured in June 2015. Shallow zone potentiometric surface maps for December 2015 and June 2015 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 December 2015 and June 2015 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-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. 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 SEDS 4.3.1.2.7. The groundwater samples were analyzed for site-specific VOCs using USEPA Method 8260B. Appendix A contains copies of groundwater sampling logs.

The analytical results for the December 2015 groundwater sampling event are summarized on Table 4, along with historical analytical results. Constituent concentrations were similar to prior results, with generally stable or decreasing trends. 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 December 2015 event and the interpreted extent of VOCs in groundwater. No VOCs were reported above their method detection limits in monitoring well MW-20D during the December 2015 sampling event, thus indicating vertical delineation. VOCs were not detected in off-site monitoring wells. The laboratory analytical report is provided in Appendix C.

The sampling results from MW-8 showed an increase in concentrations of TCE, 1,1-DCE, and 1,1,1-TCA in comparison to the June 2015 sampling event. A similar increase was observed in MW-8 following the July 2015 HVE event. In MW-19, TCE and cis-1,2-DCE concentrations have decreased steadily from September 2014 to December 2015. 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 were collected 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. 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 5, all surface water sample results from the December 2015 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, a 24-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 7.68 feet, and the fluid level in MW-19 drew down 5.03 feet at the completion of the event. Water levels in monitoring wells surrounding MW-8 and MW-19 dropped by 0.22 feet (MW-18), 0.21 feet (MW-21), 0.12 feet (MW-3), and 0.06 feet (MW-20) and over the course of the event. Vacuum influence was gauged in the same wells, but was only observed in MW-18, MW-20, and MW-21. Based upon organic vapor analyzer (OVA) readings collected over the 24-hour extraction period, approximately 375 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 1,300 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 prescribed 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 E.

#### **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 2015 data is assumed to be 19 years since the release. The average of the 2015 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 2015 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. An updated comparison of BIOCHLOR model results to actual concentrations will be updated every other sampling event moving forward.



## **5.0 Conclusions**

The December 2015 groundwater flow direction is consistent with previous data. No 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 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 the Former Automatic Sprinkler Site.

A Uniform Environmental Covenant (UEC) will be executed for the property to prohibit the use of groundwater. It is anticipated that the UEC will be in place by the end of the 5-year VRP implementation period. 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. The next routine groundwater sampling event will be conducted in the June 2016 timeframe with the next VRP status report scheduled for submittal by August 24, 2016. An updated milestone schedule for VRP implementation activities is included as Figure 7.

## **6.0 Professional Hours Services this Period**

Amec Foster Wheeler Environment & Infrastructure, Inc. has provided 203.1 professional service hours for VRP implementation from July 25, 2015 through January 22, 2016. The registered professional engineer responsible for implementation of the VRP at this site is Mr. Gregory Wrenn. Mr. Wrenn has personally charged 25.5 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**

**Table 1**  
**Summary of Delineation Criteria and Cleanup Standards**

| 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              |
| <b>Groundwater Constituents</b> | <b>mg/L</b>          | <b>Groundwater Cleanup Value mg/L</b> |                                      |                                                    |
| 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**  
**ESTIMATED COST FOR VRP IMPLEMENTATION**  
**FORMER AUTOMATIC SPRINKLER, SWAINSBORO, GEORGIA**

| Task #     | Task Description                                                  | Quantity | Unit     | Unit Cost | Total           | Notes                                                                         |
|------------|-------------------------------------------------------------------|----------|----------|-----------|-----------------|-------------------------------------------------------------------------------|
| <b>1.0</b> | <b>Annual Sampling, Reporting, Inspections, &amp; Maintenance</b> |          |          |           |                 |                                                                               |
| 1.1        | Semi-Annual Groundwater Sampling                                  |          |          |           |                 |                                                                               |
|            | Labor                                                             | 2        | event    | \$3,000   | \$6,000         | Assumes 3 days/event, 2-man crew<br>VOCs, hydrogen, methane, ethane<br>ethene |
|            | Laboratory Analytical                                             | 22       | ea       | \$280     | \$6,160         |                                                                               |
|            | Rental Equipment                                                  | 2        | event    | \$800     | \$1,600         |                                                                               |
|            | Mobilization/Demobilization/Travel Expenses/Supplies              | 2        | event    | \$1,200   | \$2,400         |                                                                               |
| 1.2        | Semi-Annual Surface Water Sampling                                |          |          |           |                 |                                                                               |
|            | Labor                                                             | 2        | event    | \$500     | \$1,000         | Assumes 1 day/event, 2-man crew<br>VOCs                                       |
|            | Laboratory Analytical                                             | 4        | ea       | \$80      | \$320           |                                                                               |
|            | Expenses/Supplies                                                 | 2        | ea       | \$100     | \$200           |                                                                               |
| 1.3        | Reporting                                                         | 2        | ea       | \$8,500   | \$17,000        |                                                                               |
| 1.4        | Other Costs (covenant, inspections, EPD comments/invoices)        | 1        | ea       | \$2,500   | \$2,500         |                                                                               |
|            | <b>SUBTOTAL - Annual Costs</b>                                    |          |          |           | <b>\$37,180</b> |                                                                               |
| <b>2.0</b> | <b>Supplemental Hi-Vacuum Remediation Events</b>                  | 2        | ea       | \$15,000  | <b>\$30,000</b> |                                                                               |
| <b>3.0</b> | <b>Post-Implementation Compliance Status Report</b>               | 1        | ea       | \$20,000  | <b>\$20,000</b> |                                                                               |
| Year       | Cost Description                                                  | Task 1   | Task 2   | Task 3    | Yearly Cost     |                                                                               |
| 2016       | Annual Costs + HVR Events                                         | \$37,180 | \$30,000 |           | \$67,180        |                                                                               |
| 2017       | CSR                                                               |          |          | \$20,000  | \$20,000        |                                                                               |
|            | <b>TOTAL PROJECTED COST</b>                                       |          |          |           | <b>\$87,180</b> |                                                                               |

Prepared by: MHA 2/10/2016  
Checked by: TRK 2/10/2016

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.

**Table 3**  
**Summary of Groundwater Elevations June 2008 Through June 2015**

| Well ID                    | TOC<br>Elevation<br>(FT MSL) | Depth to<br>Water<br>6/4/2008<br>(FT BTOC) | Groundwater<br>Elevation<br>6/4/2008<br>(FT MSL) | Depth to<br>Water<br>4/14/2009<br>(FT BTOC) | Groundwater<br>Elevation<br>4/14/2009<br>(FT MSL) | Depth to<br>Water<br>9/17/2009<br>(FT BTOC) | Groundwater<br>Elevation<br>9/17/2009<br>(FT MSL) | Depth to<br>Water<br>11/30/2009<br>(FT BTOC) | Groundwater<br>Elevation<br>11/30/2009<br>(FT MSL) | Depth to<br>Water<br>5/17/2010<br>(FT BTOC) | Groundwater<br>Elevation<br>5/17/2010<br>(FT MSL) | Depth to<br>Water<br>11/18/2010<br>(FT BTOC) | Groundwater<br>Elevation<br>11/18/2010<br>(FT MSL) |
|----------------------------|------------------------------|--------------------------------------------|--------------------------------------------------|---------------------------------------------|---------------------------------------------------|---------------------------------------------|---------------------------------------------------|----------------------------------------------|----------------------------------------------------|---------------------------------------------|---------------------------------------------------|----------------------------------------------|----------------------------------------------------|
| <b>Shallow<br/>Aquifer</b> |                              |                                            |                                                  |                                             |                                                   |                                             |                                                   |                                              |                                                    |                                             |                                                   |                                              |                                                    |
| 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                                             |
| 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                                             |
| 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                                             |
| 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                                             |
| MW-5                       | 286.71                       | 6.57                                       | 280.14                                           | 4.00 <sup>1</sup>                           | 282.71                                            | 6.22                                        | 280.49                                            | 6.29                                         | 280.42                                             | 6.18                                        | 280.53                                            | 7.86                                         | 278.85                                             |
| 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                                             |
| 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                                             |
| 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                                             |
| 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                                             |
| 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                                             |
| 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                                             |
| 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                                             |
| 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                                             |
| MW-18                      | 281.27                       | NI                                         | NI                                               | NI                                          | NI                                                | 3.55                                        | 277.72                                            | 2.64                                         | 278.63                                             | 2.87                                        | 278.40                                            | 4.16                                         | 277.11                                             |
| MW-19                      | 281.80                       | NI                                         | NI                                               | NI                                          | NI                                                | 4.13                                        | 277.67                                            | 3.23                                         | 278.57                                             | 3.00                                        | 278.80                                            | 2.81                                         | 278.99                                             |
| MW-20                      | 282.99                       | NI                                         | NI                                               | NI                                          | NI                                                | 5.15                                        | 277.84                                            | 4.77                                         | 278.22                                             | 4.53                                        | 278.46                                            | 5.78                                         | 277.21                                             |
| MW-21                      | 284.12                       | NI                                         | NI                                               | NI                                          | NI                                                | NI                                          | NI                                                | NI                                           | NI                                                 | NI                                          | NI                                                | NI                                           | NI                                                 |
| <b>Deep<br/>Aquifer</b>    |                              |                                            |                                                  |                                             |                                                   |                                             |                                                   |                                              |                                                    |                                             |                                                   |                                              |                                                    |
| 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                                             |
| 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                                             |
| 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                                             |
| MW-20D                     | 281.21                       | NI                                         | NI                                               | NI                                          | NI                                                | 6.59                                        | 274.62                                            | 6.08                                         | 275.13                                             | 7.35                                        | 273.86                                            | 6.79                                         | 274.42                                             |

**Notes:**

BTOC: Below top of casing  
FT MSL: Feet mean sea level  
NM: not measured  
NI = Not Installed

<sup>1</sup> Water level measurement collected on 4/15/2009  
\* Water level measurements collected on 5/31/2012

**Table 3**  
**Summary of Groundwater Elevations June 2008 Through December 2015**

| Well ID                | TOC<br>Elevation<br>(FT MSL) | Depth to<br>Water<br>5/30/2012<br>(FT BTOC) | Groundwater<br>Elevation<br>5/30/2012<br>(FT MSL) | Depth to<br>Water<br>12/13/2012<br>(FT BTOC) | Groundwater<br>Elevation<br>12/13/2012<br>(FT MSL) | Depth to<br>Water<br>6/5/2013<br>(FT BTOC) | Groundwater<br>Elevation<br>6/5/2013<br>(FT MSL) | Depth to<br>Water<br>12/3/2013<br>(FT BTOC) | Groundwater<br>Elevation<br>12/3/2013<br>(FT MSL) | Depth to<br>Water<br>6/2/2014<br>(FT BTOC) | Groundwater<br>Elevation<br>6/2/2014<br>(FT MSL) | Depth to<br>Water<br>12/1/2014<br>(FT BTOC) | Groundwater<br>Elevation<br>12/1/2014<br>(FT MSL) | Depth to<br>Water<br>6/16/2015<br>(FT BTOC) | Groundwater<br>Elevation<br>6/16/2015<br>(FT MSL) | Depth to<br>Water<br>12/7/2015<br>(FT BTOC) | Groundwater<br>Elevation<br>12/7/2015<br>(FT MSL) |
|------------------------|------------------------------|---------------------------------------------|---------------------------------------------------|----------------------------------------------|----------------------------------------------------|--------------------------------------------|--------------------------------------------------|---------------------------------------------|---------------------------------------------------|--------------------------------------------|--------------------------------------------------|---------------------------------------------|---------------------------------------------------|---------------------------------------------|---------------------------------------------------|---------------------------------------------|---------------------------------------------------|
| <b>Shallow Aquifer</b> |                              |                                             |                                                   |                                              |                                                    |                                            |                                                  |                                             |                                                   |                                            |                                                  |                                             |                                                   |                                             |                                                   |                                             |                                                   |
| MW-1                   | 292.71                       | NM                                          | NM                                                | 12.63                                        | 280.08                                             | 9.74                                       | 282.97                                           | 10.58                                       | 282.13                                            | 8.82                                       | 283.89                                           | 9.61                                        | 283.10                                            | 8.66                                        | 284.05                                            | 8.40                                        | 284.31                                            |
| MW-2                   | 285.70                       | 5.14                                        | 280.56                                            | 6.14                                         | 279.56                                             | 5.83                                       | 279.87                                           | 4.91                                        | 280.79                                            | 4.94                                       | 280.76                                           | 4.88                                        | 280.82                                            | 5.21                                        | 280.49                                            | 4.50                                        | 281.20                                            |
| MW-3                   | 281.17                       | 2.31                                        | 278.86                                            | 3.03                                         | 278.14                                             | 2.98                                       | 278.19                                           | 2.70                                        | 278.47                                            | 2.51                                       | 278.66                                           | 2.98                                        | 278.19                                            | 2.87                                        | 278.30                                            | 2.32                                        | 278.85                                            |
| MW-4                   | 281.84                       | 1.71                                        | 280.13                                            | 3.11                                         | 278.73                                             | 2.25                                       | 279.59                                           | 2.02                                        | 279.82                                            | 1.40                                       | 280.44                                           | 2.43                                        | 279.41                                            | 1.55                                        | 280.29                                            | 1.30                                        | 280.54                                            |
| MW-5                   | 286.71                       | *6.65                                       | 280.06                                            | 8.42                                         | 278.29                                             | 6.49                                       | 280.22                                           | 7.51                                        | 279.20                                            | 5.78                                       | 280.93                                           | 7.29                                        | 279.42                                            | 5.58                                        | 281.13                                            | 5.63                                        | 281.08                                            |
| MW-6                   | 281.00                       | 4.40                                        | 276.60                                            | 5.32                                         | 275.68                                             | 4.16                                       | 276.84                                           | 4.72                                        | 276.28                                            | 3.59                                       | 277.41                                           | 4.69                                        | 276.31                                            | 3.41                                        | 277.59                                            | 3.50                                        | 277.50                                            |
| MW-7                   | 281.33                       | 2.71                                        | 278.62                                            | 3.33                                         | 278.00                                             | 3.50                                       | 277.83                                           | 3.24                                        | 278.09                                            | 3.53                                       | 277.80                                           | 3.50                                        | 277.83                                            | 3.75                                        | 277.58                                            | 2.90                                        | 278.43                                            |
| MW-8                   | 281.28                       | 2.13                                        | 279.15                                            | 3.20                                         | 278.08                                             | 3.36                                       | 277.92                                           | 3.05                                        | 278.23                                            | 3.06                                       | 278.22                                           | 3.21                                        | 278.07                                            | 3.40                                        | 277.88                                            | 2.62                                        | 278.66                                            |
| MW-9R                  | 278.31                       | 2.51                                        | 275.80                                            | 3.16                                         | 275.15                                             | 3.00                                       | 275.31                                           | 3.48                                        | 274.83                                            | 2.70                                       | 275.61                                           | 3.14                                        | 275.17                                            | 2.84                                        | 275.47                                            | 2.50                                        | 275.81                                            |
| MW-10                  | 289.37                       | 4.28                                        | 285.09                                            | 7.15                                         | 282.22                                             | 6.47                                       | 282.90                                           | 6.65                                        | 282.72                                            | 5.46                                       | 283.91                                           | 5.48                                        | 283.89                                            | 5.05                                        | 284.32                                            | 4.19                                        | 285.18                                            |
| MW-11                  | 281.77                       | 3.27                                        | 278.50                                            | 3.93                                         | 277.84                                             | 4.10                                       | 277.67                                           | 3.79                                        | 277.98                                            | 3.95                                       | 277.82                                           | 4.11                                        | 277.66                                            | 4.30                                        | 277.47                                            | 3.54                                        | 278.23                                            |
| MW-12                  | 288.04                       | 2.85                                        | 285.19                                            | 5.04                                         | 283.00                                             | 4.71                                       | 283.33                                           | 4.51                                        | 283.53                                            | 3.62                                       | 284.42                                           | 3.33                                        | 284.71                                            | 3.28                                        | 284.76                                            | 2.32                                        | 285.72                                            |
| MW-15                  | 280.22                       | 6.47                                        | 273.75                                            | 7.05                                         | 273.17                                             | 6.59                                       | 273.63                                           | 6.72                                        | 273.50                                            | 6.31                                       | 273.91                                           | 6.19                                        | 274.03                                            | 6.37                                        | 273.85                                            | 6.27                                        | 273.95                                            |
| MW-18                  | 281.27                       | 2.64                                        | 278.63                                            | 3.43                                         | 277.84                                             | 3.17                                       | 278.10                                           | 3.11                                        | 278.16                                            | 3.01                                       | 278.26                                           | 3.33                                        | 277.94                                            | 3.30                                        | 277.97                                            | 2.72                                        | 278.55                                            |
| MW-19                  | 281.80                       | *3.27                                       | 278.53                                            | 3.64                                         | 278.16                                             | 3.83                                       | 277.97                                           | 3.45                                        | 278.35                                            | 3.49                                       | 278.31                                           | 3.65                                        | 278.15                                            | 3.92                                        | 277.88                                            | 3.04                                        | 278.76                                            |
| MW-20                  | 282.99                       | 4.45                                        | 278.54                                            | 5.24                                         | 277.75                                             | 5.18                                       | 277.81                                           | 5.08                                        | 277.91                                            | 5.04                                       | 277.95                                           | 5.25                                        | 277.74                                            | 5.15                                        | 277.84                                            | 4.73                                        | 278.26                                            |
| MW-21                  | 284.12                       | *4.96                                       | 279.16                                            | 5.44                                         | 278.68                                             | 5.46                                       | 278.66                                           | 4.96                                        | 279.16                                            | 4.86                                       | 279.26                                           | 5.26                                        | 278.86                                            | 5.26                                        | 278.86                                            | 4.66                                        | 279.46                                            |
| <b>Deep Aquifer</b>    |                              |                                             |                                                   |                                              |                                                    |                                            |                                                  |                                             |                                                   |                                            |                                                  |                                             |                                                   |                                             |                                                   |                                             |                                                   |
| MW-1D                  | 282.95                       | 7.91                                        | 275.04                                            | 8.04                                         | 274.91                                             | 8.17                                       | 274.78                                           | 8.01                                        | 274.94                                            | 7.95                                       | 275.00                                           | 7.80                                        | 275.15                                            | 8.00                                        | 274.95                                            | 7.54                                        | 275.41                                            |
| MW-2D                  | 280.01                       | 8.47                                        | 271.54                                            | 8.74                                         | 271.27                                             | 8.83                                       | 271.18                                           | 7.61                                        | 272.40                                            | 8.07                                       | 271.94                                           | 8.24                                        | 271.77                                            | 8.14                                        | 271.87                                            | 7.87                                        | 272.14                                            |
| MW-16D                 | 279.91                       | 6.32                                        | 273.59                                            | 6.54                                         | 273.37                                             | 5.85                                       | 274.06                                           | 5.52                                        | 274.39                                            | 5.50                                       | 274.41                                           | 6.88                                        | 273.03                                            | 5.39                                        | 274.52                                            | 4.86                                        | 275.05                                            |
| MW-20D                 | 281.21                       | 7.57                                        | 273.64                                            | 7.19                                         | 274.02                                             | 7.31                                       | 273.90                                           | 6.65                                        | 274.56                                            | 6.75                                       | 274.46                                           | 7.44                                        | 273.77                                            | 6.80                                        | 274.41                                            | 5.61                                        | 275.60                                            |

**Notes:**

BTOC: Below top of casing

FT MSL: Feet mean sea level

NM: not measured

NI = Not Installed

<sup>1</sup> Water level measurement

\* Water level measurement

Prepared by: MHA 1/4/2016

Checked by: NJM 1/6/2016

Table 4: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2015)

|                                                   |                      | 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     | MW-4    | MW-4      | MW-4     | MW-4       | MW-4       | MW-4   | MW-4 |
|---------------------------------------------------|----------------------|--------|-----------|----------|----------|----------|----------|----------|-----------|----------|-----------|----------|----------|----------|------------|----------|--------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|---------|-----------|----------|------------|------------|--------|------|
| Sample Location                                   |                      |        |           |          |          |          |          |          |           |          |           |          |          |          |            |          |        |           |           |           |           |          |          |          |          |         |           |          |            |            |        |      |
| Date Sampled                                      | TYPE 3/4 RRS<br>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   | Jul-98 | Dec-00    | Dec-03    | May-04    | Nov-04    | May-05   | Jun-06   | Dec-06   | May-07   | Jun-08  | Apr-09    | Dec-09   | May-10     | Nov-10     | May-12 |      |
| VOCs (mg/L)                                       |                      | DUP-2  |           |          |          |          |          |          |           |          |           |          |          |          |            |          |        |           |           |           |           |          |          |          |          |         |           |          |            |            |        |      |
| 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 | 0.029  | 0.022     | 0.040     | 0.0024    | 0.021     | 0.0045   | 0.003    | 0.0029   | 0.0034   | 0.0029  | <0.001    | 0.0014   | 0.0016     | 0.0013     | <0.010 |      |
| 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   | 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 |      |
| 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   | 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 |      |
| 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   | 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 |      |
| 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   | ND     | <0.005    | <0.001    | <0.001    | <0.001    | 0.0016   | <0.001   | <0.001   | <0.001   | <0.001  | <0.001    | <0.001   | <0.001     | <0.001     | <0.005 |      |
| 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   | 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 |      |
| 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   | 0.018  | <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 |      |
| 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   | 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 |      |
| 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   | ND     | <0.005    | <0.001    | <0.001    | <0.001    | 0.0021   | <0.001   | <0.001   | <0.001   | <0.001  | <0.001    | <0.001   | <0.001     | <0.001     | <0.005 |      |
| 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   | 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 |      |
| 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   | 0.300  | 0.093     | 0.058     | 0.018     | 0.045     | 0.037    | 0.031    | 0.040    | 0.042    | 0.034   | 0.0047    | 0.022    | 0.0288     | 0.0241     | 0.028  |      |
| 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        | 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     | NA     | 6.37      | 6.24      | 6.12      | 6.16      | 6.13     | 6.18     | 6.18     | 6.12     | 5.54    | 6.73      | 6.65     | 5.89       | 5.97       | 6.18   |      |
| 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    | NA     | 0.21      | 0.33      | 0.183     | 0.376     | 0.452    | 0.437    | 0.391    | 0.474    | 0.422   | 0.237     | 0.402    | 0.401      | 0.349      | 0.447  |      |
| 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    | NA     | 17.91     | 18.22     | 21        | 20.3      | 24.86    | 25.03    | 20.35    | 23.66    | 25.95   | 18.54     | 21.78    | 24.8       | 23.35      | 25.46  |      |
| 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     | NA     | 0.00      | 0.24      | 0.12      | 0.76      | 0.57     | 0.32     | 0.39     | 1.19     | 0.53    | 1.23      | 0.28     | 0.27       | 0.80       | 0.30   |      |
| 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    | NA     | -32.00    | -43.1     | -110      | -59.9     | -49.5    | -37.1    | -214.8   | -71.8    | -36.2   | -39.6     | -82.9    | -33.5      | -325.1     | -56.6  |      |
| 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     | NA     | 5.40      | 12.5      | 8         | 10.0      | 0.0      | 4.5      | 6.5      | 2.3      | 2.2     | 6.0       | 16.2     | -3.2       | 14.2       | 3.0    |      |
| Iron II (mg/L)                                    | ---                  | NA     | 4.80      | NA       | NA       | NA       | NA       | NA       | NA        | NA       | NA        | NA       | NA       | NA       | NA         | NA       | NA     | 7.40      | 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        | NA       | NA         | NA         | NA     |      |
| Total Organic Carbon                              | ---                  | NA     | 13.00     | NA       | NA       | NA       | NA       | NA       | NA        | NA       | NA        | NA       | NA       | NA       | NA         | NA       | NA     | 9.60      | NA        | NA        | NA        | NA       | NA       | NA       | 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     | 4.70      | 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     | <0.05     | 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     | 4.10      | NA        | NA        | NA        | NA       | NA       | NA       | 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     | 120.00    | 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     | <0.10     | 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        | 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  | NA     | 0.0026    | 0.0027    | 0.001     | 0.0019    | 0.0016   | 0.0019   | 0.0016   | 0.0014   | 0.0012  | 0.00012   | 0.00054  | 0.00074 J  | 0.00076    | NA     |      |
| 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 | NA     | <0.000005 | <0.000005 | <0.000005 | <0.000005 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | 0.00001 | 0.000004J | <0.00001 | 0.000004 J | 0.000008 J | NA     |      |
| 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      | NA     | 8.10      | 8.3       | 5.6       | 5.0       | 7.4      | 9.5      | 7.9      | 9.7      | 11.0    | 0.68      | 5.9      | 7.9 J      | 4.5        | NA     |      |
| 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     | 0.16      | 2.6       | 2.7       | 1.2       | 7.7      | 3.8      | 2.0      | 2.7      | 4.8     | 3.0       | 25.0     | 2.6        | 2.7        | 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 4: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2015)

|                 |                      | 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   | MW-5   | MW-5   | MW-5   | MW-5   | MW-5   | MW-5   | MW-5   | MW-5   | MW-5   | MW-5   |        |  |
|-----------------|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| Sample Location |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
| Date Sampled    | TYPE 3/4 RRS<br>mg/L | Dec-12 | Jun-13 | Dec-13 | Jun-14 | Dec-14 | Jun-15 | Dec-15 | Oct-98 | Dec-00 | Dec-03 | May-04 | Nov-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 | Jun-15 | Dec-15 |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
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|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
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|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
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|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
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|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |

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 4: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2015)

| 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-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<br>mg/L | 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        | May-10     | Nov-10        | Nov-10        | May-12        | Dec-12 | Jun-13 | Dec-13 | Jun-14 | Dec-14        | Jun-15 | Dec-15 |
| <b><u>VOCs (mg/L)</u></b>                                           |                      |              |           |              |               |               |               |               |               |               |               |               |               |               |            |               |               |               |        |        |        |        |               |        |        |
| Chloroethane                                                        | ---                  | 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         | <0.001     | 0.0012        | 0.0012        | <0.01         | <0.010 | <0.010 | <0.010 | <0.010 | <0.010        | <0.010 | <0.010 |
| 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        | <0.001        | <0.005        | <0.005 | <0.005 | <0.005 | <0.005 | <0.005        | <0.005 | <0.005 |
| 1,1,1-Trichloroethane                                               | 13                   | 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        | <0.001     | <0.001        | <0.001        | <0.005        | <0.005 | <0.005 | <0.005 | <0.005 | <0.005        | <0.005 | <0.005 |
| 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        | <0.001        | <0.005        | <0.005 | <0.005 | <0.005 | <0.005 | <0.005        | <0.005 | <0.005 |
| Trichloroethylene                                                   | 0.0052               | ND           | <0.005    | 0.0036       | <0.001        | <b>0.0079</b> | <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 |
| 1,1-Dichloroethene                                                  | 0.52                 | ND           | <0.005    | 0.0022       | <0.001        | 0.0048        | 0.0017        | <0.001        | <0.001        | <0.001        | 0.0010        | <0.001        | 0.00060J      | <0.001        | <0.001     | 0.0014        | <0.001        | <0.005        | <0.005 | <0.005 | <0.005 | <0.005 | <0.005        | <0.005 | <0.005 |
| 1,1-Dichloroethane                                                  | ---                  | 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        | 0.002      | 0.0015        | 0.0015        | <0.005        | <0.005 | <0.005 | <0.005 | <0.005 | <0.005        | <0.005 | <0.005 |
| 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        | <0.001        | <0.005        | <0.005 | <0.005 | <0.005 | <0.005 | <0.005        | <0.005 | <0.005 |
| cis -1,2-Dichloroethene                                             | 0.2                  | 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        | 0.0014     | 0.0016        | 0.0019        | <0.005        | <0.005 | <0.005 | <0.005 | <0.005 | <0.005        | <0.005 | <0.005 |
| 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        | <0.001        | <0.005        | <0.005 | <0.005 | <0.005 | <0.005 | <0.005        | <0.005 | <0.005 |
| Vinyl Chloride                                                      | 0.0033               | <b>0.010</b> | <0.010    | <b>0.010</b> | <b>0.0096</b> | <b>0.0092</b> | <b>0.0094</b> | <b>0.0055</b> | <b>0.0051</b> | <b>0.0065</b> | <b>0.0052</b> | <b>0.0035</b> | <b>0.0054</b> | <b>0.0035</b> | 0.0028     | <b>0.0043</b> | <b>0.0044</b> | <b>0.0036</b> | 0.003  | <0.002 | <0.002 | <0.002 | <b>0.0042</b> | <0.002 | <0.002 |
| <b><u>SVOCs (mg/L)</u></b>                                          |                      |              |           |              |               |               |               |               |               |               |               |               |               |               |            |               |               |               |        |        |        |        |               |        |        |
| 1,4-Dioxane (p-Dioxane)                                             | ---                  | NA           | NA        | NA           | NA            | NA            | NA            | NA            | NA            | NA            | NA            | <0.0211       | NA            | NA            | NA         | NA            | NA            | NA            | NA     | NA     | NA     | NA     | NA            | NA     | NA     |
| <b><u>Field Parameters</u></b>                                      |                      |              |           |              |               |               |               |               |               |               |               |               |               |               |            |               |               |               |        |        |        |        |               |        |        |
| pH (std. Units)                                                     | ---                  | 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          | 5.56       | 5.56          | 5.56          | 5.78          | 5.85   | 5.70   | 5.90   | 4.93   | 5.40          | 5.83   | 5.92   |
| Specific Conductance (mS/cm)                                        | ---                  | 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         | 0.156      | 0.169         | 0.169         | 0.169         | 0.188  | 0.195  | 0.157  | 0.146  | 0.142         | 0.180  | 0.215  |
| Temperature (deg. C)                                                | ---                  | 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         | 24.00      | 25.56         | 25.56         | 28.05         | 21.69  | 25.53  | 23.19  | 27.11  | 23.85         | 27.72  | 22.61  |
| Dissolved Oxygen (mg/L)                                             | ---                  | 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          | 0.82       | 0.52          | 0.52          | 0.21          | 0.93   | 0.48   | 0.21   | 0.28   | 0.22          | 0.30   | 0.66   |
| ORP (mV)                                                            | ---                  | 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          | -1.6       | -387.7        | -387.7        | -6.6          | -8.7   | -83.6  | -33.2  | -23.8  | -101.8        | -18.5  | -6.0   |
| Turbidity (NTU)                                                     | ---                  | 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           | 11.5       | 11.5          | 11.5          | 4.6           | 7.3    | 2.1    | 9.2    | 8.47   | 8.63          | 4.9    | 0      |
| Iron II (mg/L)                                                      | ---                  | NA           | 4.60      | NA           | NA            | NA            | NA            | NA            | NA            | NA            | NA            | NA            | NA            | NA            | NA         | NA            | NA            | NA            | NA     | NA     | NA     | NA     | NA            | NA     | NA     |
| <b><u>Geochemical Natural Attenuation<br/>Parameters (mg/L)</u></b> |                      |              |           |              |               |               |               |               |               |               |               |               |               |               |            |               |               |               |        |        |        |        |               |        |        |
| 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           | 3.40      | NA           | NA            | NA            | NA            | NA            | NA            | NA            | NA            | NA            | NA            | NA            | NA         | NA            | NA            | NA            | NA     | NA     | NA     | NA     | NA            | NA     | NA     |
| Chloride                                                            | ---                  | NA           | 3.10      | 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     |
| 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     |
| Total Alkalinity                                                    | ---                  | NA           | 65.00     | 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     |
| 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                                                            | ---                  | 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      | 0.000053 J | 0.000084      | 0.000084      | NA            | <0.007 | <0.007 | <0.007 | <0.007 | <0.007        | <0.007 | <0.007 |
| Ethane                                                              | ---                  | 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     | 0.000006 J | 0.000003 J    | 0.000003      | NA            | <0.009 | <0.009 | <0.009 | <0.009 | <0.009        | <0.009 | <0.009 |
| Methane                                                             | ---                  | 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           | 2.8 J      | 3.4           | 3.4           | NA            | 3.4    | 2.2    | 3.5    | 1.8    | 2.1           | 2.8    | 3.8    |
| Hydrogen (nmol/L)                                                   | ---                  | NA           | 1.20      | 2.2          | 2.4           | 4.1           | 3.3           | 3.8           | 1.7           | 3.2           | 2.8           | 0.71          | 330           | 18            | 5.2        | 2.6           | 2.6           | 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 4: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2015)

|                                                                     |                      | MW-7   | MW-7   | MW-7   | MW-7   | MW-7   | MW-7   | MW-7   | MW-7   | 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    |  |
|---------------------------------------------------------------------|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------------|---------|---------------|--------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|---------|--|
| Sample Location                                                     |                      |        |        |        |        |        |        |        |        |        |        |        |        |         |               |         |               |        |        |               |        |               |        |               |        |               |        |               |        |               |         |  |
| Date Sampled                                                        | TYPE 3/4 RRS<br>mg/L | May-12 | Dec-12 | Jun-13 | Dec-13 | Jun-14 | Dec-14 | Jun-15 | Dec-15 | Oct-98 | Jul-00 | Dec-00 | Apr-01 | Dec-03  | Dec-03<br>Dup | May-04  | May-04<br>Dup | Nov-04 | May-05 | May-05<br>Dup | Jun-06 | Jun-06<br>Dup | Dec-06 | Dec-06<br>Dup | May-07 | May-07<br>DUP | Jun-08 | Jun-08<br>Dup | Oct-08 | Oct-08<br>Dup | Apr-09  |  |
| <b><u>VOCs (mg/L)</u></b>                                           |                      |        |        |        |        |        |        |        |        |        |        |        |        |         |               |         |               |        |        |               |        |               |        |               |        |               |        |               |        |               |         |  |
| Chloroethane                                                        | ---                  | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.041  | <1     | <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  |  |
| 1,1,2,2-Tetrachloroethane                                           | 0.005                | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.001  | <0.5   | <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  |  |
| 1,1,1-Trichloroethane                                               | 13                   | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 53     | 6.2    | 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    |  |
| 1,1,2-Trichloroethane                                               | 0.005                | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.052  | <0.5   | <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  |  |
| Trichloroethylene                                                   | 0.0052               | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 140    | 14     | 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   |  |
| 1,1-Dichloroethene                                                  | 0.52                 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 45     | 8.7    | 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   |  |
| 1,1-Dichloroethane                                                  | ---                  | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.94   | <0.5   | 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  |  |
| 1,2-Dichloroethane                                                  | 0.005                | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.03   | <0.5   | <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 | <0.100        | <0.05  | <0.025        | <0.025 | <0.005        |         |  |
| cis-1,2-Dichloroethene                                              | 0.2                  | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 4.5    | 4.5    | 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   |  |
| trans-1,2-Dichloroethene                                            | ---                  | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | ND     | <0.5   | <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 | <0.100        | <0.05  | <0.025        | <0.025 | 0.0051        |         |  |
| Vinyl Chloride                                                      | 0.0033               | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | 0.93   | 1.6    | 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   |  |
| <b><u>SVOCs (mg/L)</u></b>                                          |                      |        |        |        |        |        |        |        |        |        |        |        |        |         |               |         |               |        |        |               |        |               |        |               |        |               |        |               |        |               |         |  |
| 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     |               | <0.0200 |  |
| <b><u>Field Parameters</u></b>                                      |                      |        |        |        |        |        |        |        |        |        |        |        |        |         |               |         |               |        |        |               |        |               |        |               |        |               |        |               |        |               |         |  |
| pH (std. Units)                                                     | ---                  | 5.06   | 5.18   | 5.05   | 5.28   | 4.67   | 4.61   | 5.19   | 5.52   | NA     | NA     | 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    |  |
| Specific Conductance (mS/cm)                                        | ---                  | 0.057  | 0.082  | 0.170  | 0.196  | 0.157  | 0.086  | 0.097  | 0.075  | NA     | NA     | 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    |  |
| Temperature (deg. C)                                                | ---                  | 20.63  | 16.08  | 18.95  | 17.20  | 20.83  | 17.76  | 22.09  | 16.99  | NA     | NA     | 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   |  |
| Dissolved Oxygen (mg/L)                                             | ---                  | 0.24   | 0.68   | 0.58   | 0.23   | 0.32   | 2.25   | 0.71   | 0.35   | NA     | NA     | 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     |  |
| ORP (mV)                                                            | ---                  | 131.9  | 224.2  | -37.0  | 52.4   | 4.9    | 260.40 | 52.1   | 108.0  | NA     | NA     | -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     |  |
| Turbidity (NTU)                                                     | ---                  | 60.8   | 161.4  | 7.3    | 455.9  | 7.6    | 10.20  | 5.3    | 7.0    | NA     | NA     | 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     |  |
| Iron II (mg/L)                                                      | ---                  | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | 3.00   | NA     | NA      | NA            | NA      | NA            | NA     | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA      |  |
| <b><u>Geochemical Natural Attenuation<br/>Parameters (mg/L)</u></b> |                      |        |        |        |        |        |        |        |        |        |        |        |        |         |               |         |               |        |        |               |        |               |        |               |        |               |        |               |        |               |         |  |
| Iron II                                                             | ---                  | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA      | NA            | NA      | NA            | NA     | 26     | 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     | 13.00  | NA     | NA      | NA            | NA      | NA            | NA     | 9.6    | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA      |  |
| Chloride                                                            | ---                  | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | 21.00  | NA     | NA      | NA            | NA      | NA            | NA     | 37     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA      |  |
| Nitrate                                                             | ---                  | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | <0.05  | NA     | NA      | NA            | NA      | NA            | NA     | <0.10  | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA      |  |
| Sulfate                                                             | ---                  | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | 1.90   | NA     | NA      | NA            | NA      | NA            | NA     | <1.0   | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA      |  |
| Total Alkalinity                                                    | ---                  | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | 59.00  | NA     | NA      | NA            | NA      | NA            | NA     | 76     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA      |  |
| Total Sulfide                                                       | ---                  | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | 0.16   | NA     | NA      | NA            | NA      | NA            | NA     | <0.1   | 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     | 200    | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA     | NA            | NA      |  |
| Ethylene                                                            | ---                  | NA     | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | NA     | NA     | 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  |  |
| Ethane                                                              | ---                  | NA     | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | NA     | NA     | 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 |  |
| Methane                                                             | ---                  | NA     | 0.17   | 0.94   | 0.95   | 1.3    | 0.006  | 1.1    | 0.81   | NA     | NA     | 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    |  |
| Hydrogen (nmol/L)                                                   | ---                  | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | <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     |  |

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 4: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2015)

| 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<br>mg/L | Apr-09       | Sep-09      | Sep-09      | Dec-09       | May-10       | DUP-1        | 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       |
| <b><u>VOCs (mg/L)</u></b>                                           |                      | DUP          | DUP         |             |              |              | DUP-1        |             |             | DUP-1       |            |            | DUP-1       |             | Dup-1      |            | Dup-1       |             |             | DUP-1       |              | Dup-1        |              | Dup-1        |              |              |
| Chloroethane                                                        | ---                  | <0.005       | 0.0595      | 0.0556      | <0.01        | 0.0134       | <0.025       | 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       |
| 1,1,2,2-Tetrachloroethane                                           | 0.005                | <0.005       | <0.04       | <0.025      | <0.01        | <0.01        | <0.025       | <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       |              |
| 1,1,1-Trichloroethane                                               | 13                   | 0.32         | 1.1         | 0.802       | 0.296        | 1.1          | 0.96         | 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         |
| 1,1,2-Trichloroethane                                               | 0.005                | <0.005       | <0.0400     | <0.0250     | <0.01        | <0.01        | <0.025       | <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       |              |
| Trichloroethylene                                                   | 0.0052               | <b>0.594</b> | <b>1.54</b> | <b>1.05</b> | <b>0.396</b> | <b>1.87</b>  | <b>1.68</b>  | <b>3.56</b> | <b>2.99</b> | <b>1.5</b>  | <b>4.6</b> | <b>4.8</b> | <b>0.73</b> | <b>0.82</b> | <b>1.5</b> | <b>1.6</b> | <b>1.5</b>  | <b>1.7</b>  | <b>8.6</b>  | <b>1.9</b>  | <b>9.7</b>   | <b>9.6</b>   | <b>0.41</b>  | <b>0.39</b>  | <b>4.6</b>   | <b>5.1</b>   |
| 1,1-Dichloroethene                                                  | 0.52                 | <b>0.587</b> | <b>3.17</b> | <b>2.26</b> | <b>1.17</b>  | <b>1.99</b>  | <b>1.75</b>  | <b>4.19</b> | <b>3.21</b> | <b>2.2</b>  | <b>6.2</b> | <b>6.5</b> | <b>1.9</b>  | <b>1.9</b>  | <b>2.1</b> | <b>2.2</b> | <b>1.1</b>  | <b>1.2</b>  | <b>5.3</b>  | <b>3.2</b>  | <b>4.3</b>   | <b>4.3</b>   | <b>0.94</b>  | <b>0.91</b>  | <b>2.9</b>   | <b>2.8</b>   |
| 1,1-Dichloroethane                                                  | ---                  | 0.0472       | 0.397       | 0.38        | 0.0789       | 0.128        | 0.127        | 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        |
| 1,2-Dichloroethane                                                  | 0.005                | <0.005       | <0.0400     | <0.0250     | <0.01        | <0.01        | <0.025       | <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       |              |
| cis -1,2-Dichloroethene                                             | 0.2                  | <b>0.783</b> | <b>4.19</b> | <b>3.36</b> | <b>1.82</b>  | <b>2.02</b>  | <b>1.87</b>  | <b>4.1</b>  | <b>3.54</b> | <b>2.7</b>  | <b>7.0</b> | <b>7.1</b> | <b>2.1</b>  | <b>2.0</b>  | <b>2.2</b> | <b>2.2</b> | <b>1.5</b>  | <b>1.5</b>  | <b>3.4</b>  | <b>2.8</b>  | <b>0.370</b> | <b>0.400</b> | <b>1.20</b>  | <b>1.00</b>  | <b>1.10</b>  | <b>1.10</b>  |
| trans -1,2-Dichloroethene                                           | ---                  | 0.0064       | <0.0400     | <0.0250     | <0.01        | <0.01        | <0.025       | <0.02       | <0.02       | <0.005      | <b>8.6</b> | <b>9.1</b> | <0.005      | <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               | <b>0.23</b>  | <b>2.4</b>  | <b>2.09</b> | <b>0.589</b> | <b>0.902</b> | <b>0.802</b> | <b>1.89</b> | <b>1.56</b> | <b>0.47</b> | <b>2.1</b> | <b>2.2</b> | <b>0.86</b> | <b>0.82</b> | <b>2.6</b> | <b>2.6</b> | <b>0.90</b> | <b>0.99</b> | <b>0.78</b> | <b>0.89</b> | <b>0.100</b> | <b>0.160</b> | <b>0.640</b> | <b>0.590</b> | <b>0.350</b> | <b>0.330</b> |
| <b><u>SVOCs (mg/L)</u></b>                                          |                      |              |             |             |              |              |              |             |             |             |            |            |             |             |            |            |             |             |             |             |              |              |              |              |              |              |
| 1,4-Dioxane (p-Dioxane)                                             | ---                  | <0.0200      | NA          | NA          | NA           | NA           | NA           | NA          | NA          | NA          | NA         | NA         | NA          | NA          | NA         | NA         | NA          | NA          | NA          | NA          | NA           | NA           | NA           | NA           | NA           | NA           |
| <b><u>Field Parameters</u></b>                                      |                      |              |             |             |              |              |              |             |             |             |            |            |             |             |            |            |             |             |             |             |              |              |              |              |              |              |
| pH (std. Units)                                                     | ---                  | NA           | 5.87        | 5.87        | 6.40         | 5.94         | 5.94         | 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           |
| Specific Conductance (mS/cm)                                        | ---                  | NA           | 0.482       | 0.482       | 0.442        | 0.400        | 0.40         | 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           |
| Temperature (deg. C)                                                | ---                  | NA           | 24.82       | 24.82       | 19.80        | 20.16        | 20.16        | 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           |
| Dissolved Oxygen (mg/L)                                             | ---                  | NA           | 0.08        | 0.08        | 0.31         | 0.22         | 0.22         | 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           |
| ORP (mV)                                                            | ---                  | NA           | -14.6       | -14.6       | -100.7       | 8.0          | 8.0          | -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           |
| Turbidity (NTU)                                                     | ---                  | NA           | 5.3         | 5.3         | 4.6          | 20.1         | 20.1         | 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           |
| 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           |
| <b><u>Geochemical Natural Attenuation<br/>Parameters (mg/L)</u></b> |                      |              |             |             |              |              |              |             |             |             |            |            |             |             |            |            |             |             |             |             |              |              |              |              |              |              |
| 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         | 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           |
| 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           |
| 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           |
| 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           |
| 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           |
| 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                                                            | ---                  | 0.0045       | 0.074       | 0.08        | 0.016        | 0.023 J      | 0.048        | 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       |
| Ethane                                                              | ---                  | 0.00032      | 0.0018      | 0.0019      | 0.00093      | 0.00077 J    | 0.003        | 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       |
| Methane                                                             | ---                  | 1.2          | 4.1         | 4.4         | 2.4          | 3.0 J        | 12.0         | 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         |
| Hydrogen (nmol/L)                                                   | ---                  | 0.0019       | 56          | 61          | 1.5          | 2.1          | NA           | 0.92        | 0.92        | 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 4: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2015)

| 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-10  | MW-10  | MW-10     | MW-10     | MW-10       | MW-10     | MW-10    | MW-10      | MW-10  |        |    |
|----------------------------------------------------------|----------------------|---------|-----------|-----------|----------|---------|------------|------------|-----------|----------|-----------|-----------|-----------|------------|------------|---------|---------|---------|---------|---------|---------|---------|--------|--------|-----------|-----------|-------------|-----------|----------|------------|--------|--------|----|
| Date Sampled                                             | TYPE 3/4 RRS<br>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 | Oct-98 | Dec-00    | Dec-03    | May-04      | Dec-04    | May-05   | Jun-06     | Jun-13 | Jun-14 |    |
| <b>VOCs (mg/L)</b>                                       |                      |         |           |           |          |         |            |            |           |          |           |           |           |            |            |         |         |         |         |         |         |         |        |        |           |           |             |           |          |            |        |        |    |
| 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  | ND     | <0.010 | <0.001    | <0.001    | <0.001      | <0.001    | <0.001   | <0.001     | <0.010 | NA     |    |
| 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 | NA     | <0.005    | <0.001    | <0.002      | <0.001    | <0.001   | <0.001     | <0.005 | NA     |    |
| 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 | ND     | <0.005    | <0.001    | <0.003      | <0.001    | <0.001   | <0.001     | <0.005 | NA     |    |
| 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 | NA     | <0.005    | <0.001    | <0.004      | <0.001    | <0.001   | <0.001     | <0.005 | NA     |    |
| 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 | 0.002  | <0.005    | <0.001    | <0.005      | <0.001    | 0.001    | 0.00057 J  | <0.005 | NA     |    |
| 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 | ND     | <0.005    | 0.0017    | 0.0014      | <0.001    | <0.001   | 0.00099 J  | <0.005 | NA     |    |
| 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 | 0.003  | <0.005    | 0.0023    | 0.0024      | 0.0012    | 0.0015   | 0.0015     | <0.005 | NA     |    |
| 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 | NA     | <0.005    | <0.001    | <0.001      | <0.001    | <0.001   | <0.001     | <0.005 | NA     |    |
| 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 | ND     | <0.005    | <0.001    | <0.001      | <0.001    | <0.001   | <0.001     | <0.005 | NA     |    |
| 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 | NA     | <0.005    | <0.001    | <0.001      | <0.001    | <0.001   | <0.001     | <0.005 | NA     |    |
| 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 | ND     | <0.010    | <0.001    | <0.001      | <0.001    | <0.001   | <0.001     | <0.002 | NA     |    |
| <b>SVOCs (mg/L)</b>                                      |                      |         |           |           |          |         |            |            |           |          |           |           |           |            |            |         |         |         |         |         |         |         |        |        |           |           |             |           |          |            |        |        |    |
| 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          | NA        | NA       | NA         | NA     | NA     |    |
| <b>Field Parameters</b>                                  |                      |         |           |           |          |         |            |            |           |          |           |           |           |            |            |         |         |         |         |         |         |         |        |        |           |           |             |           |          |            |        |        |    |
| 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   | NA     | 4.98      | 5.37      | 5.22        | 5.20      | 4.74     | 4.44       | 5.07   | 3.38   |    |
| 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  | NA     | 0.04      | 0.05      | 0.038       | 0.048     | 0.039    | 0.038      | 0.051  | 0.053  |    |
| 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  | NA     | 14.36     | 16.48     | 19.22       | 18.05     | 19.63    | 19.02      | 17.11  | 19.78  |    |
| 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   | NA     | 0.00      | 0.38      | 0.33        | 0.21      | 0.48     | 0.58       | 0.55   | 0.49   |    |
| 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   | NA     | -35.00    | 2.8       | 61.2        | 5.9       | 103.0    | 36.2       | 119.7  | 38.5   |    |
| 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    | NA     | 0.20      | 0.7       | 3.5         | 2.0       | 0.0      | 2.3        | 101.6  | 7.77   |    |
| 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     | 2.80      | NA        | NA          | NA        | NA       | NA         | NA     | NA     |    |
| <b>Geochemical Natural Attenuation Parameters (mg/L)</b> |                      |         |           |           |          |         |            |            |           |          |           |           |           |            |            |         |         |         |         |         |         |         |        |        |           |           |             |           |          |            |        |        |    |
| 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          | 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        | 2.40      | NA          | NA        | NA       | 1.2        | NA     | NA     | NA |
| 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        | 2.80      | NA          | NA        | NA       | 2.5        | 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        | <0.05     | NA          | NA        | NA       | <0.10      | NA     | NA     | NA |
| 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        | 4.10      | NA          | NA        | NA       | <1.0       | NA     | NA     | NA |
| 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        | 11.00     | NA          | NA        | NA       | 7.5        | NA     | NA     | NA |
| 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        | <0.1      | NA          | NA        | NA       | <0.10      | 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          | NA        | NA       | 60         | 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 | NA     | <0.000005 | <0.000005 | 0.000004 J  | <0.000005 | <0.00001 | <0.00001   | NA     | NA     |    |
| 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 | NA     | <0.000005 | <0.000005 | 0.0000021 J | 0.000018  | 0.000005 | 0.000002 J | NA     | NA     |    |
| 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   | NA     | 0.08      | 0.3       | 0.16        | 0.18      | 0.15     | 0.22       | NA     | NA     |    |
| 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        | 0.28      | 1.1         | 1.8       | 0.63     | 1.2        | 24     | 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 4: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2015)

|                                                                     |                      | 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  | MW-11  | MW-11  | MW-11  | MW-12  | MW-12     | MW-12     | MW-12     | MW-12    | MW-12    | MW-12  | MW-12  |        |    |
|---------------------------------------------------------------------|----------------------|--------|-----------|-----------|-----------|-------------|----------|------------|------------|----------|------------|-----------|----------|------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|-----------|-----------|----------|----------|--------|--------|--------|----|
| Sample Location                                                     |                      |        |           |           |           |             |          |            |            |          |            |           |          |            |            |        |        |        |        |        |        |        |        |        |           |           |           |          |          |        |        |        |    |
| Date Sampled                                                        | TYPE 3/4 RRS<br>mg/L | 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 | Jun-15 | Dec-15 | Oct-98 | Dec-00    | May-04    | Dec-04    | May-05   | Jun-06   | Apr-09 | Dec-09 |        |    |
| <b><u>VOCs (mg/L)</u></b>                                           |                      |        |           |           |           |             |          |            |            |          |            |           |          |            |            |        |        |        |        |        |        |        |        |        |           |           |           |          |          |        |        |        |    |
| Chloroethane                                                        | ---                  | 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 | <0.010 | <0.010 | ND     | <0.010    | <0.001    | <0.001    | <0.001   | <0.001   | <0.001 | <0.001 | <0.001 |    |
| 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     | <0.005 | <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 |    |
| 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 | 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     | <0.005 | <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 |    |
| 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 | ND     | <0.005    | <0.001    | <0.001    | <0.001   | <0.001   | <0.001 | <0.001 | <0.001 |    |
| 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     | 0.0016 | <0.001 | 0.0016 | <0.001 | <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 |    |
| 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 | ND     | <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 | <0.001 | <0.001 | <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 |    |
| 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     | 0.00083 J | 0.0026   | <0.001     | 0.0028     | <0.001 | <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 |    |
| 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 | <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 |    |
| Vinyl Chloride                                                      | 0.0033               | ND     | <0.010    | <0.001    | <0.001    | <0.001      | <0.001   | <0.001     | <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 | <0.002 | <0.002 | ND     | <0.010    | <0.001    | <0.001    | <0.001   | <0.001   | <0.001 | <0.001 | <0.001 |    |
| <b><u>SVOCs (mg/L)</u></b>                                          |                      |        |           |           |           |             |          |            |            |          |            |           |          |            |            |        |        |        |        |        |        |        |        |        |           |           |           |          |          |        |        |        |    |
| 1,4-Dioxane (p-Dioxane)                                             | ---                  | NA     | NA        | NA        | NA        | NA          | NA       | NA         | NA         | NA       | NA         | <0.0200   | NA       | NA         | NA         | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA        | NA        | NA        | NA       | NA       | NA     | NA     | NA     |    |
| <b><u>Field Parameters</u></b>                                      |                      |        |           |           |           |             |          |            |            |          |            |           |          |            |            |        |        |        |        |        |        |        |        |        |           |           |           |          |          |        |        |        |    |
| pH (std. Units)                                                     | ---                  | 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   | 5.19   | 5.49   | NA     | 4.97      | 4.98      | 5.07      | 4.94     | 4.97     | 5.15   | 5.47   |        |    |
| Specific Conductance (mS/cm)                                        | ---                  | 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  | 0.052  | 0.052  | NA     | 0.02      | 0.027     | 0.03      | 0.028    | 0.026    | 0.033  | 0.029  |        |    |
| Temperature (deg. C)                                                | ---                  | 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  | 23.38  | 13.45  | NA     | 15.32     | 19.62     | 18.38     | 19.31    | 21.4     | 17.26  | 17.66  |        |    |
| Dissolved Oxygen (mg/L)                                             | ---                  | 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   | 0.70   | 0.40   | NA     | 2.80      | 2.46      | 4.20      | 2.23     | 3.06     | 3.05   | 3.47   |        |    |
| ORP (mV)                                                            | ---                  | 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  | 168.7  | 119.0  | NA     | 280.00    | 160       | 269.0     | 275.5    | 325.6    | 144.1  | 246.9  |        |    |
| Turbidity (NTU)                                                     | ---                  | 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   | 3.6    | 5      | NA     | 1.20      | 2.5       | 10.2      | 10       | 11.7     | 7.7    | 7.5    |        |    |
| Iron II (mg/L)                                                      | ---                  | NA     | 2.60      | NA        | NA        | NA          | NA       | NA         | NA         | NA       | NA         | NA        | NA       | NA         | NA         | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA        | 0.00      | NA        | NA       | NA       | NA     | NA     | NA     |    |
| <b><u>Geochemical Natural Attenuation<br/>Parameters (mg/L)</u></b> |                      |        |           |           |           |             |          |            |            |          |            |           |          |            |            |        |        |        |        |        |        |        |        |        |           |           |           |          |          |        |        |        |    |
| 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        | NA       | NA       | NA     | NA     | NA     |    |
| Total Organic Carbon                                                | ---                  | NA     | 6.30      | NA        | NA        | NA          | NA       | NA         | NA         | NA       | NA         | NA        | NA       | NA         | NA         | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA        | NA        | <1.0      | NA       | NA       | NA     | NA     | NA     | NA |
| Chloride                                                            | ---                  | NA     | 4.50      | 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       | 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        | <0.05     | NA       | NA       | NA     | NA     | NA     | NA |
| Sulfate                                                             | ---                  | NA     | 1.70      | NA        | NA        | NA          | NA       | NA         | NA         | NA       | NA         | NA        | NA       | NA         | NA         | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA     | NA        | NA        | 1.10      | NA       | NA       | NA     | NA     | NA     | NA |
| Total Alkalinity                                                    | ---                  | NA     | 9.00      | 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       | 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        | <0.10     | 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        | NA       | NA       | NA     | NA     | NA     | NA |
| Ethylene                                                            | ---                  | 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 | <0.007 | <0.007 | NA     | 0.00003   | 0.0000085 | 0.0000081 | <0.00001 | <0.00001 | NA     | NA     | NA     |    |
| Ethane                                                              | ---                  | 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 | <0.009 | <0.009 | NA     | <0.000005 | <0.000005 | <0.000005 | <0.00001 | <0.00001 | NA     | NA     | NA     |    |
| Methane                                                             | ---                  | 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  | 0.62   | 0.29   | NA     | 0.01      | 0.0034    | 0.0059    | 0.0022   | 0.000086 | NA     | NA     | NA     |    |
| Hydrogen (nmol/L)                                                   | ---                  | 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     | NA     | NA     | NA     | NA        | NA        | <0.030    | NA       | 0.58     | 1.5    | 1.7    | 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 4: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2015)

| Sample Location |                      | MW-12  | MW-12  | MW-12  | MW-12  | MW-12  | MW-12  | MW-12  | MW-12  | MW-12  | MW-12  | 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  |  |  |
|-----------------|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Date Sampled    | TYPE 3/4 RRS<br>mg/L | May-10 | Nov-10 | May-12 | Dec-12 | Jun-13 | Dec-13 | Jun-14 | Dec-14 | Jun-15 | Dec-15 | 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 |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
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|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
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|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
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|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
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|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
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|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
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|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |
|                 |                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |

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 4: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2015)

|                                                          |                      | MW-16D | MW-16D | MW-16D | MW-16D | MW-16D | MW-16D | 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  | MW-19 |
|----------------------------------------------------------|----------------------|--------|--------|--------|--------|--------|--------|----------|---------|-----------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|----------|----------|--------|---------|--------|--------|--------|--------|--------|--------|-------|
| Sample Location                                          |                      |        |        |        |        |        |        |          |         |           |         |        |        |        |        |        |        |        |        |        |         |          |          |        |         |        |        |        |        |        |        |       |
| Date Sampled                                             | TYPE 3/4 RRS<br>mg/L | May-07 | Jun-08 | Apr-09 | Dec-09 | May-10 | Nov-10 | Sep-09   | Dec-09  | May-10    | Nov-10  | May-12 | Dec-12 | Jun-13 | Dec-13 | Jun-14 | Dec-14 | Jun-15 | Dec-15 | Sep-09 | Dec-09  | May-10   | DUP-2    | Nov-10 | May-12  | Dec-12 | Jun-13 | Dec-13 | Jun-14 | Sep-14 | Nov-14 |       |
| <b>VOCs (mg/L)</b>                                       |                      |        |        |        |        |        |        |          |         |           |         |        |        |        |        |        |        |        |        |        |         |          |          |        |         |        |        |        |        |        |        |       |
| Chloroethane                                             | ---                  | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0011   | 0.0012  | <0.001    | <0.001  | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.659  | 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 | <0.001 | <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  | <0.020   | <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 | <0.001 | <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  | 0.0501   | 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 | <0.001 | <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  | <0.020   | <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 | <0.001 | <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  | 0.0172 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                 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 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 | 0.0118  | 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                                       | ---                  | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 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 | 0.0381  | 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 | <0.001 | <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 | 0.0019J | <0.005   | <0.020   | <0.020 | .0011 J | <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 | <0.001 | <0.001 | 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 | 0.0243  | 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 | <0.001 | <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  | <0.020   | <0.020   | <0.005 | <0.005  | <0.005 | 0.011  | <0.005 | <0.005 | <0.05  | <0.005 |       |
| Vinyl Chloride                                           | 0.0033               | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0051   | 0.0038  | 0.0035    | 0.0038  | 0.0033 | 0.0028 | 0.0032 | 0.0038 | 0.0029 | 0.003  | <0.002 | <0.002 | 0.502  | 0.113   | 2.02     | 2.01     | 0.198  | 0.83    | 0.33   | 2.9    | 0.300  | 0.420  | 0.120  | 0.370  |       |
| <b>SVOCs (mg/L)</b>                                      |                      |        |        |        |        |        |        |          |         |           |         |        |        |        |        |        |        |        |        |        |         |          |          |        |         |        |        |        |        |        |        |       |
| 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     | NA     | NA     | NA     | NA     |       |
| <b>Field Parameters</b>                                  |                      |        |        |        |        |        |        |          |         |           |         |        |        |        |        |        |        |        |        |        |         |          |          |        |         |        |        |        |        |        |        |       |
| pH (std. Units)                                          | ---                  | 11.1   | 9.79   | 12.09  | 11.51  | 11.48  | 12.67  | 5.32     | 5.76    | 5.70      | 5.63    | 5.72   | 5.91   | 5.58   | 5.72   | 5.61   | 5.51   | 5.61   | 5.72   | 5.85   | 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)                             | ---                  | 0.444  | 0.294  | 4.56   | 0.705  | 1.58   | 1.581  | 0.173    | 0.221   | 0.361     | 0.276   | 0.355  | 0.354  | 0.291  | 0.241  | 0.239  | 0.28   | 0.218  | 0.188  | 0.408  | 0.413   | 0.477    | 0.477    | 0.374  | 0.315   | 0.364  | 0.434  | 0.397  | 0.338  | 0.176  | NA     |       |
| Temperature (deg. C)                                     | ---                  | 20.73  | 21.83  | 19.82  | 18.18  | 20.54  | 16.99  | 28.05    | 20.6    | 23.25     | 23.11   | 24.61  | 20.48  | 23.55  | 21.47  | 24.74  | 21.9   | 26.69  | 22.66  | 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)                                  | ---                  | 0.71   | 0.75   | 4.64   | 5.95   | 5.89   | 5.47   | 0.28     | 0.29    | 0.45      | 0.63    | 1.2    | 0.78   | 0.5    | 0.12   | 0.72   | 0.25   | 0.56   | 0.39   | 0.26   | 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  | 272.3  | -55.9  | -59.2  | 120.4  | 6.5    | 138.9    | -30.8   | 12.5      | -313.2  | 6.9    | 0.4    | -39.1  | 8.6    | -36.6  | -21.4  | 27.0   | 14.6   | -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)                                          | ---                  | 12     | 5.8    | 6.2    | 18.9   | 2.6    | 12.6   | 9.7      | 10.1    | 21.4      | 6.9     | 7.49   | 7.1    | 4.4    | 8.2    | 2.23   | 2.23   | 4.2    | 3.1    | 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     | NA     | NA     | NA     | NA     |       |
| <b>Geochemical Natural Attenuation Parameters (mg/L)</b> |                      |        |        |        |        |        |        |          |         |           |         |        |        |        |        |        |        |        |        |        |         |          |          |        |         |        |        |        |        |        |        |       |
| 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     | 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     | 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     | 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     | 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     | 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     | 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     | 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     | NA     | NA     | NA     | NA     |       |
| Ethylene                                                 | ---                  | NA     | NA     | NA     | NA     | NA     | NA     | 0.00066  | 0.00045 | 0.00065 J | 0.00028 | NA     | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | 0.78   | 0.37    | 0.99 J   | 1.4      | 0.77   | NA      | 0.47   | 0.37   | 0.38   | 0.26   | 0.028  | NA     |       |
| Ethane                                                   | ---                  | NA     | NA     | NA     | NA     | NA     | NA     | 0.00033  | 0.0015  | 0.00099 J | 0.00063 | NA     | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | 0.022  | 0.014   | 0.049 J  | 0.1      | 0.029  | NA      | 0.081  | 0.063  | 0.041  | 0.037  | <0.009 | NA     |       |
| Methane                                                  | ---                  | NA     | NA     | NA     | NA     | NA     | NA     | 3.7      | 3.8     | 2.5 J     | 3.8     | NA     | 6.8    | 7.2    | 6.9    | 4.1    | 7.1    | 5.3    | 5.9    | 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)                                        | ---                  | NA     | NA     | NA     | NA     | NA     | NA     | 27       | 5.8     | 0.98      | 7.2     | 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  
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 4: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2015)

| Sample Location                                   |                      | 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-20D    | MW-20D | MW-20D | MW-20D | MW-20D | MW-20D | MW-20D | MW-20D | MW-20D | MW-20D | MW-20D | MW-20D |
|---------------------------------------------------|----------------------|--------|--------|--------|---------|--------|--------|-----------|---------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Date Sampled                                      | TYPE 3/4 RRS<br>mg/L | Dec-14 | Jun-15 | Dec-15 | 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 | Sep-09    | Dec-09 | May-10 | Nov-10 | May-12 | Dec-12 | Jun-13 | Dec-13 | Jun-14 | Dec-14 | Jun-15 | Dec-15 |
| VOCs (mg/L)                                       |                      |        |        |        | DUP-1   |        |        |           |         |        |        |        |        |        |        |        |        |           |        |        |        |        |        |        |        |        |        |        |        |
| Chloroethane                                      | ---                  | 0.180  | 0.027  | 0.014  | <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 | <0.001    | <0.001 | <0.001 | <0.001 | <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 | <0.001  | <0.001 | <0.001 | <0.001    | <0.001  | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.001    | <0.001 | <0.001 | <0.001 | <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 | <0.001  | <0.001 | <0.001 | <0.001    | <0.001  | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.0053    | <0.001 | <0.001 | <0.001 | <0.001 | <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 | <0.001  | <0.001 | <0.001 | <0.001    | <0.001  | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.001    | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Trichloroethylene                                 | 0.0052               | 1.10   | 0.89   | 0.50   | <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 | 0.012     | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| 1,1-Dichloroethene                                | 0.52                 | 0.59   | 0.59   | 0.27   | <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 | 0.0191    | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| 1,1-Dichloroethane                                | ---                  | 0.046  | 0.015  | 0.0069 | <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 | 0.00099 J | <0.001 | <0.001 | <0.001 | <0.001 | <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 | <0.001  | <0.001 | <0.001 | <0.001    | <0.001  | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.001    | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| cis - 1,2-Dichloroethene                          | 0.2                  | 0.180  | 0.190  | 0.070  | 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 | 0.0152    | <0.001 | <0.001 | <0.001 | <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 | <0.001  | <0.001 | <0.001 | <0.001    | <0.001  | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.001    | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Vinyl Chloride                                    | 0.0033               | 0.240  | 0.490  | 0.052  | 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 | 0.0071    | <0.001 | <0.001 | <0.001 | <0.001 | <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     | NA     | NA     | NA     | NA     |
| Field Parameters                                  |                      |        |        |        |         |        |        |           |         |        |        |        |        |        |        |        |        |           |        |        |        |        |        |        |        |        |        |        |        |
| pH (std. Units)                                   | ---                  | 4.77   | 5.21   | 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   | 6.14      | 5.80   | 4.95   | 4.36   | 4.38   | 4.84   | 4.43   | 5.12   | 4.55   | 4.44   | 4.51   | 4.62   |
| Specific Conductance (mS/cm)                      | ---                  | 0.141  | 0.180  | 0.193  | 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  | 0.145     | 0.084  | 0.053  | 0.043  | 0.050  | 0.153  | 0.093  | 0.051  | 0.048  | 0.062  | 0.053  | 0.049  |
| Temperature (deg. C)                              | ---                  | 19.65  | 22.14  | 18.45  | 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  | 23.21     | 19.25  | 21.2   | 20.83  | 22.27  | 19.69  | 20.98  | 21.04  | 23.57  | 18.52  | 23.44  | 18.73  |
| Dissolved Oxygen (mg/L)                           | ---                  | 0.29   | 0.28   | 0.31   | 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   | 1.79      | 2.08   | 2.09   | 0.41   | 1.01   | 2.11   | 0.76   | 5.27   | 1.9    | 0.79   | 1.12   | 0.57   |
| ORP (mV)                                          | ---                  | -61.3  | 119.1  | 23.1   | 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     | 40.2      | 181.5  | 262.6  | -305.3 | 266.7  | 241.8  | 143.9  | 4.04   | 229.3  | 230.1  | 330.9  | 275    |
| Turbidity (NTU)                                   | ---                  | 7.43   | 6.1    | 44.0   | 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      | 364.3     | 73.8   | 5.6    | 200.1  | 9.40   | 19.7   | 9.7    | 9.0    | 9.5    | 7.09   | 4.5    | 8.0    |
| 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     | 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     | 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     | 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     | 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     | 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     | 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     | 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     | 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     | NA     | NA     |
| Ethylene                                          | ---                  | 0.065  | 0.130  | 0.095  | 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 | NA        | NA     | NA     | NA     | NA     | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 |
| Ethane                                            | ---                  | 0.01   | 0.015  | 0.0099 | 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 | NA        | NA     | NA     | NA     | NA     | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 |
| Methane                                           | ---                  | 1.2    | 2.2    | 2.0    | 7.3     | 4.4    | 13     | 7.2 J     | 5       | NA     | 5.8    | 8.9    | 6.1    | 5.4    | 3.2    | 4.9    | 5.9    | NA        | NA     | NA     | NA     | NA     | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 |
| Hydrogen (nmol/L)                                 | ---                  | 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     | 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 4: Summary of VOCs, Field Measurements, and MNA Parameters (1998-2015)

| Sample Location                                                 |                      | MW-21         | MW-21        | MW-21         | MW-21         | MW-21        | MW-21  | MW-21  | MW-21  |
|-----------------------------------------------------------------|----------------------|---------------|--------------|---------------|---------------|--------------|--------|--------|--------|
| Date Sampled                                                    | TYPE 3/4 RRS<br>mg/L | May-12        | Dec-12       | Jun-13        | Dec-13        | Jun-14       | Dec-14 | Jun-15 | Dec-15 |
| <b><u>VOCs (mg/L)</u></b>                                       |                      |               |              |               |               |              |        |        |        |
| Chloroethane                                                    | ---                  | <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 |
| 1,1,1-Trichloroethane                                           | 13                   | <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 |
| Trichloroethylene                                               | 0.0052               | <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       | <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 |
| 1,2-Dichloroethane                                              | 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       | <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 |
| Vinyl Chloride                                                  | 0.0033               | <b>0.0075</b> | <b>0.005</b> | <b>0.0071</b> | <b>0.0082</b> | <b>0.006</b> | <0.002 | 0.0025 | 0.0027 |
| <b><u>SVOCs (mg/L)</u></b>                                      |                      |               |              |               |               |              |        |        |        |
| 1,4-Dioxane (p-Dioxane)                                         | ---                  | NA            | NA           | NA            | NA            | NA           | NA     | NA     | NA     |
| <b><u>Field Parameters</u></b>                                  |                      |               |              |               |               |              |        |        |        |
| pH (std. Units)                                                 | ---                  | 5.93          | 6.05         | 5.95          | 6.42          | 5.04         | 5.95   | 5.76   | 6.09   |
| Specific Conductance (mS/cm)                                    | ---                  | 0.398         | 0.472        | 0.476         | 0.462         | 0.424        | 0.342  | 0.175  | 0.269  |
| Temperature (deg. C)                                            | ---                  | 20.98         | 17.32        | 18.03         | 17.64         | 21.62        | 18.39  | 21.24  | 18.28  |
| Dissolved Oxygen (mg/L)                                         | ---                  | 1.79          | 0.71         | 2.46          | 4.18          | 0.32         | 0.42   | 0.29   | 0.42   |
| ORP (mV)                                                        | ---                  | -20.6         | -34.5        | -50.2         | -27           | -6.7         | -88.8  | 23.2   | -31.8  |
| Turbidity (NTU)                                                 | ---                  | 25.8          | 7.7          | 2.2           | 9             | 6.37         | 9.90   | 6.20   | 4.90   |
| Iron II (mg/L)                                                  | ---                  | NA            | NA           | NA            | NA            | NA           | NA     | NA     | NA     |
| <b><u>Geochemical Natural Attenuation Parameters (mg/L)</u></b> |                      |               |              |               |               |              |        |        |        |
| Iron II                                                         | ---                  | NA            | NA           | NA            | NA            | NA           | NA     | NA     | NA     |
| Total Organic Carbon                                            | ---                  | NA            | NA           | NA            | NA            | NA           | NA     | NA     | NA     |
| Chloride                                                        | ---                  | NA            | NA           | NA            | NA            | NA           | NA     | NA     | NA     |
| Nitrate                                                         | ---                  | NA            | NA           | NA            | NA            | NA           | NA     | NA     | NA     |
| Sulfate                                                         | ---                  | NA            | NA           | NA            | NA            | NA           | NA     | NA     | NA     |
| Total Alkalinity                                                | ---                  | NA            | NA           | NA            | NA            | NA           | NA     | NA     | NA     |
| Total Sulfide                                                   | ---                  | NA            | NA           | NA            | NA            | NA           | NA     | NA     | NA     |
| Carbon Dioxide                                                  | ---                  | NA            | NA           | NA            | NA            | NA           | NA     | NA     | NA     |
| Ethylene                                                        | ---                  | NA            | <0.007       | <0.007        | <0.007        | <0.007       | <0.007 | <0.007 | <0.007 |
| Ethane                                                          | ---                  | NA            | <0.009       | <0.009        | <0.009        | <0.009       | <0.009 | <0.009 | <0.009 |
| Methane                                                         | ---                  | NA            | 7.1          | 7.5           | 8.4           | 3.4          | 2.3    | 3.2    | 5.5    |
| Hydrogen (nmol/L)                                               | ---                  | 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: MHA 12/28/2015  
Checked by: NJM 1/6/16

**Table 5**  
**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 | 4/13/2009 |
| <b><u>VOCs (mg/L)</u></b>        |                      |                      |                      |           |            |          |           |          |           |           |           |           |
| Chloroethane                     | <0.001               | <0.001               | <0.001               | <0.010    | <0.010     | <0.010   | <0.010    | <0.010   | <0.010    | <0.010    | <0.010    | <0.001    |
| 1,1,1,2-Tetrachloroethane        | <0.001               | <0.001               | <0.001               | <0.005    | <0.005     | <0.005   | <0.005    | <0.005   | <0.005    | <0.005    | <0.005    | <0.001    |
| 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    | <0.001    |
| 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    | <0.001    |
| Trichloroethylene                | <0.001               | <0.001               | <0.001               | <0.005    | <0.005     | <0.005   | <0.005    | <0.005   | <0.005    | <0.005    | <0.005    | <0.001    |
| 1,1-Dichloroethene               | <0.001               | <0.001               | 0.0006 <sup>J</sup>  | <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    | <0.001    |
| 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    | <0.001    |
| <i>cis</i> -1,2-Dichloroethene   | 0.00096 <sup>J</sup> | <0.001               | 0.00098 <sup>J</sup> | <0.005    | <0.005     | <0.005   | <0.005    | <0.005   | <0.005    | <0.005    | <0.005    | <0.001    |
| <i>trans</i> -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    | <0.001    |
| Vinyl Chloride                   | 0.00044 <sup>J</sup> | 0.00048 <sup>J</sup> | 0.00042 <sup>J</sup> | <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 5**  
**Summary of Surface Water Analytical Results**

| Sample Location<br>Date Sampled  | SW-4      |           |            |          |           |          |           |           |           |
|----------------------------------|-----------|-----------|------------|----------|-----------|----------|-----------|-----------|-----------|
|                                  | 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 |
| <b><u>VOCs (mg/L)</u></b>        |           |           |            |          |           |          |           |           |           |
| Chloroethane                     | <0.001    | <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    |
| 1,1,1-Trichloroethane            | <0.001    | <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    |
| Trichloroethylene                | <0.001    | <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    |
| 1,1-Dichloroethane               | <0.001    | <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    |
| <i>cis</i> -1,2-Dichloroethene   | <0.001    | <0.005    | <0.005     | <0.005   | <0.005    | <0.005   | <0.005    | <0.005    | <0.005    |
| <i>trans</i> -1,2-Dichloroethene | <0.001    | <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    |

**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 Surface Water Analytical Results**

| Sample Location<br>Date Sampled | SW-5      |            |          |           |          |           |           |           | SW-6      |            |          |           |          |           |           |           |
|---------------------------------|-----------|------------|----------|-----------|----------|-----------|-----------|-----------|-----------|------------|----------|-----------|----------|-----------|-----------|-----------|
|                                 | 5/30/2012 | 12/13/2012 | 6/6/2013 | 12/5/2013 | 6/5/2014 | 12/3/2014 | 6/18/2015 | 12/9/2015 | 5/30/2012 | 12/13/2012 | 6/6/2013 | 12/5/2013 | 6/5/2014 | 12/3/2014 | 6/18/2015 | 12/9/2015 |
| <b><u>VOCs (mg/L)</u></b>       |           |            |          |           |          |           |           |           |           |            |          |           |          |           |           |           |
| 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    |
| 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    |
| 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    |
| 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    |
| 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    |
| 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    |
| 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    |
| 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    |
| 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    |
| 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    |
| 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    |

Prepared by: MHA 1/4/2015  
Checked by: NJM 1/6/2016

**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

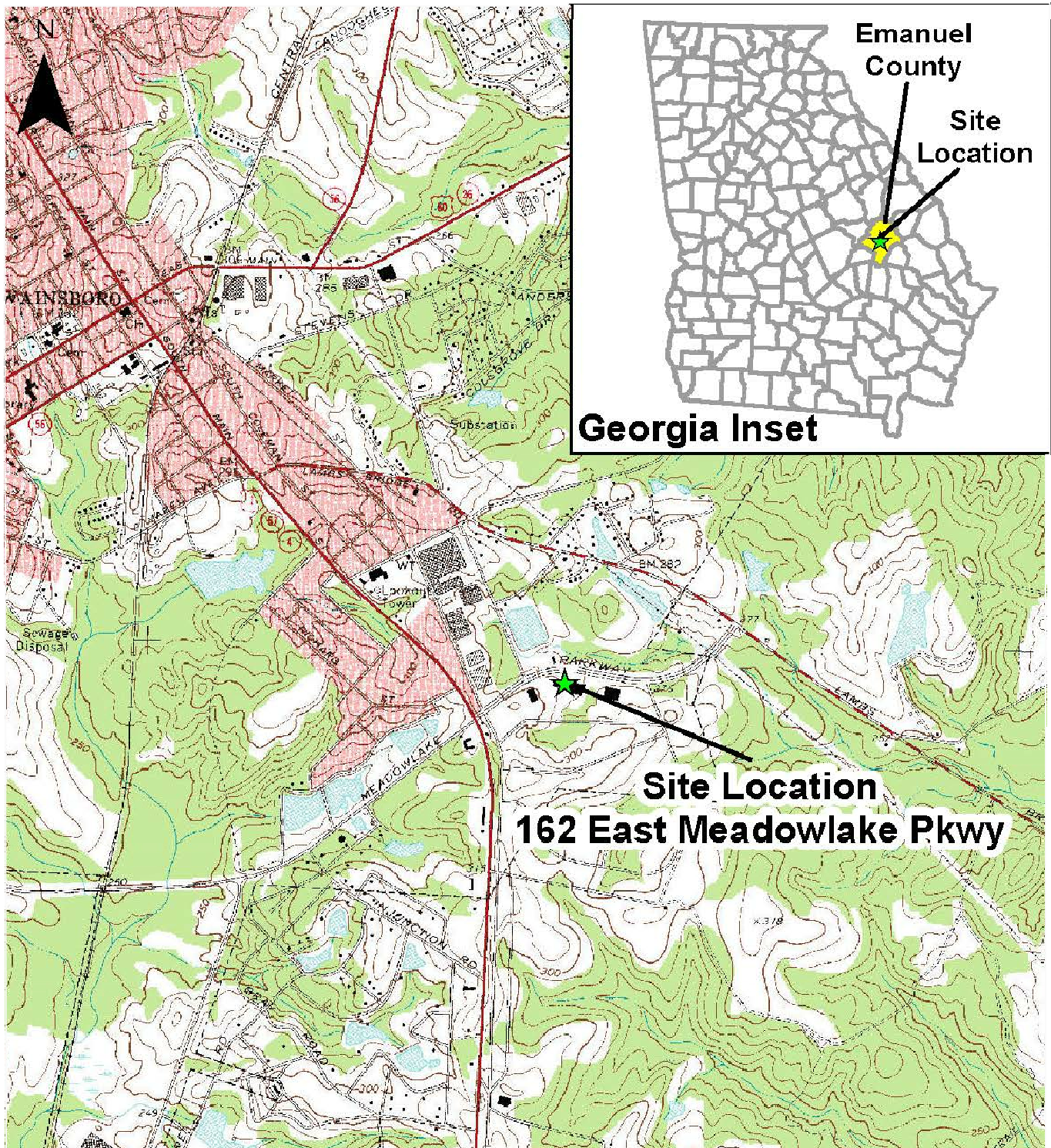
**TABLE 6: SUMMARY OF HOURS INVOICED AND DESCRIPTION OF SERVICES**

|                                            | <b>Hours<br/>Invoiced</b> | <b>Billing Period</b> | <b>Invoice #</b> | <b>Description of Services</b>                                                                                                                                                                                           |
|--------------------------------------------|---------------------------|-----------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gregory J. Wrenn, P.E.                     | 10                        | 7/25/2015-8/21/2015   | H081002344       | Submittal of response to EPD's June 4, 2015 request for submittal of surface water data. Preparation of data for August 2015 VRP Progress Report. Review EPD comment letter dated July 27, 2015.                         |
| Total Project Hours for Billing Period     | 69.5                      |                       | 8/31/2015        |                                                                                                                                                                                                                          |
| Gregory J. Wrenn, P.E.                     | 2.0                       | 8/22/2015-9/18/2015   | H081002434       | Submittal of final August 2015 VRP Progress Report. Preparation of draft response to EPD comment letter dated July 27, 2015. Evaluation of path forward for execution of environmental covenant.                         |
| Total Project Hours for Billing Period     | 2.5                       |                       | 10/1/2015        |                                                                                                                                                                                                                          |
| Gregory J. Wrenn, P.E.                     | 4.0                       | 9/19/2015-10/23/2015  | H081002775       | Coordination of the HVE event. Submitted response to EPD comment letter dated July 27, 2015.                                                                                                                             |
| Total Project Hours for Billing Period     | 7.8                       |                       | 11/4/2015        |                                                                                                                                                                                                                          |
| Gregory J. Wrenn, P.E.                     | 4.5                       | 10/24/2015-11/20/2015 | H081002802       | Coordination and oversight of HVE event, sampling of treated effluent, and disposal of fluids. Prepared proposal for Fall 2015 monitoring event. Reviewed EPD letter dated November 2, 2015 on VRP Progress Report No.7. |
| Total Project Hours for Billing Period     | 29.3                      |                       | 11/24/2015       |                                                                                                                                                                                                                          |
| Gregory J. Wrenn, P.E.                     | 3.0                       | 11/21/2015-12/11/2015 | H081002828       | Coordination and execution of Fall 2015 monitoring event.                                                                                                                                                                |
| Total Project Hours for Billing Period     | 67.3                      |                       | 12/16/2015       |                                                                                                                                                                                                                          |
| Gregory J. Wrenn, P.E.                     | 2                         | 12/12/2015-1/22/2016  | H081002878       | Preparation of draft February 2016 VRP Progress Report No. 8.                                                                                                                                                            |
| Total Project Hours for Billing Period     | 26.7                      |                       | 2/5/2016         |                                                                                                                                                                                                                          |
| <b>Total Hours for PE Gregory J. Wrenn</b> | <b>25.5</b>               |                       |                  |                                                                                                                                                                                                                          |
| <b>Total Project Hours</b>                 | <b>203.1</b>              |                       |                  |                                                                                                                                                                                                                          |

Prepared by: NJM 1/27/2016  
Checked by: MHA 2/9/2016

## **FIGURES**





Source: USGS 7.5 Minute Topographic Quadrangle, Swainsboro Quad

0 1,000 2,000  
Feet

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

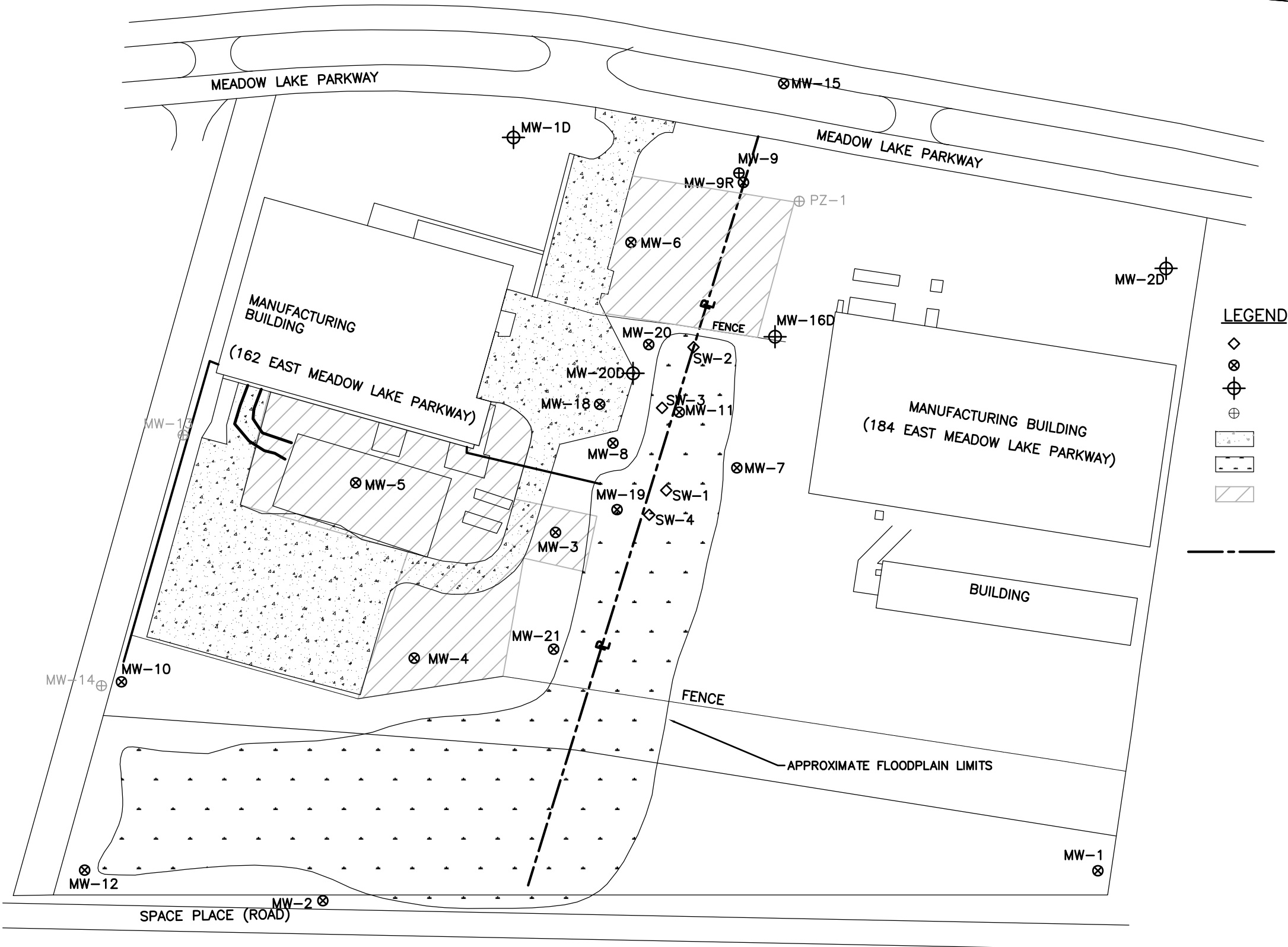
**amec foster wheeler**   
Environment & Infrastructure, Inc.  
1075 BIG SHANTY ROAD, NW, SUITE 100  
KENNESAW, GEORGIA 30144 (770) 421-3400

SITE LOCATION MAP

JOB NO. 6125-08-0149 FIGURE 1

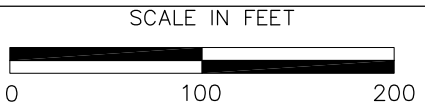
PREPARED BY/DATE  
CHECKED BY/DATE





LEGEND

- ◇ SURFACE WATER MONITORING LOCATION
- ⊗ SHALLOW MONITORING WELL
- ⊕ DEEP MONITORING WELL
- ⊕ ABANDONED WELL
- ▨ PAVED SURFACE
- ▨ FLOODPLAIN
- ▨ RECENTLY CONSTRUCTED PARKING AREA (PAVED) AND BUILDINGS
- PROPERTY LINE



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

FORMER AUTOMATIC SPRINKLER SITE  
162 EAST MEADOWLAKE PKWY  
SWAINSBORO, GEORGIA

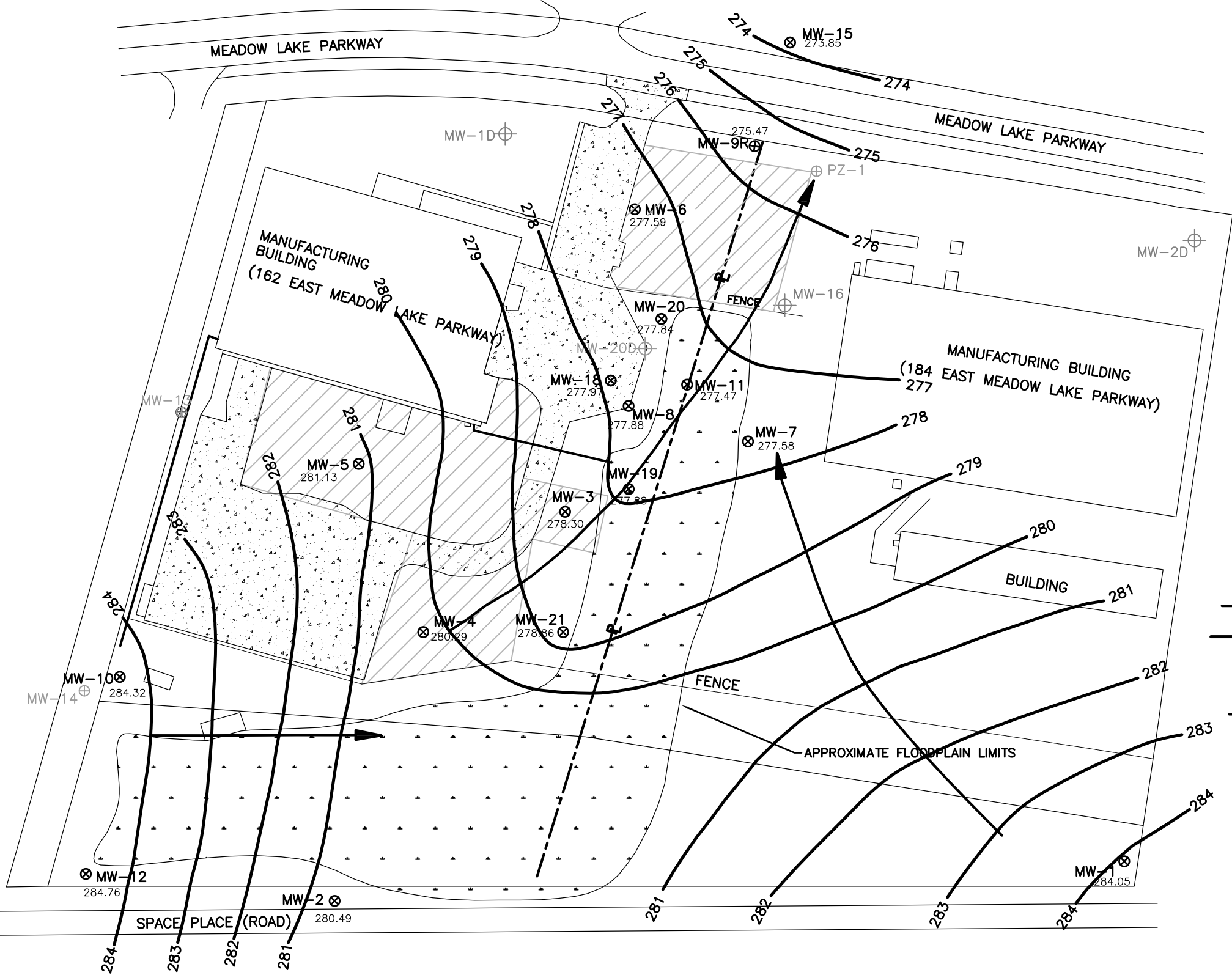
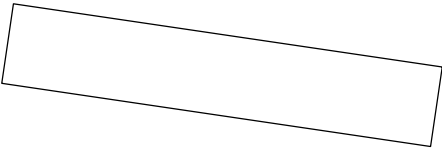
amec foster wheeler  
Environment & Infrastructure, Inc.  
1075 BIG SHANTY ROAD, NW, SUITE 100  
KENNESAW, GEORGIA 30144 (770) 421-3400

FIGURE 2  
SITE LAYOUT MAP

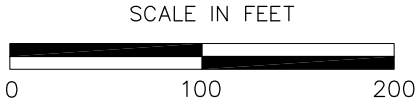
JOB NO. 6125-08-0149

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





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



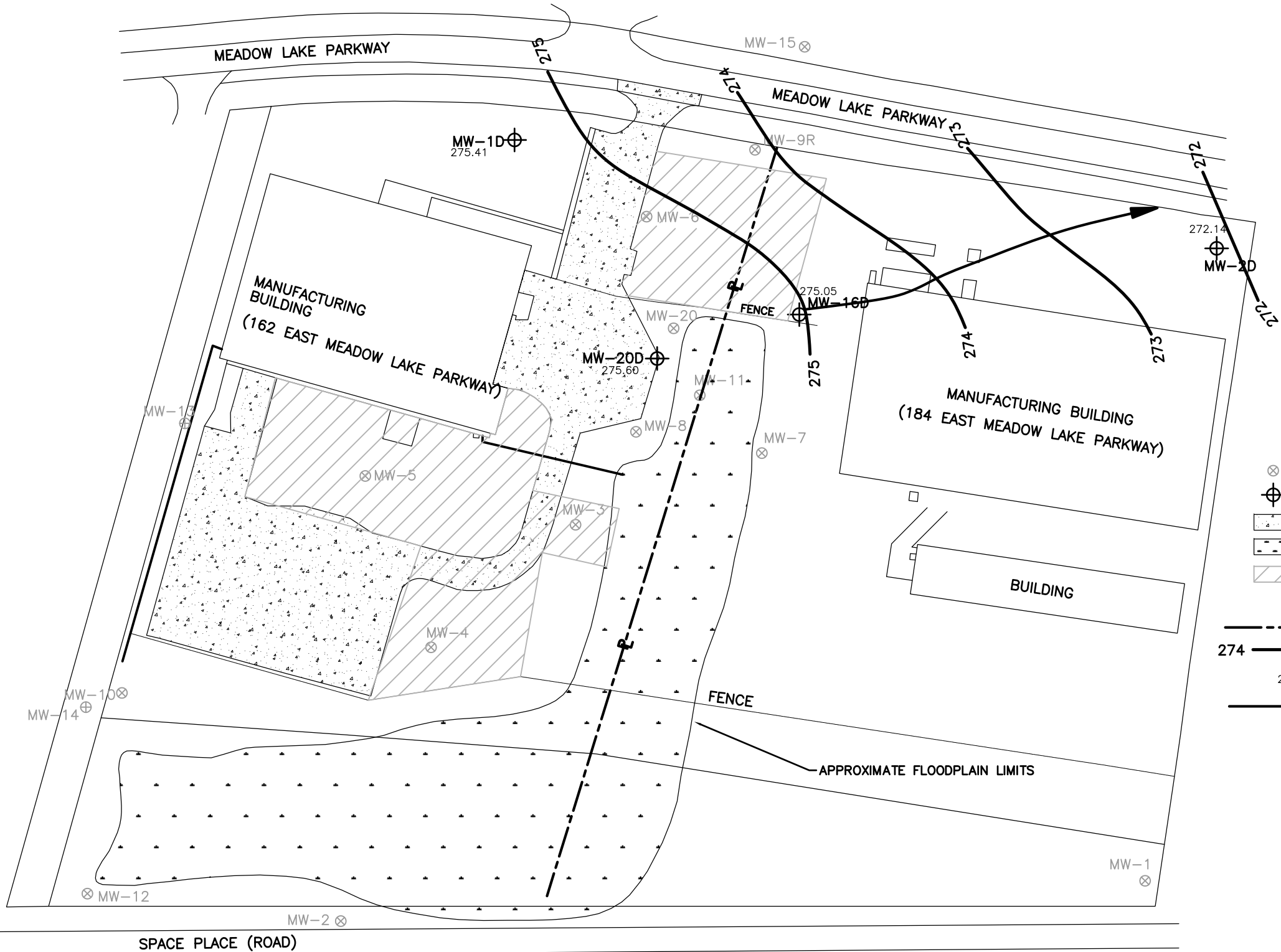
SOURCE: BASE MAP EMCON, 12/98 AND 6/99

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

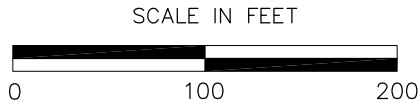
**FIGURE 3b**  
**SHALLOW ZONE**  
**POTENTIOMETRIC SURFACE MAP**  
**JUNE 2015**

JOB NO. 6125-08-0149



**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



SOURCE: EMCON, 12/98 AND 6/99

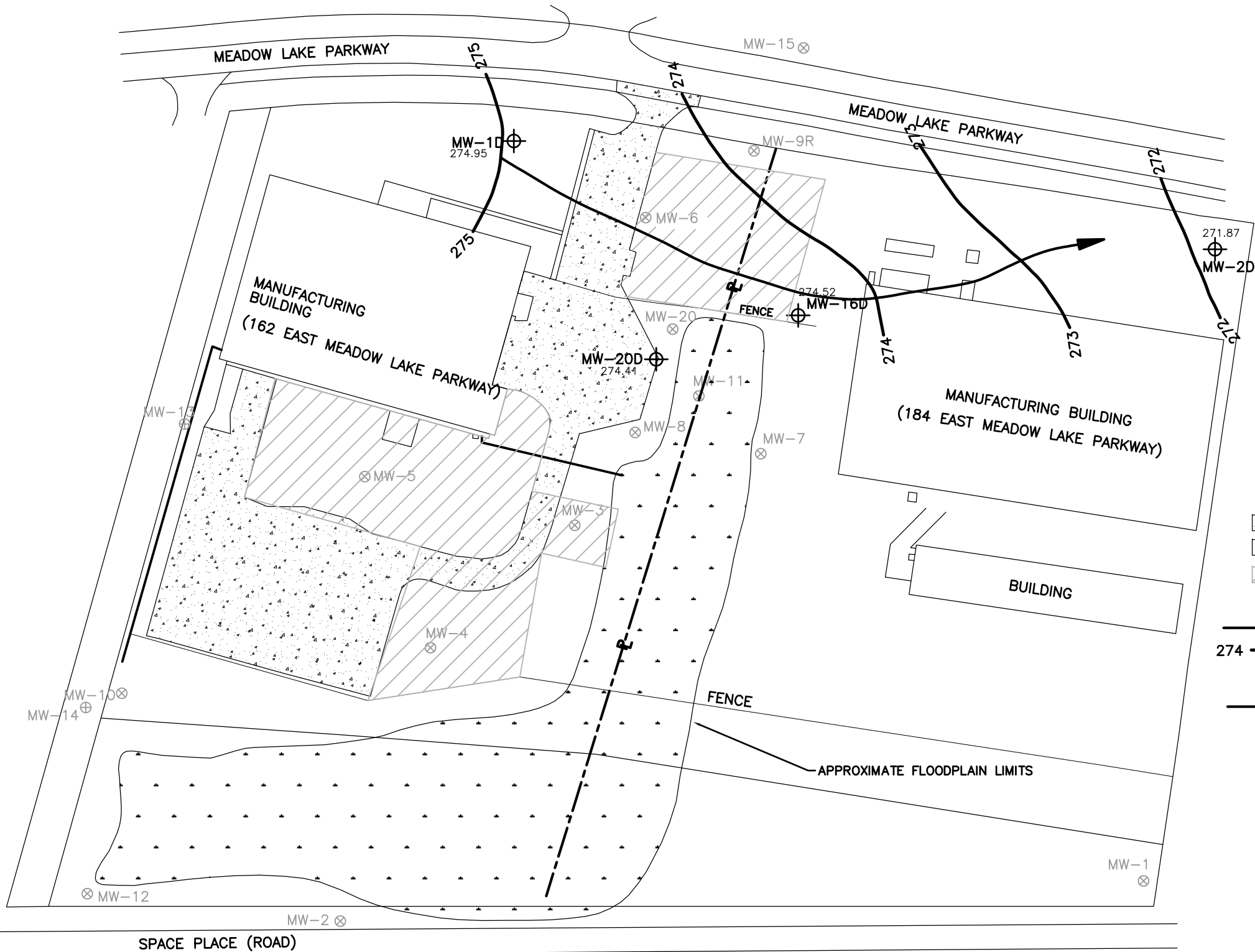
FORMER AUTOMATIC SPRINKLER SITE  
162 EAST MEADOWLAKE PKWY  
SWAINSBORO, GEORGIA

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

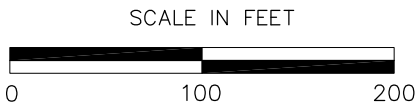
**FIGURE 4a**  
**DEEP ZONE**  
**POTENTIOMETRIC SURFACE MAP**  
**DECEMBER 2015**

**JOB NO. 6125-08-0149**





- 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



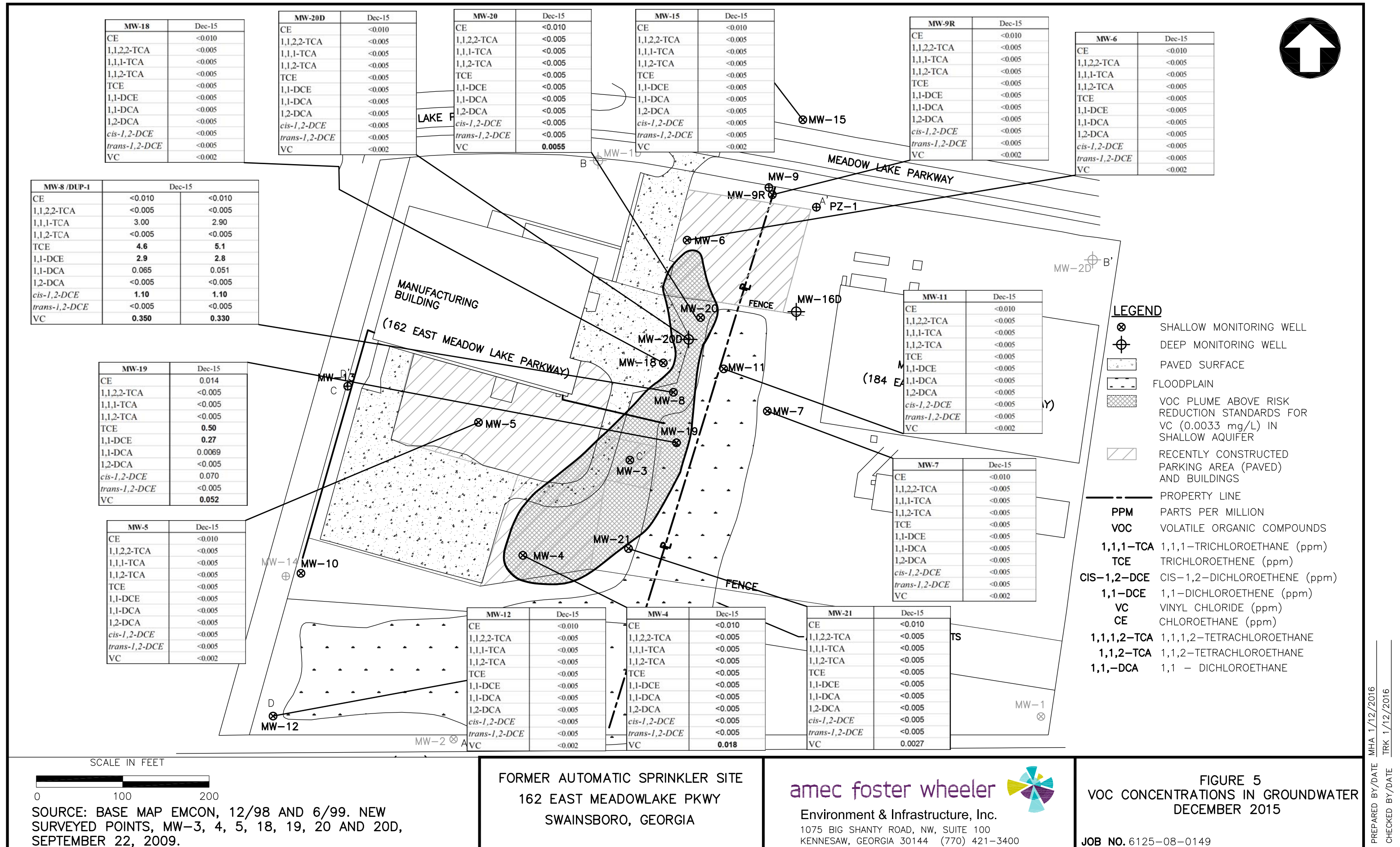
SOURCE: EMCON, 12/98 AND 6/99

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 2015

JOB NO. 6125-08-0149





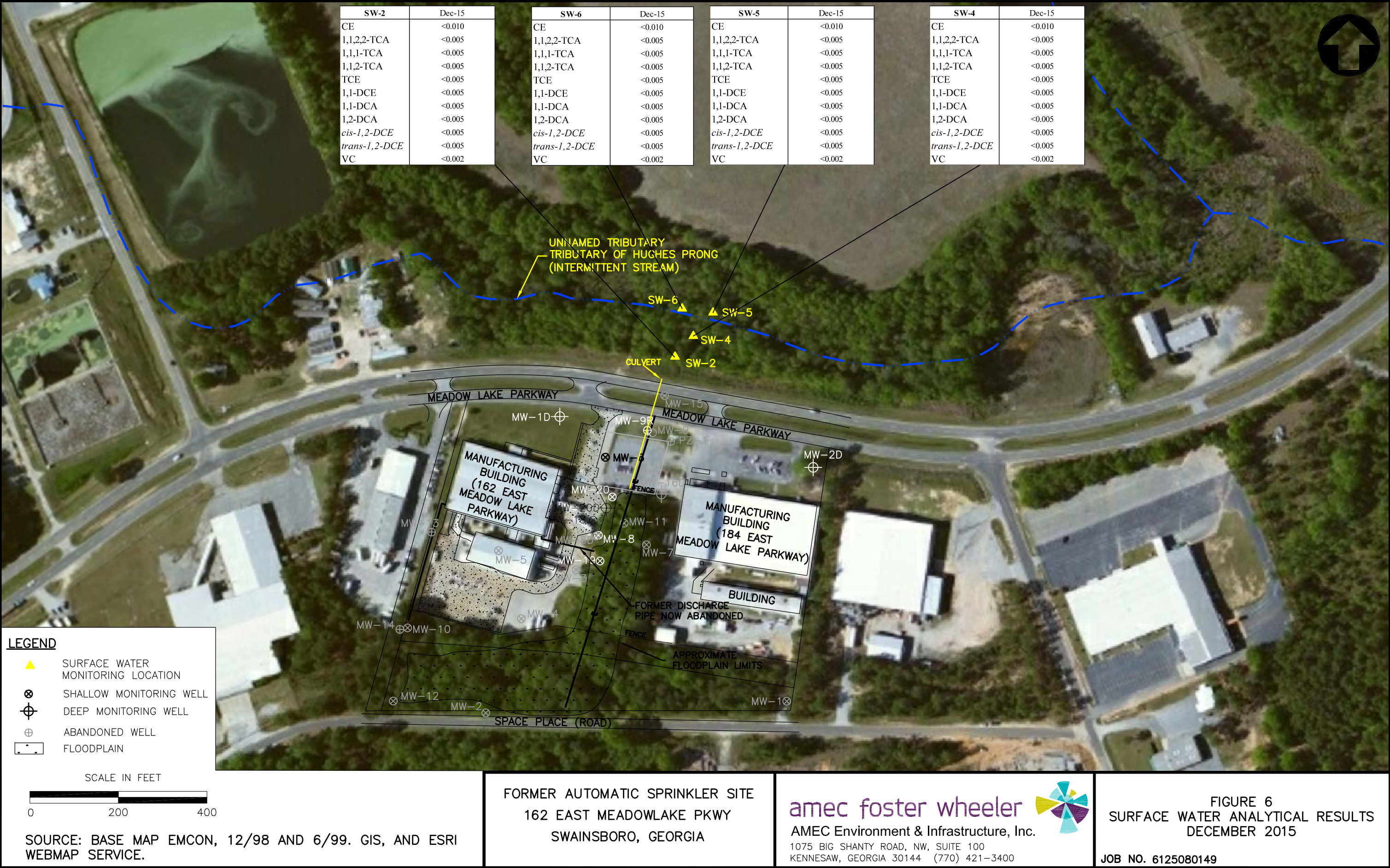
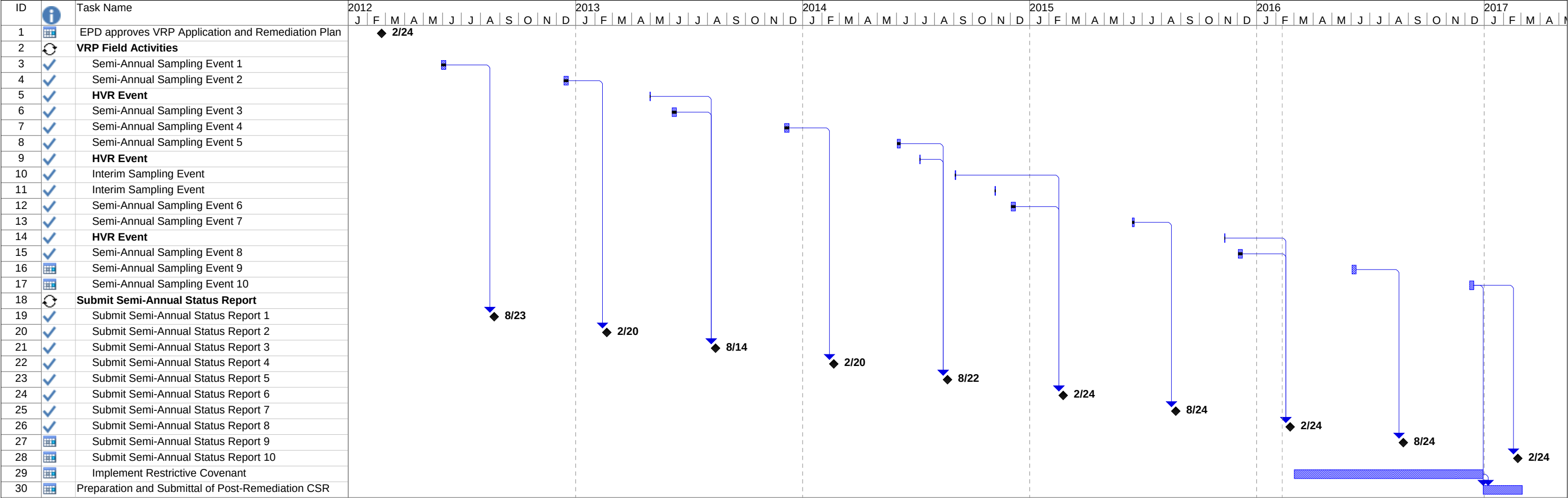


FIGURE 7  
UPDATED SCHEDULE FOR VRP IMPLEMENTATION  
FORMER AUTOMATIC SPRINKLER SITE, SWAINSBORO, GA





## **APPENDIX A**

### **WELL PURGING/GROUNDWATER SAMPLING LOGS**

## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: SFC Swainsboro

Well ID: MW-21

Field Sampling Personnel: B. Updyke

Identify Measuring Point (MP): TOC  
(e.g. Top of Casing)

page \_\_\_\_ of \_\_\_\_

Depth to Screen below MP:  $\frac{1.00}{\text{Top}}$  of screen  $\frac{14.80}{\text{Bottom}}$  of screen

Pump Intake at (ft. below MP): 8  
Purging Device (Pump Type): peristaltic

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

[illegible]

otes:

note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

stabilization does not occur within 2 hours, contact Site Manager for action.  
well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

- $\pm 0.1$  for pH
- $\pm 10$  mV for redox
- $\pm 3\%$  for specific cond.
- $\pm 10\%$  for DO
- $< 20$  NTUs for turbidity
- NA for temperature

## Attachment 4.4

# WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: STE Swainsboro

Identify Measuring Point (MP): TOC  
(e.g. Top of Casing)

page \_\_\_\_ of \_\_\_\_

Nell ID: MW-5

Field Sampling Personnel: B. Updike

Depth to Screen below MP:  $\frac{3.00}{\text{Top}}$  of screen  $\frac{17.96}{\text{Bottom}}$  of screen

Pump Intake at (ft. below MP): \_\_\_\_\_  
Purging Device (Pump Type): peristaltic

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

[illegible]

tes:

te when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

stabilization does not occur within 2 hours, contact Site Manager for action.

Well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH  
 ±10 mV for redox  
 ±3% for specific cond.  
 ±10% for DO  
 <20 NTUs for turbidity  
 NA for temperature

## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: STL

Identify Measuring Point (MP): To C  
(e.g. Top of Casing)

page \_\_\_\_ of \_\_\_\_

Well ID: MW-6-12082015

Field Sampling Personnel: Gazzo

Depth to Screen below MP: \_\_\_\_\_ of screen \_\_\_\_\_ of screen

Pump Intake at (ft. below MP): 10  
Purging Device (Pump Type): \_\_\_\_\_

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

DTW 3.50  
DTB 3.22  
WV 1.6  
WVx3 4.9

[illegible]

otes:

note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

stabilization does not occur within 2 hours, contact Site Manager for action.  
well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH  
±10 mV for redox  
±3% for specific cond.  
±10% for DO  
<20 NTUs for turbidity  
NA for temperature

DTW 2.90  
DTB 9.85  
WVX1 1.2  
WVX3 3.5  
column 6.95

page \_\_\_\_ of \_\_\_\_

STL

mw7

6/12/20

POC

[Top](#)

7

Bottom

Purging Device (Pump Type):

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

[illegible]

ote when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

±0.1 for pH  
 ±10 mV for redox  
 ±3% for specific cond.  
 ±10% for DO  
 <20 NTUs for turbidity  
 NA for temperature

stabilization does not occur within 2 hours, contact Site Manager for action.  
well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.



## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: STI Swainsboro

Identify Measuring Point (MP): Top  
(e.g. Top of Casing)

page \_\_\_\_ of \_\_\_\_

Well ID: MW-8

Field Sampling Personnel: B. Urodynke

Depth to Screen below MP: 1.5 of screen  
Top

Pump Intake at (ft. below MP): 7  
Purging Device (Pump Type): peristaltic

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

[illegible]

otes:

note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

stabilization does not occur within 2 hours, contact Site Manager for action.

well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

- $\pm 0.1$  for pH
- $\pm 10$  mV for redox
- $\pm 3\%$  for specific cond.
- $\pm 10\%$  for DO
- $< 20$  NTUs for turbidity
- NA for temperature

## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location:

STI Swainsboro

Identify Measuring Point (MP): Top  
(e.g. Top of Casing)

page \_\_\_\_ of \_\_\_\_

Well ID:

mw-9R

Field Sampling Personnel: B. Cypochyka

Depth to Screen below MP:  $\frac{1.0}{\text{Top}}$  of screen  $\frac{11.57}{\text{Bottom}}$  of screen

Pump Intake at (ft. below MP): 6

Purging Device (Pump Type): peristaltic

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

[illegible]

otes:

note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

±0.1 for pH  
 ±10 mV for redox  
 ±3% for specific cond.  
 ±10% for DO  
 <20 NTUs for turbidity  
 NA for temperature

stabilization does not occur within 2 hours, contact Site Manager for action.  
well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

DTW 3.54  
DTB 2.78  
WVX1 3.26  
WVX3 3.16  
column 4.24

page \_\_\_\_ of \_\_\_\_

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

1150 sample  
Time

040002.03



## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location:

Well ID:

Field Sampling Personnel:

Identify Measuring Point (MP):  
(e.g. Top of Casing)

Depth to Screen below MP:

of screen

of screen

Pump Intake at (ft. below MP):

Purging Device (Pump Type):

(e.g. Dedicated pump, peristaltic pump, Dailer, bladder pump, etc.)

DTW 2.32  
DTB 6.93 page \_\_\_\_ of \_\_\_\_  
WLX 1.78  
WLX 3 2.4

[illegible]

otes:

ote when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

stabilization does not occur within 2 hours, contact Site Manager for action.

well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH  
 ±10 mV for redox  
 ±3% for specific cond.  
 ±10% for DO  
 <20 NTUs for turbidity  
 NA for temperature

## Attachment 4.4

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location:

Well ID:

Field Sampling Personnel:

Identify Measuring Point (MP):  
(e.g. Top of Casing)

Depth to Screen below MP:

of screen

of screen

Pump Intake at (ft. below MP):

Purging Device (Pump Type):

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

DTW 6.27  
DTB 9.82  
WVX1.60  
WVX3 1.81

page \_\_\_\_ of \_\_\_\_

[illegible]

otes:

ote when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

stabilization does not occur within 2 hours, contact Site Manager for action.

well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH  
 ±10 mV for redox  
 ±3% for specific cond.  
 ±10% for DO  
 <20 NTUs for turbidity  
 NA for temperature

## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: STI Swainsboro

Identify Measuring Point (MP): TOC  
(e.g. Top of Casing)

page \_\_\_\_ of \_\_\_\_

Nell ID: MW-18

Field Sampling Personnel: B. Goodwin

Depth to Screen below MP:  $\frac{1.00}{\text{Top}}$  of screen  $\frac{14.19}{\text{Bottom}}$  of screen

Pump Intake at (ft. below MP): 8' Bottom

Purging Device (Pump Type): peristaltic

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

[illegible]

otes:

note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

stabilization does not occur within 2 hours, contact Site Manager for action.

well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH  
 ±10 mV for redox  
 ±3% for specific cond.  
 ±10% for DO  
 <20 NTUs for turbidity  
 NA for temperature

## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: STC SwainsboroIdentify Measuring Point (MP): TOC  
(e.g. Top of Casing)page 1 of 2Well ID: MW-19Field Sampling Personnel: B. UpdikeDepth to Screen below MP: 1.00 of screen 16.42 of screen  
Top BottomPump Intake at (ft. below MP): 10Purging Device (Pump Type): peristaltic

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

| Date    | Time | Depth to Water Below MP ft | Purge Rate mL/min | pH pH units | Spec Cond. mS/cm | Turbidity NTUs | DO Flow cell mg/L | Temp. °C | Redox Potential mV | Cum. Volume Purged gallons | CHEMetrics DO mg/L (low) | Hach Ferrous Iron mg/L | Comments |
|---------|------|----------------------------|-------------------|-------------|------------------|----------------|-------------------|----------|--------------------|----------------------------|--------------------------|------------------------|----------|
| 12/9/15 | 1040 | 3.15                       |                   |             |                  |                |                   |          |                    |                            |                          |                        |          |
|         | 1055 | 3.60                       | 150               | 5.29        | 0.106            | 92.3           | 1.19              | 18.51    | 224.0              | 20.5                       |                          |                        |          |
|         | 1100 | 3.65                       | 100               | 5.34        | 0.111            | 93.2           | 0.74              | 18.31    | 164.3              |                            |                          |                        |          |
|         | 1105 | 3.65                       | 100               | 5.48        | 0.121            | 91.1           | 0.65              | 18.36    | 111.0              | 0.5                        |                          |                        |          |
|         | 1110 | 3.65                       | 100               | 5.58        | 0.132            | 88.8           | 0.53              | 18.29    | 79.7               |                            |                          |                        |          |
|         | 1115 | 3.60                       | 100               | 5.61        | 0.137            | 87.3           | 0.52              | 18.27    | 71.4               |                            |                          |                        |          |
|         | 1120 | 3.60                       | 100               | 5.65        | 0.145            | 82.8           | 0.63              | 18.15    | 58.4               | 1.0                        |                          |                        |          |
|         | 1125 | 3.60                       | 100               | 5.69        | 0.156            | 82.4           | 0.52              | 18.03    | 47.0               |                            |                          |                        |          |
|         | 1130 | 3.57                       | 100               | 5.70        | 0.157            | 75.5           | 0.41              | 17.98    | 211.6              |                            |                          |                        |          |
|         | 1135 | 3.57                       | 100               | 5.71        | 0.160            | 74.0           | 0.42              | 18.00    | 40.9               | 2.0                        |                          |                        |          |
|         | 1140 | 3.55                       | 100               | 5.72        | 0.164            | 69.4           | 0.43              | 18.01    | 36.4               |                            |                          |                        |          |
|         | 1145 | 3.55                       | 100               | 5.72        | 0.166            | 68.3           | 0.43              | 18.01    | 35.2               |                            |                          |                        |          |
|         | 1150 | 3.55                       | 100               | 5.73        | 0.168            | 66.3           | 0.41              | 18.00    | 34.4               |                            |                          |                        |          |
|         | 1155 | 3.55                       | 100               | 5.73        | 0.170            | 65.2           | 0.37              | 18.08    | 34.7               |                            |                          |                        |          |
|         | 1200 | 3.55                       | 100               | 5.74        | 0.174            | 62.7           | 0.39              | 18.07    | 31.5               | 3.0                        |                          |                        |          |
|         | 1205 | 3.55                       | 100               | 5.74        | 0.175            | 60.4           | 0.41              | 18.13    | 32.7               |                            |                          |                        |          |
|         | 1210 | 3.55                       | 100               | 5.74        | 0.178            | 59.1           | 0.35              | 18.17    | 30.7               |                            |                          |                        |          |
|         | 1215 | 3.55                       | 100               | 5.75        | 0.180            | 57.2           | 0.34              | 18.21    | 28.6               | 2.5                        |                          |                        |          |
|         | 1220 | 3.55                       | 100               | 5.76        | 0.183            | 51.1           | 0.33              | 18.22    | 25.2               |                            |                          |                        |          |
|         | 1225 | 3.55                       | 100               | 5.76        | 0.186            | 51.6           | 0.33              | 18.25    | 24.7               |                            |                          |                        |          |
|         | 1230 | 3.55                       | 100               | 5.76        | 0.187            | 51.2           | 0.35              | 18.27    | 24.8               |                            |                          |                        |          |
|         | 1235 | 3.55                       | 100               | 5.76        | 0.188            | 50.0           | 0.32              | 18.37    | 24.1               | 4.0                        |                          |                        |          |

Notes:

Note when "Stabilization" has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

±0.1 for pH  
 ±10 mV for redox  
 ±3% for specific cond.  
 ±10% for DO  
 <20 NTUs for turbidity  
 NA for temperature

If stabilization does not occur within 2 hours, contact Site Manager for action.

If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.



## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: 51 L 30047

Identify Measuring Point (MP): Top  
(e.g. Top of Casing)

page 2 of 2

Well ID: mw-19  
Field Sampling Personnel: B. C. Dyke

Depth to Screen below MP:  $\frac{100}{\text{Top}}$  of screen  $\frac{16.42}{\text{Bottom}}$  of screen

Pump Intake at (ft.-below MP): 10  
 Purging Device (Pump Type): peristaltic  
 (e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

[illegible]

|                                                                                                                          |                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Notes:                                                                                                                   |                                                                                                                          |
| note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings): | ±0.1 for pH<br>±10 mV for redox<br>±3% for specific cond.<br>±10% for DO<br><20 NTUs for turbidity<br>NA for temperature |
| stabilization does not occur within 2 hours, contact Site Manager for action.                                            |                                                                                                                          |
| well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.                                  |                                                                                                                          |
| 040002 03                                                                                                                |                                                                                                                          |

PTW 4.73  
DTB 16.24  
WVX1 #2  
WVX3 5.8

page of

STI

TOC

M 20

Garni

Top

Bottom

10'

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

[illegible]

ote when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

±0.1 for pH  
 ±10 mV for redox  
 ±3% for specific cond.  
 ±10% for DO  
 <20 NTUs for turbidity  
 NA for temperature

040002.03

## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location:

STI

Well ID:

MN20 D

Field Sampling Personnel:

GA 220

Identify Measuring Point (MP):  
(e.g. Top of Casing)

TOC

Depth to Screen below MP:

of screen

of screen

Top

Bottom

Pump Intake at (ft. below MP):

29'

Purging Device (Pump Type):

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

| Date    | Time | Depth to Water Below MP ft | Purge Rate mL/min | pH pH units | Spec Cond. mS/cm | Turbidity NTUs | DO Flow cell mg/L | Temp. °C | Redox Potential mV | Cum. Volume Purged gallons | CHEM DO mg/L (low) | Hach Ferrous Iron mg/L | Comments                                                                |
|---------|------|----------------------------|-------------------|-------------|------------------|----------------|-------------------|----------|--------------------|----------------------------|--------------------|------------------------|-------------------------------------------------------------------------|
| 12/9/11 | 0915 | 6.61                       | 150               | 6.47        | .209             | 16             | 5.14              | 17.28    | 191                | -                          |                    |                        |                                                                         |
|         | 0920 | 7.33                       | 150               | 5.10        | .083             | 12             | 1.70              | 18.09    | 177                | .2                         |                    |                        | DTW is 6.61                                                             |
|         | 0925 | 8.14                       | 150               | 4.78        | .060             | 10             | 1.00              | 18.31    | 174                | .4                         |                    |                        | Before the first reading.                                               |
|         | 0930 | 9.20                       | 150               | 4.66        | .053             | 9              | .74               | 18.73    | 191                | .6                         |                    |                        |                                                                         |
|         | 0935 | 10.22                      | 150               | 4.63        | .051             | 9              | .61               | 18.91    | 232                | .8                         |                    |                        |                                                                         |
|         | 0940 | 11.06                      | 150               | 4.61        | .050             | 9              | .54               | 19.08    | 248                | 1.00                       |                    |                        | Type III well                                                           |
|         | 0945 | 11.73                      | 150               | 4.63        | .050             | 9              | .51               | 19.15    | 261                | 1.20                       |                    |                        |                                                                         |
|         | 0950 | 12.74                      | 150               | 4.66        | .049             | 9              | .49               | 19.15    | 270                | 1.40                       |                    |                        | 2" PVC well.                                                            |
|         | 0955 | 13.41                      | 150               | 4.64        | .049             | 9              | .50               | 19.20    | 274                | 1.60                       |                    |                        |                                                                         |
|         | 1000 | 13.80                      | 150               | 4.63        | .049             | 8              | .53               | 19.12    | 274                | 1.80                       |                    |                        |                                                                         |
|         | 1005 | 14.33                      | 150               | 4.62        | .049             | 8              | .57               | 18.72    | 275                | 2.00                       |                    |                        |                                                                         |
|         | 1010 | 15.07                      | 150               | 4.62        | .049             | 8              | .57               | 18.73    | 275                | 2.20                       |                    |                        | Well has very poor recharge.                                            |
|         |      |                            |                   |             |                  |                |                   |          |                    |                            |                    |                        | I pumped the well dry and sampled other well while this well recharged. |
|         |      |                            |                   |             |                  |                |                   |          |                    |                            |                    |                        | And then I took the sample                                              |
|         |      |                            |                   |             |                  |                |                   |          |                    |                            |                    |                        | I removed the 5 carb of water.                                          |

Notes:

Note when "Stabilization" has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

±0.1 for pH

±10 mV for redox

±3% for specific cond.

±10% for DO

&lt;20 NTUs for turbidity

NA for temperature

If stabilization does not occur within 2 hours, contact Site Manager for action.

If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

DTW 5.61  
 DTB 34.40  
 WDX1 4.89  
 WDX3 14.68  
 Column 25.79

page \_\_\_\_ of \_\_\_\_



## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: STE Swainsboro

Well ID: MW-21

Field Sampling Personnel: B. Updike

Identify Measuring Point (MP): TOC  
(e.g. Top of Casing)

page \_\_\_\_ of \_\_\_\_

Depth to Screen below MP:  $\frac{2.54}{\text{Top}}$  of screen  $\frac{17.54}{\text{Bottom}}$  of screen

Pump Intake at (ft. below MP): 11 Bottom  
Purging Device (Pump Type): peristaltic  
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

[illegible]

otes:

ote when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

stabilization does not occur within 2 hours, contact Site Manager for action.  
well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH  
 ±10 mV for redox  
 ±3% for specific cond.  
 ±10% for DO  
 <20 NTUs for turbidity  
 NA for temperature

## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location:

Well ID:

Field Sampling Personnel:

Identify Measuring Point (MP): \_\_\_\_\_  
(e.g. Top of Casing)

page \_\_\_\_ of \_\_\_\_

Depth to Screen below MP:                      of screen                      of screen

Top

Bottom

Pump Intake at (ft. below MP):

Purging Device (Pump Type):

(e.g. Dedicated pump, peristaltic pump, boller, bladder pump, etc.)

[illegible]

otes:

note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

stabilization does not occur within 2 hours, contact Site Manager for action.

well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

$\pm 0.1$  for pH

+10 mV for redox

+3% for specific cond.

+10% for DO

<20 NTUs for turbidity.

NA for temperature:

## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: " ~~574~~

Identify Measuring Point (MP):  
(e.g. Top of Casing)

page \_\_\_\_ of \_\_\_\_

Well ID: SWT

Field Sampling Personnel: \_\_\_\_\_

Depth to Screen below MP: \_\_\_\_\_ of screen \_\_\_\_\_ of screen

Top Bottom

Pump Intake at (ft. below MP):

Purging Device (Pump Type):

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

[illegible]

otes:

note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

stabilization does not occur within 2 hours, contact Site Manager for action.

well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH  
 ±10 mV for redox  
 ±3% for specific cond.  
 ±10% for DO  
 <20 NTUs for turbidity  
 NA for temperature

## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: STC

Well ID: SW3

Field Sampling Personnel:

Identify Measuring Point (MP): \_\_\_\_\_  
(e.g. Top of Casing)

page \_\_\_\_ of \_\_\_\_

Depth to Screen below MP: \_\_\_\_\_ of screen  
Top Bottom

Pump Intake at (ft. below MP): \_\_\_\_\_  
 Purging Device (Pump Type): \_\_\_\_\_  
 (e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

[illegible]

otes:

note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

stabilization does not occur within 2 hours, contact Site Manager for action." well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH  
 ±10 mV for redox  
 ±3% for specific cond.  
 ±10% for DO  
 <20 NTUs for turbidity  
 NA for temperature

## Attachment 4.4

## WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location:

Well ID:

Field Sampling Personnel:

Identify Measuring Point (MP): \_\_\_\_\_  
(e.g. Top of Casing)

page \_\_\_\_ of \_\_\_\_

Depth to Screen below MP: \_\_\_\_\_ of screen  
Top Bottom

Pump Intake at (ft. below MP):

Purging Device (Pump Type):

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

[illegible]

otes:

ote when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

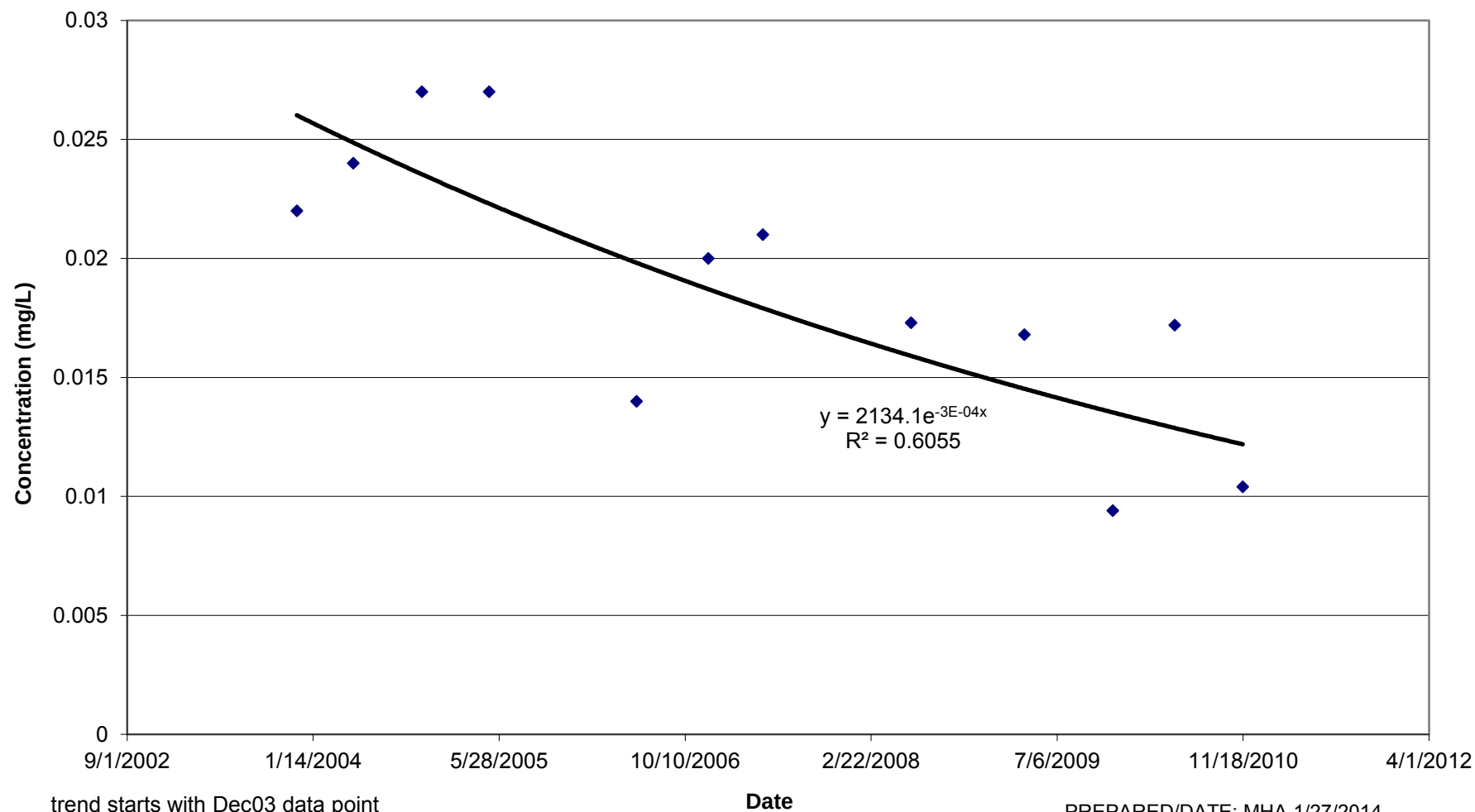
stabilization does not occur within 2 hours, contact Site Manager for action.  
well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH  
 ±10 mV for redox  
 ±3% for specific cond.  
 ±10% for DO  
 <20 NTUs for turbidity  
 NA for temperature

## **APPENDIX B**

### **VOC CONCENTRATION TREND GRAPHS**

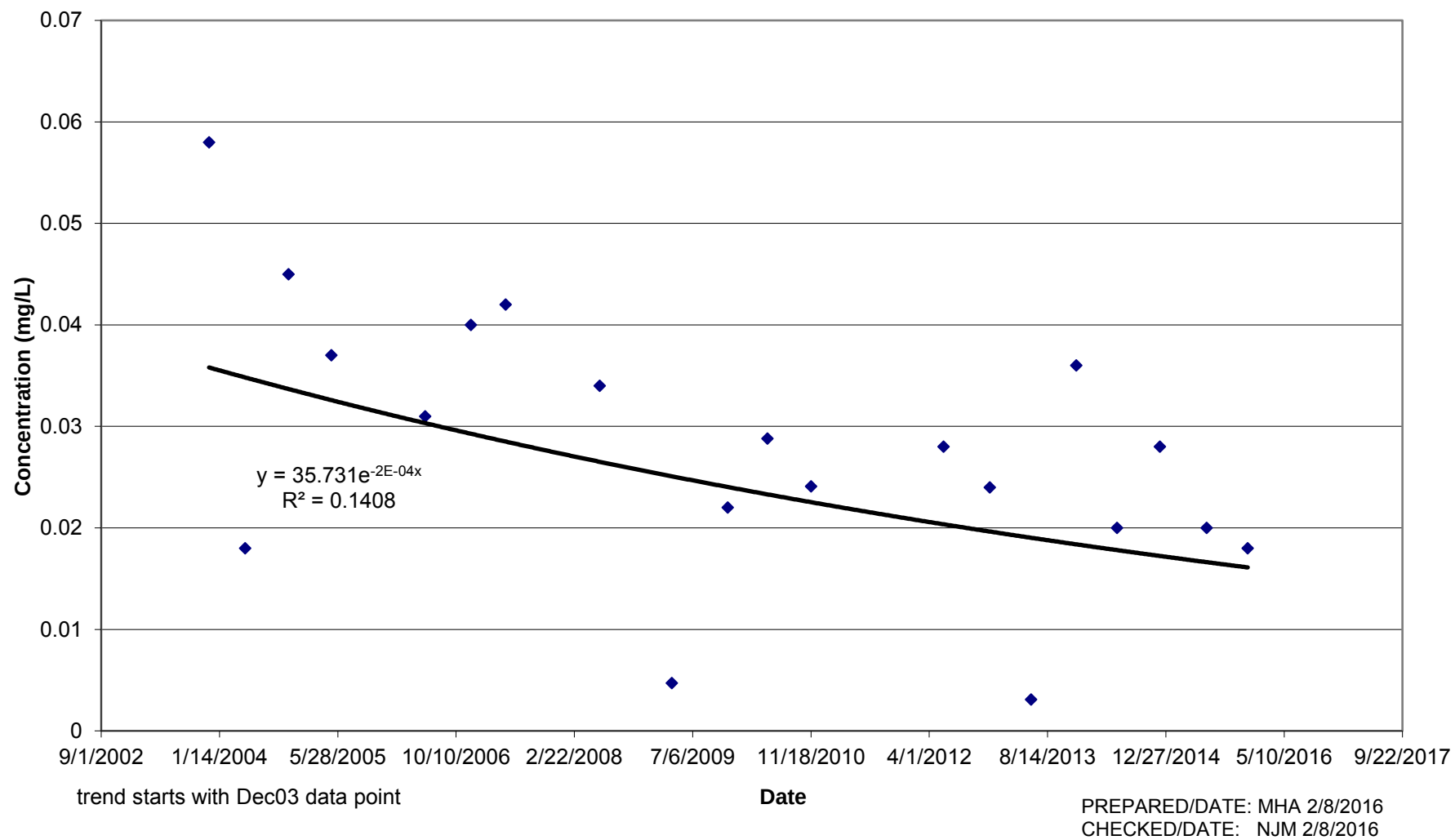
MW-3 Vinyl Chloride Concentration Versus Time Trend Plot



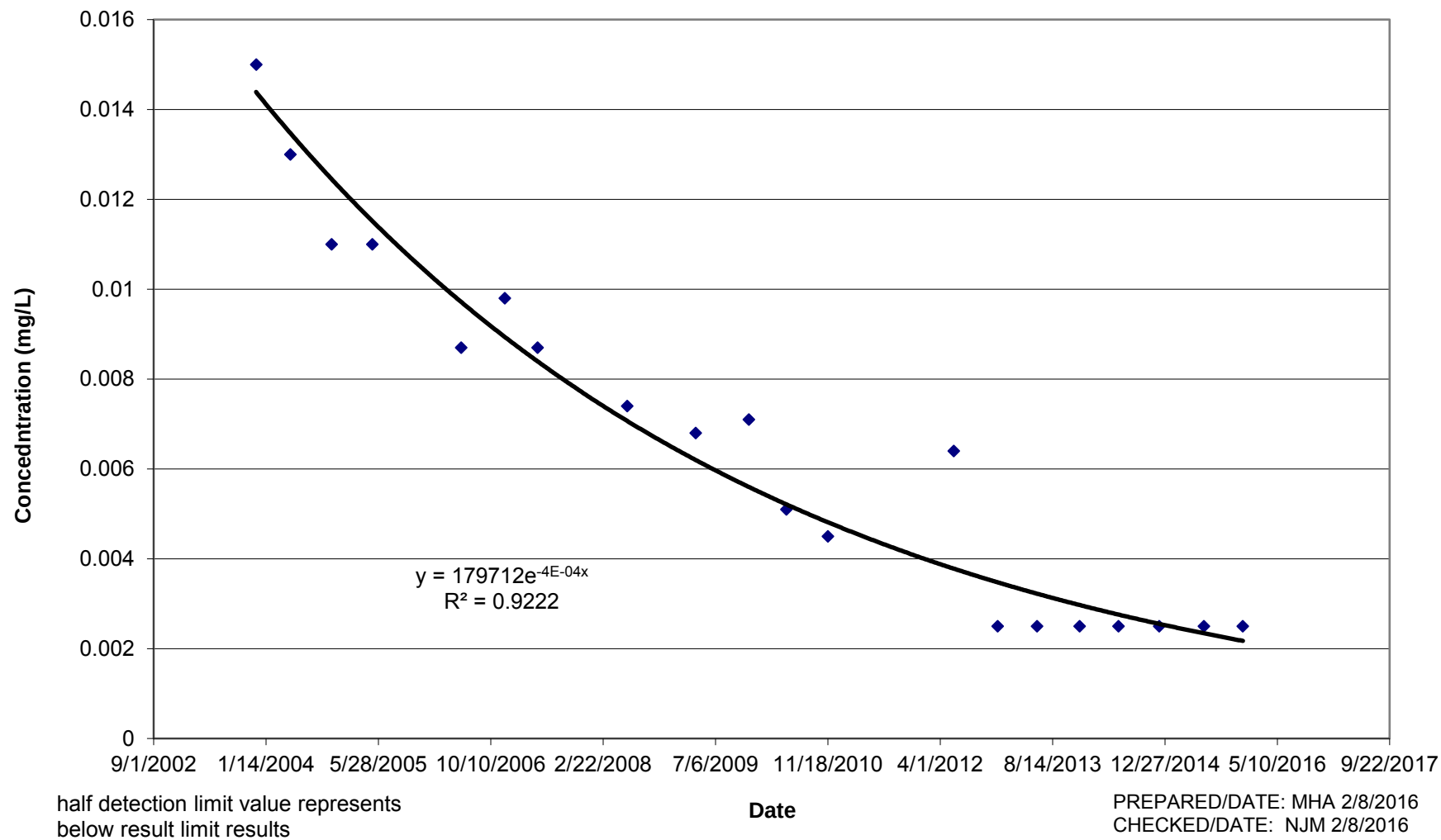
PREPARED/DATE: MHA 1/27/2014  
CHECKED/DATE: GJW 2/4/2014



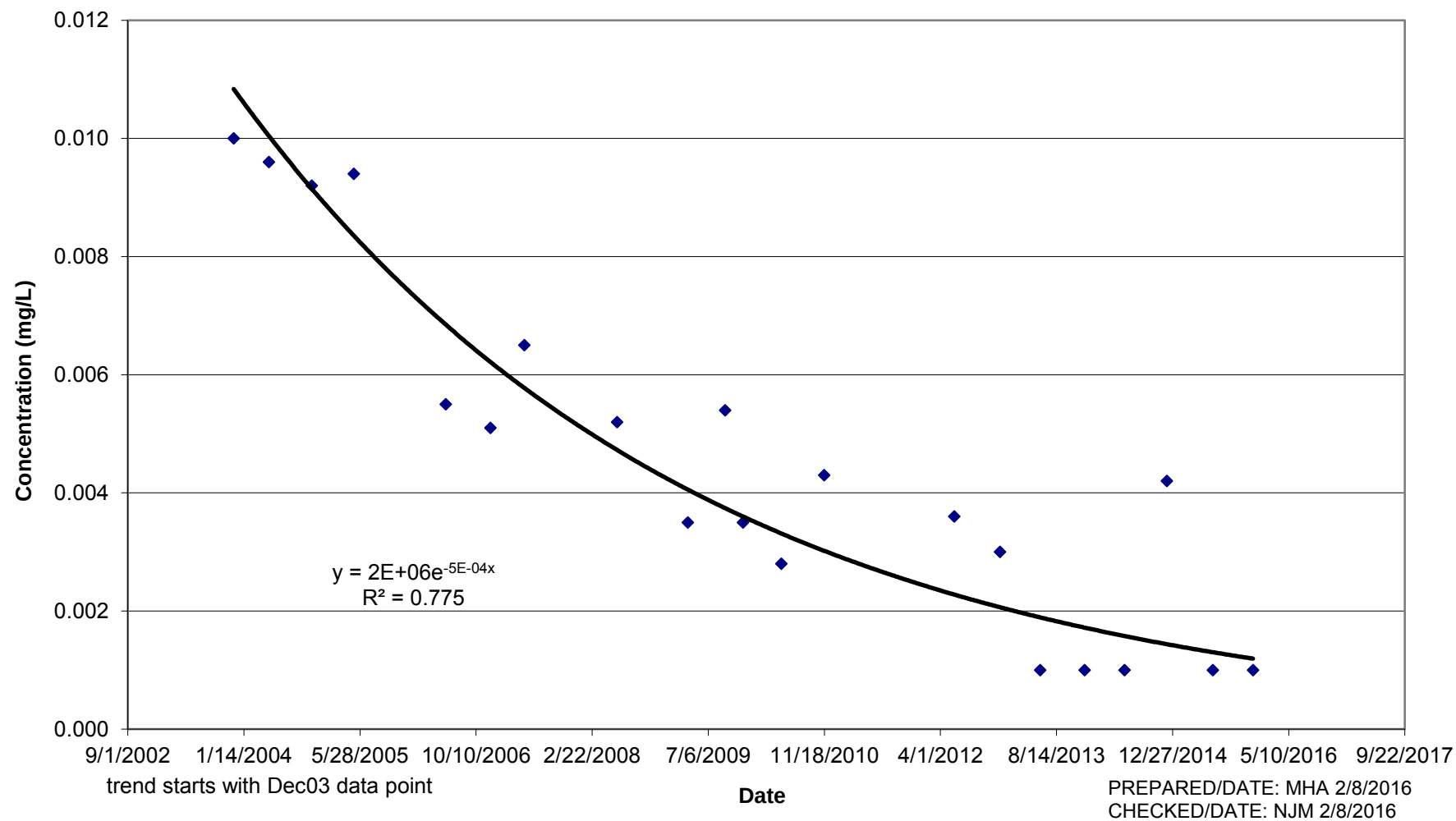
**MW-4 Vinyl Chloride Concentration Versus Time Trend Plot**



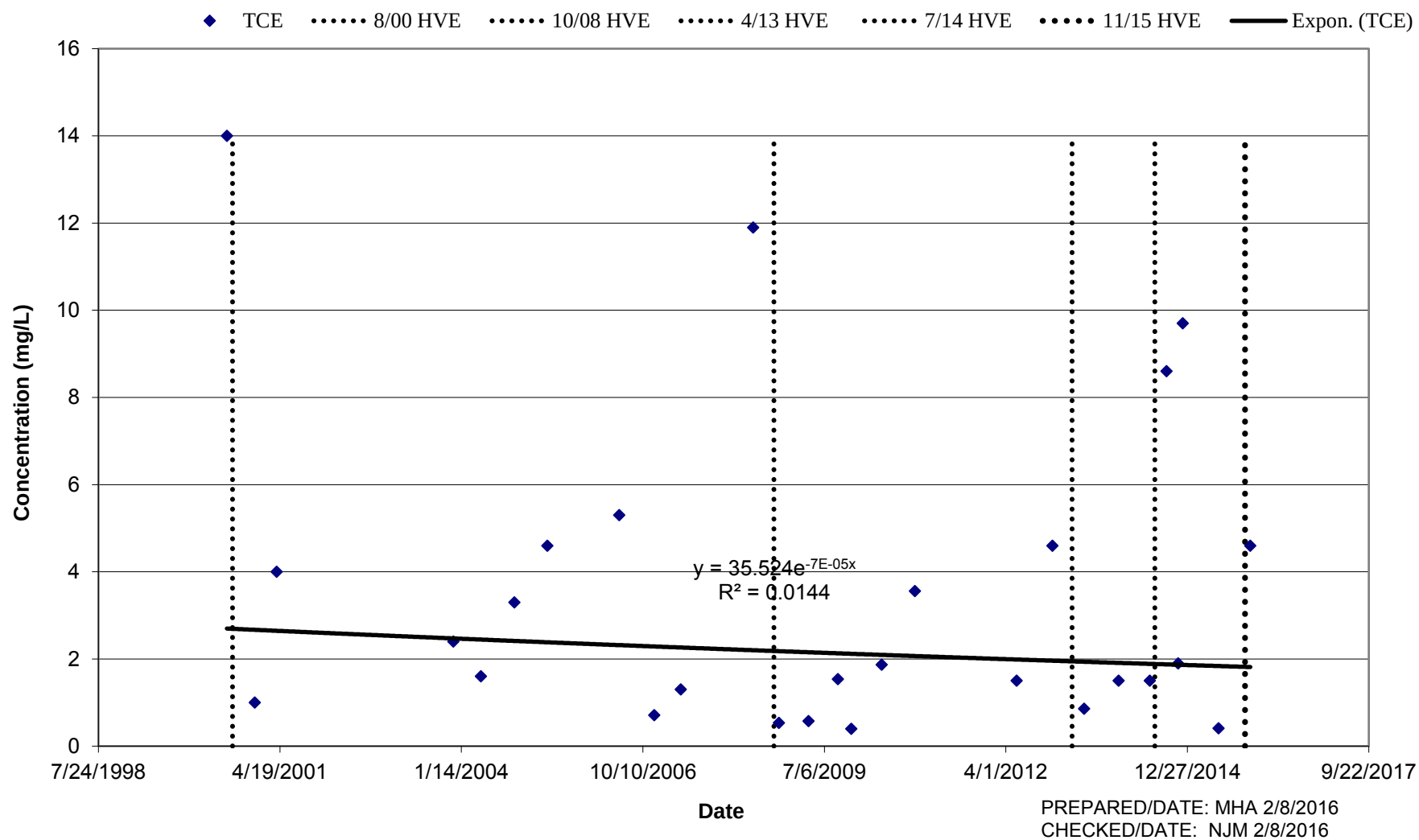
MW-5 1,1-Dichloroethene Concentration Versus Time Trend Plot



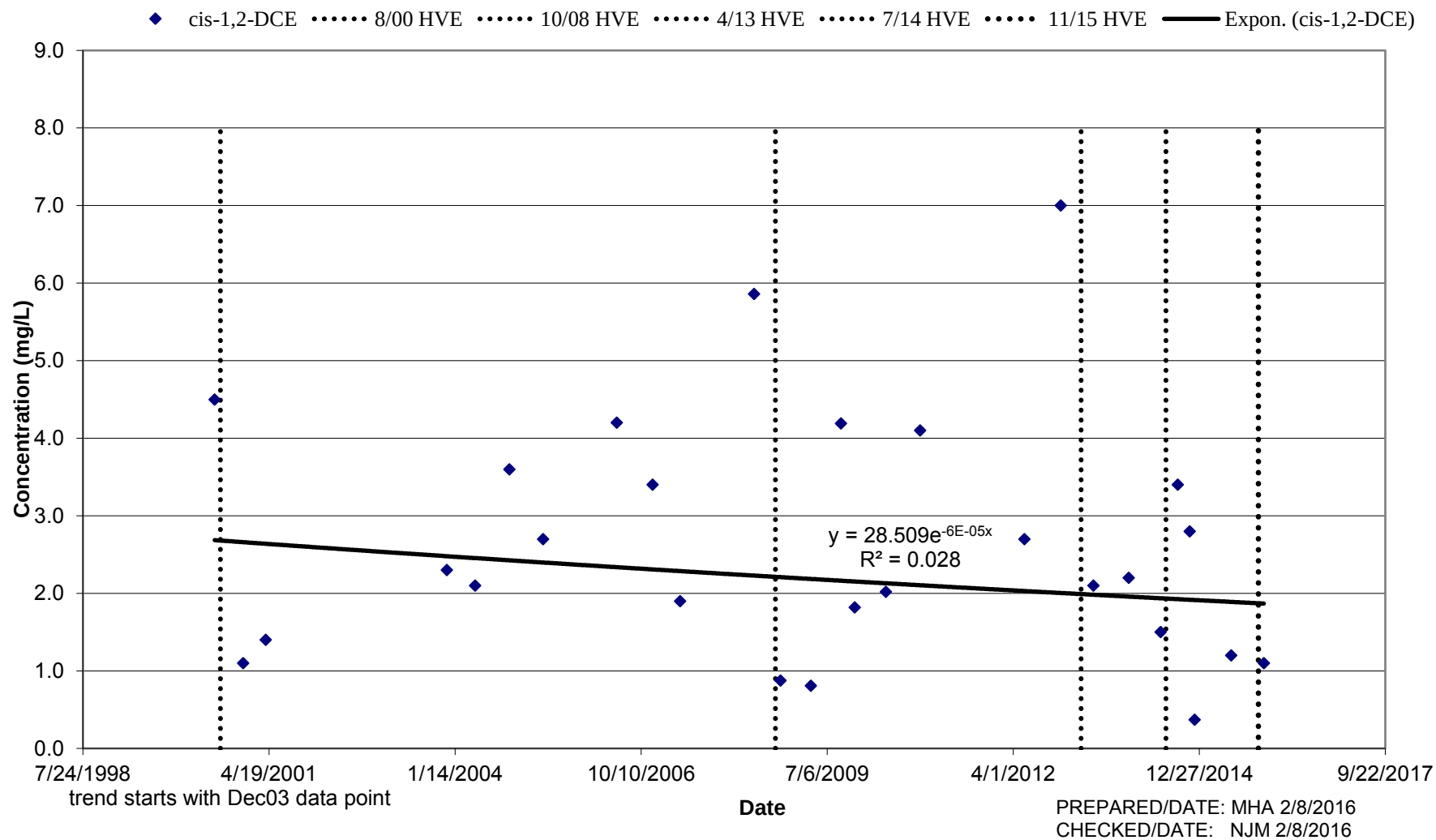
MW-6 Vinyl Chloride Concentration Versus Time Trend Plot

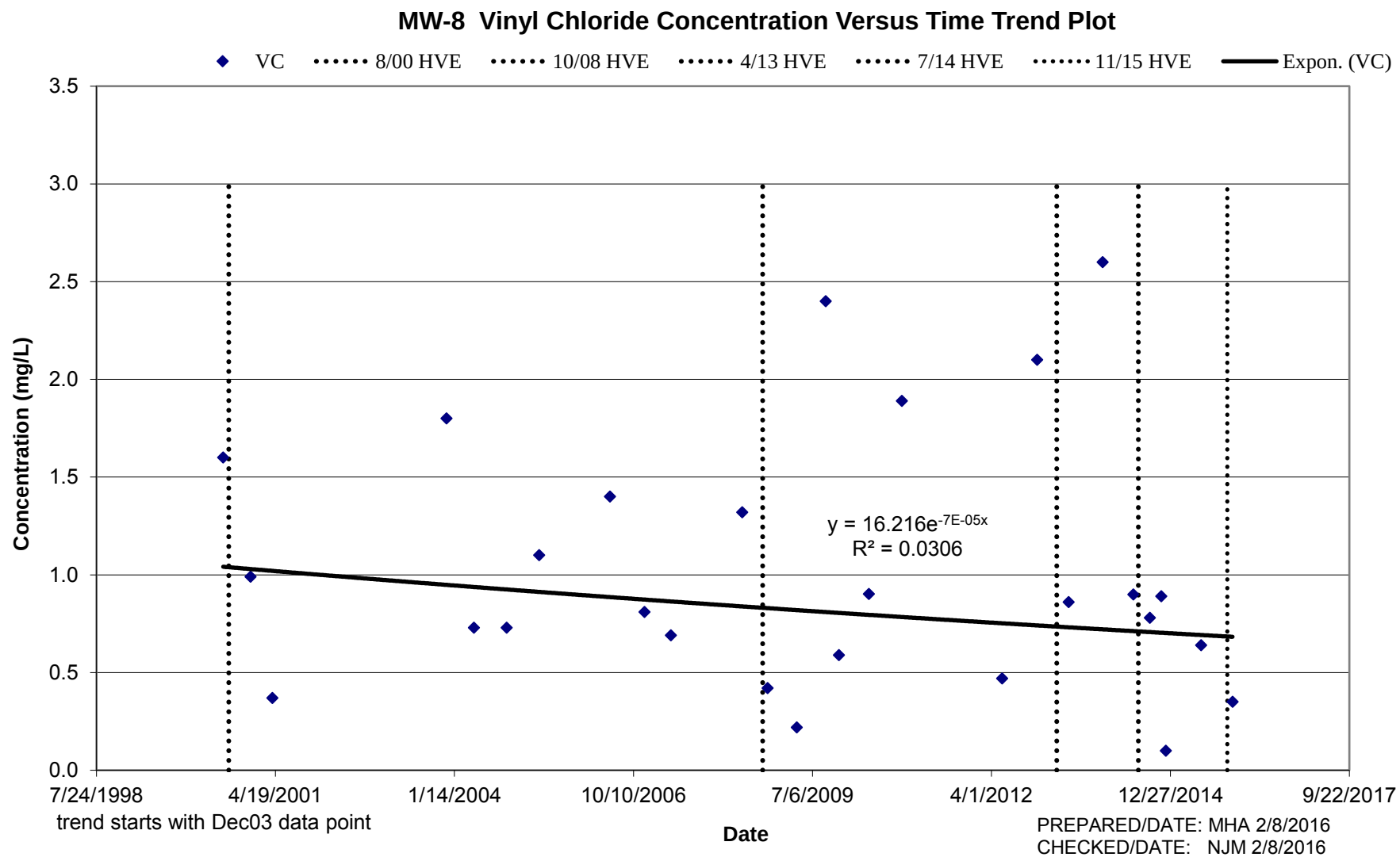


### MW-8 Trichloroethene Concentration Versus Time Trend Plot

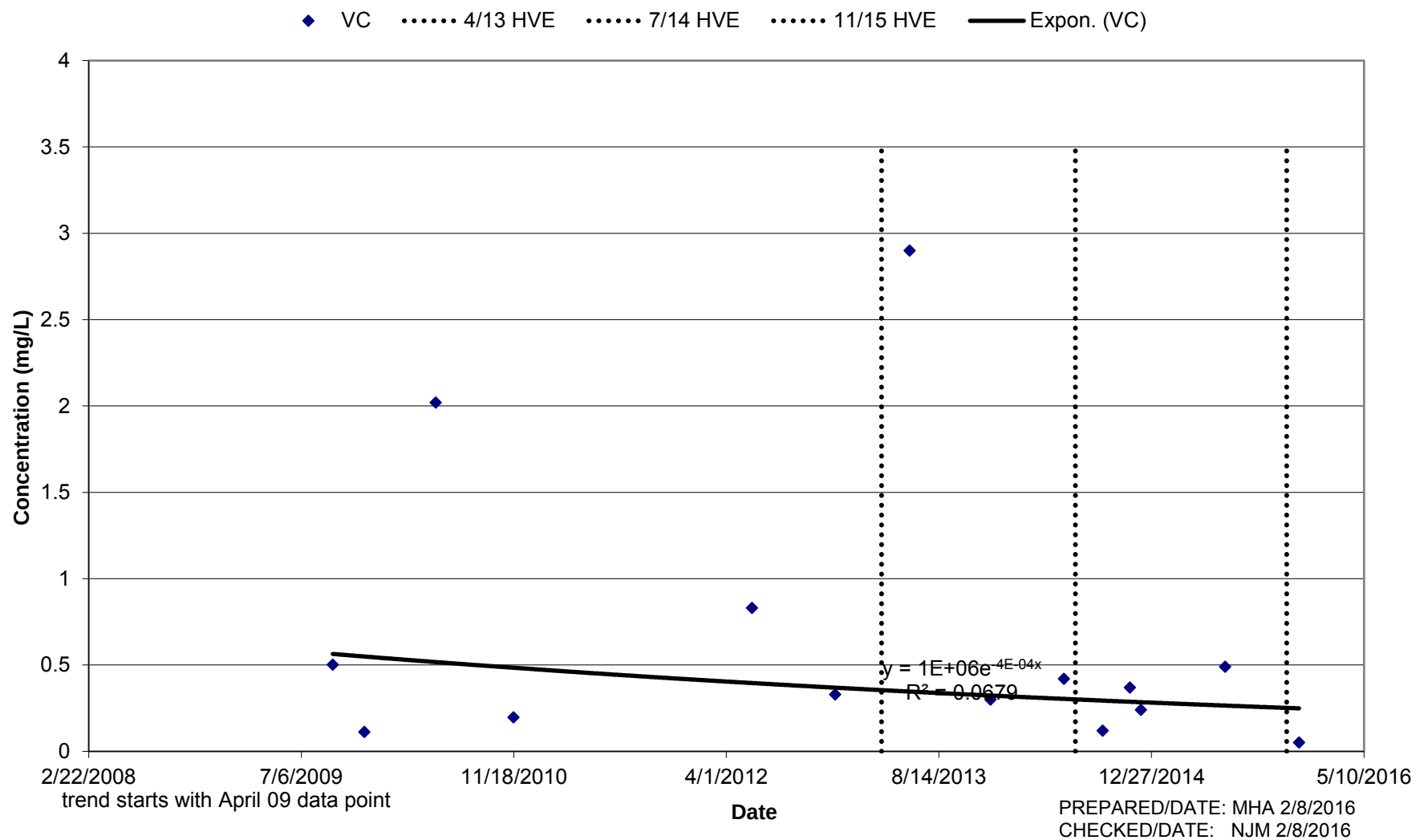


### MW-8 cis-1,2-Dichloroethene Concentration Versus Time Trend Plot



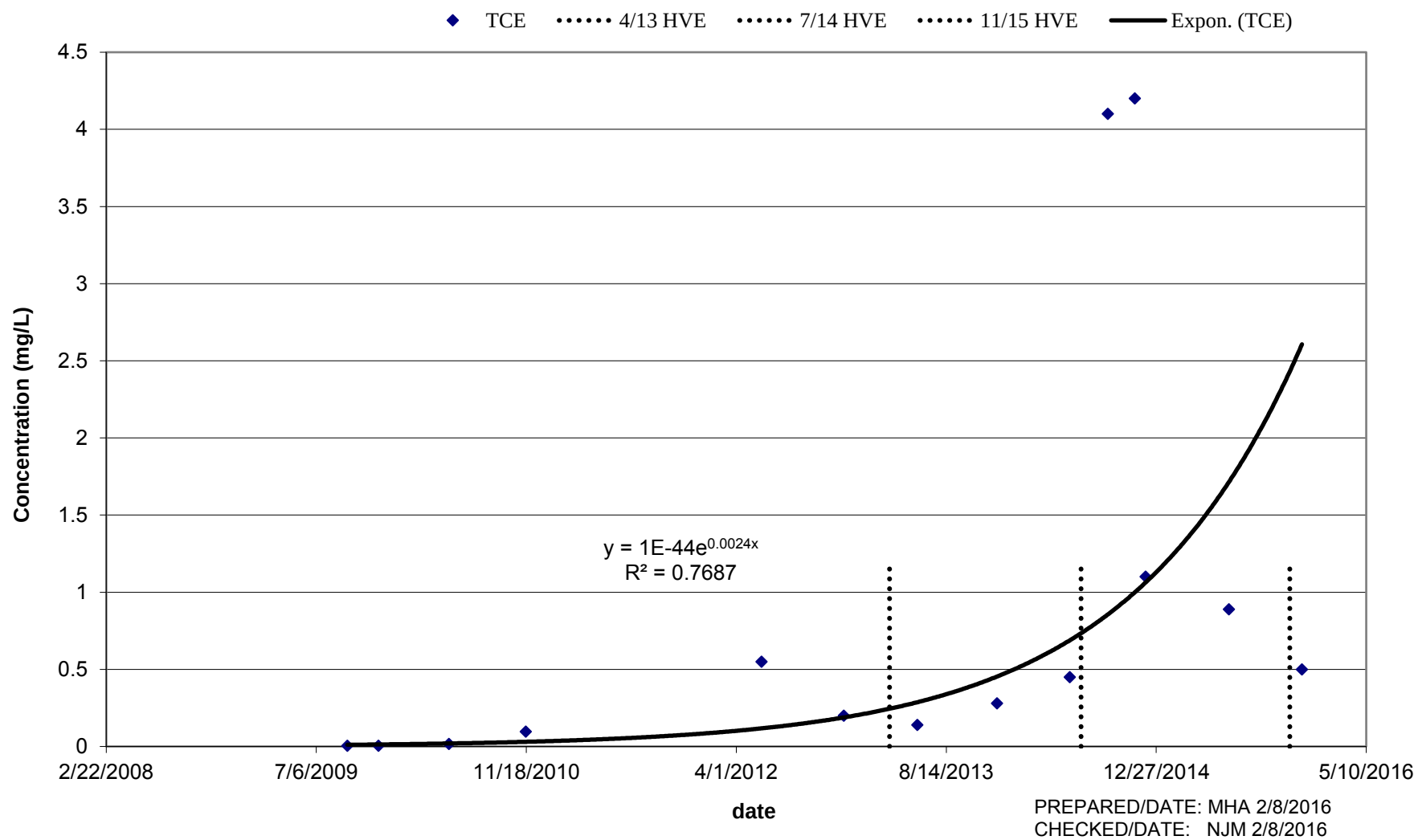


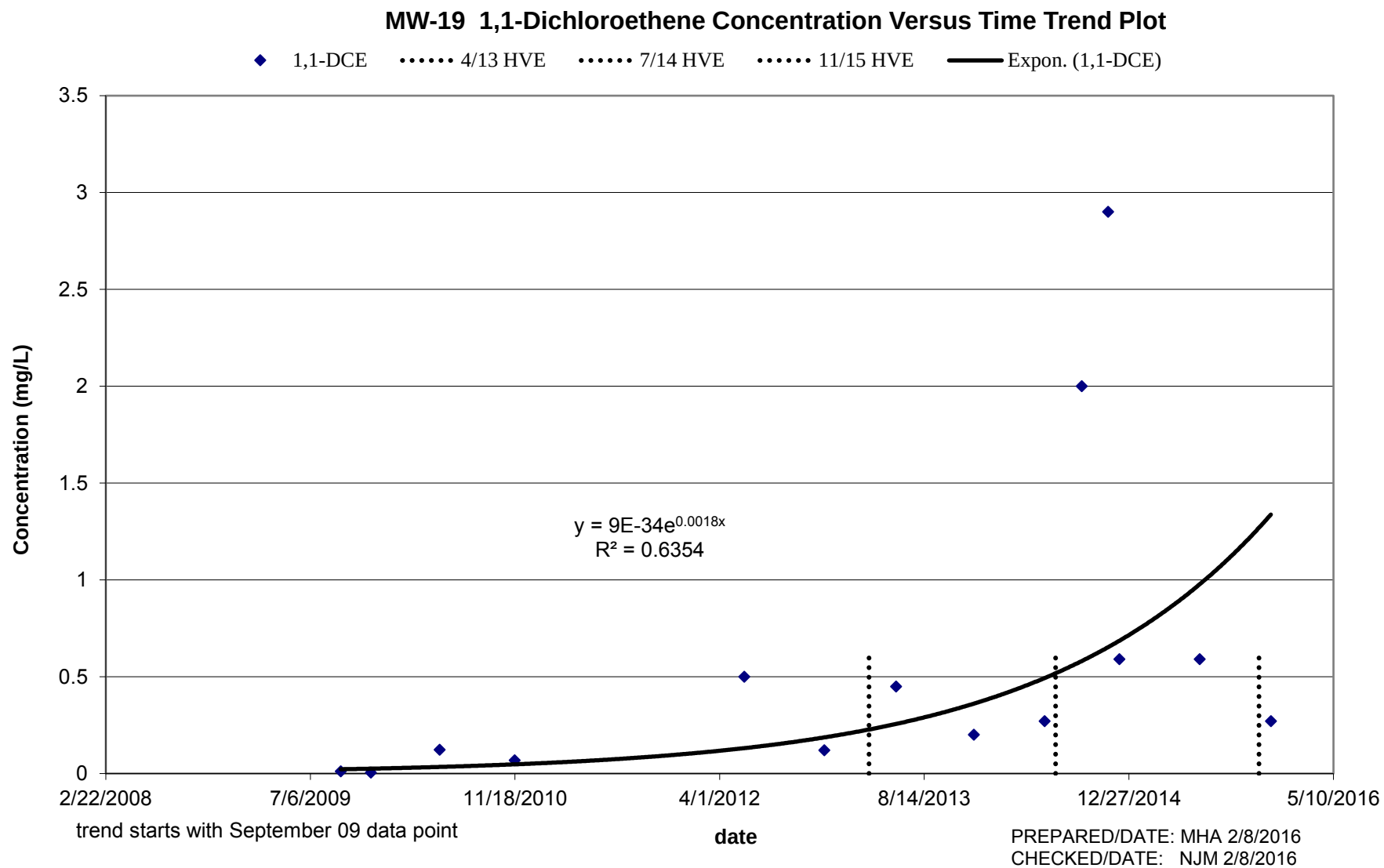
### MW-19 Vinyl Chloride Concentration Versus Time Trend Plot



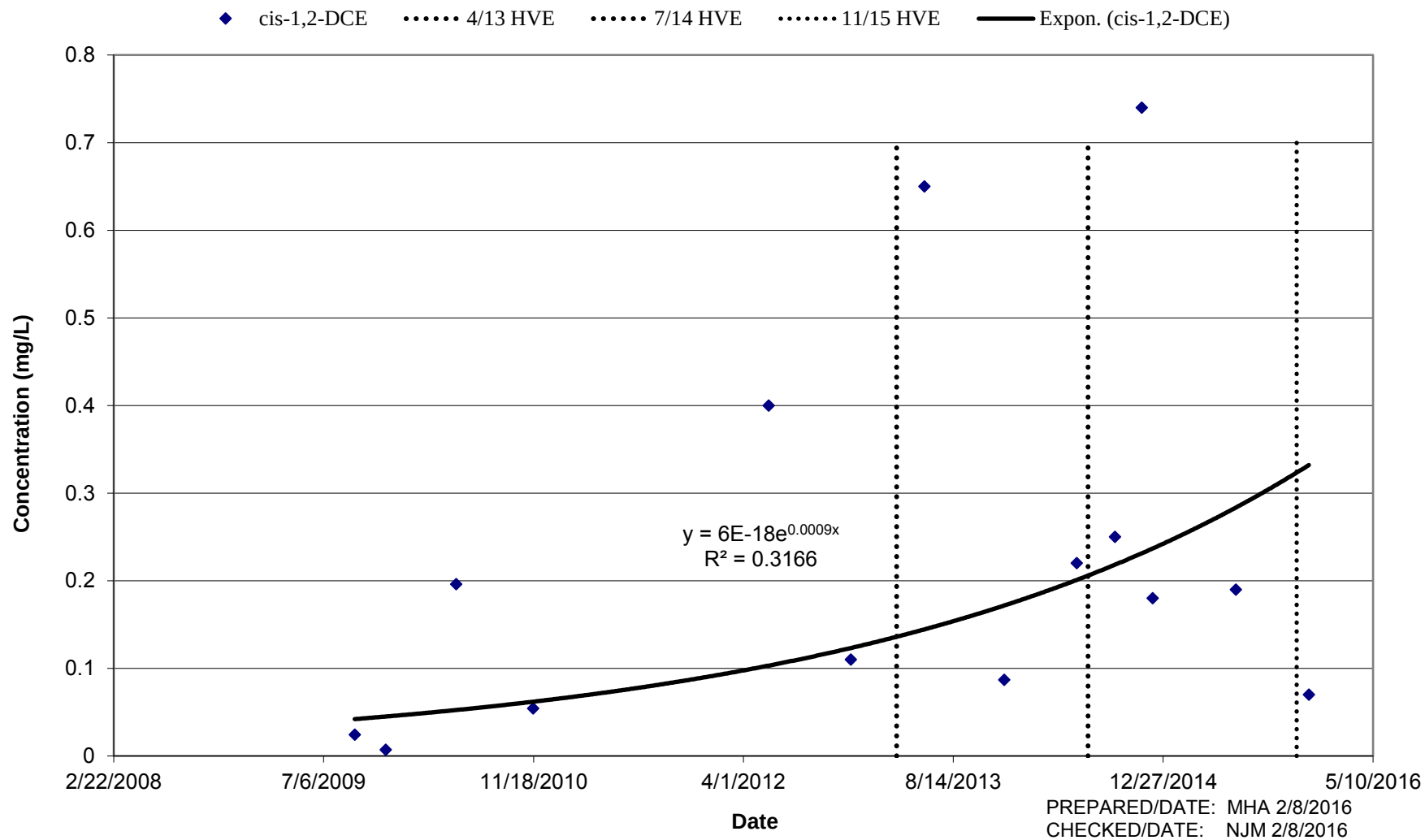


### MW-19 Trichloroethene Concentration Versus Time Trend Plot





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



## **APPENDIX C**

### **LABORATORY REPORTS**



## ANALYTICAL ENVIRONMENTAL SERVICES, INC.

December 16, 2015

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 Swainsboro GA

Dear Greg Wrenn:

Order No: 1512B97

Analytical Environmental Services, Inc. received 22 samples on 12/10/2015 12:22:00 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' certifications are as follows:

- NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Ioana Pacurar  
Project Manager



## ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

AES

TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

## CHAIN OF CUSTODY

Work Order: 152B97

Date: 12/9/15 Page 1 of 1

| COMPANY: Am ECFW    |           | ADDRESS: 1075 Big Sandy Rd NW<br>KENNESAW GA 30144 |      | ANALYSIS REQUESTED                                                                                                                                                                  |           |                    |   |   |   |   |  |  |  |  |  | Visit our website<br>www.aesatlanta.com<br>to check on the status of<br>your results, place bottle<br>orders, etc. |              | No # of Containers |  |
|---------------------|-----------|----------------------------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------|---|---|---|---|--|--|--|--|--|--------------------------------------------------------------------------------------------------------------------|--------------|--------------------|--|
| PHONE: 770 421 3400 |           | FAX:                                               |      | <div style="display: flex; justify-content: space-between;"> <div> VOCs 82608<br/>Methane<br/>Ethene<br/>ethane<br/>VOC-ESK 175 </div> <div> PRESERVATION (See codes) </div> </div> |           |                    |   |   |   |   |  |  |  |  |  | REMARKS                                                                                                            |              |                    |  |
| SAMPLED BY: P. GATZ |           | SIGNATURE: [Signature]                             |      |                                                                                                                                                                                     |           |                    |   |   |   |   |  |  |  |  |  |                                                                                                                    |              |                    |  |
| #                   | SAMPLE ID | DATE                                               | TIME | Grab                                                                                                                                                                                | Composite | Matrix (See codes) |   |   |   |   |  |  |  |  |  |                                                                                                                    |              |                    |  |
| 1                   | MW6       | 12/8/15                                            | 0930 | X                                                                                                                                                                                   |           | GW                 | X | X | X | X |  |  |  |  |  |                                                                                                                    | sight static | 4                  |  |
| 2                   | MW12      | 12/8/15                                            | 1100 | X                                                                                                                                                                                   |           | GW                 | X | X | X | X |  |  |  |  |  |                                                                                                                    | VOC ONLY     | 4                  |  |
| 3                   | MW15      | 12/8/15                                            | 1215 | X                                                                                                                                                                                   |           | GW                 | X | X | X | X |  |  |  |  |  |                                                                                                                    |              | 4                  |  |
| 4                   | MW20      | 12/8/15                                            | 1445 | X                                                                                                                                                                                   |           | GW                 | X | X | X | X |  |  |  |  |  |                                                                                                                    |              | 4                  |  |
| 5                   | MW11      | 12/9/15                                            | 1155 | X                                                                                                                                                                                   |           | GW                 | X | X | X | X |  |  |  |  |  |                                                                                                                    |              | 4                  |  |
| 6                   | MW7       | 12/9/15                                            | 1250 | X                                                                                                                                                                                   |           | GW                 | X | X | X | X |  |  |  |  |  |                                                                                                                    |              | 4                  |  |
| 7                   | EB        | 12/9/15                                            | 1400 | X                                                                                                                                                                                   |           | W                  | X | X | X | X |  |  |  |  |  |                                                                                                                    |              | 4                  |  |
| 8                   | SW4       | 12/9/15                                            | 1410 | X                                                                                                                                                                                   |           | SW                 | X |   |   |   |  |  |  |  |  |                                                                                                                    |              | 2                  |  |
| 9                   | SW2       | 12/9/15                                            | 1420 | X                                                                                                                                                                                   |           | SW                 | X |   |   |   |  |  |  |  |  |                                                                                                                    |              | 2                  |  |
| 10                  | MW201     | 12/9/15                                            | 1425 | X                                                                                                                                                                                   |           | GW                 | X | X | X | X |  |  |  |  |  |                                                                                                                    |              | 4                  |  |
| 11                  | SW5       | 12/9/15                                            | 1500 | X                                                                                                                                                                                   |           | SW                 | X |   |   |   |  |  |  |  |  |                                                                                                                    |              | 2                  |  |
| 12                  | SW6       | 12/9/15                                            | 1520 | X                                                                                                                                                                                   |           | SW                 | X |   |   |   |  |  |  |  |  |                                                                                                                    |              | 2                  |  |
| 13                  |           |                                                    |      |                                                                                                                                                                                     |           |                    |   |   |   |   |  |  |  |  |  |                                                                                                                    |              |                    |  |
| 14                  |           |                                                    |      |                                                                                                                                                                                     |           |                    |   |   |   |   |  |  |  |  |  |                                                                                                                    |              |                    |  |

| RELINQUISHED BY                                                                       |  | DATE/TIME    | RECEIVED BY    | DATE/TIME                                                         | PROJECT INFORMATION            |                                       | RECEIPT                                                                                                                                                                                                                                                             |                           |  |
|---------------------------------------------------------------------------------------|--|--------------|----------------|-------------------------------------------------------------------|--------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--|
| 1: [Signature]                                                                        |  | 12/9/15 1530 | 1: [Signature] |                                                                   | PROJECT NAME: STI SWAINBORO GA |                                       | Total # of Containers 40                                                                                                                                                                                                                                            |                           |  |
| 2: [Signature]                                                                        |  | 12/9/15 1212 | 2: [Signature] |                                                                   | PROJECT #: 6125 08 0149 .1503  |                                       | Turnaround Time Request<br><input checked="" type="radio"/> Standard 5 Business Days<br><input type="radio"/> 2 Business Day Rush<br><input type="radio"/> Next Business Day Rush<br><input type="radio"/> Same Day Rush (auth req.)<br><input type="radio"/> Other |                           |  |
| 3: [Signature]                                                                        |  |              | 3: [Signature] |                                                                   | SITE ADDRESS: Swainboro GA     |                                       |                                                                                                                                                                                                                                                                     |                           |  |
| SPECIAL INSTRUCTIONS/COMMENTS: Don't analyze methane, ethane and ethene for EB sample |  |              |                | SHIPMENT METHOD                                                   |                                | INVOICE TO: (IF DIFFERENT FROM ABOVE) |                                                                                                                                                                                                                                                                     | STATE PROGRAM (if any):   |  |
|                                                                                       |  |              |                | OUT / / VIA:                                                      |                                | SEND REPORT TO: Greg Wren N + Tanya K |                                                                                                                                                                                                                                                                     | E-mail? Y/N; Fax? Y/N     |  |
|                                                                                       |  |              |                | IN <input checked="" type="radio"/> CLIENT FedEx UPS MAIL COURIER |                                | QUOTE #: PO#: C0124 03245             |                                                                                                                                                                                                                                                                     | DATA PACKAGE: I II III IV |  |
|                                                                                       |  |              |                | GREYHOUND OTHER                                                   |                                |                                       |                                                                                                                                                                                                                                                                     |                           |  |

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



## ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

AES

TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

## CHAIN OF CUSTODY

Work Order: 152897

Date: \_\_\_\_\_ Page \_\_\_\_\_ of \_\_\_\_\_

| COMPANY:    |                 | ADDRESS:   |      | ANALYSIS REQUESTED |           |                       |                          |    |    |    |  |  |  |  |  | Visit our website<br><a href="http://www.aesatlanta.com">www.aesatlanta.com</a><br>to check on the status of<br>your results, place bottle<br>orders, etc. |   | No # of Containers |
|-------------|-----------------|------------|------|--------------------|-----------|-----------------------|--------------------------|----|----|----|--|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------------|
| PHONE:      |                 | FAX:       |      |                    |           |                       |                          |    |    |    |  |  |  |  |  |                                                                                                                                                            |   |                    |
| SAMPLED BY: |                 | SIGNATURE: |      |                    |           |                       |                          |    |    |    |  |  |  |  |  | REMARKS                                                                                                                                                    |   |                    |
| #           | SAMPLE ID       | DATE       | TIME | Grab               | Composite | Matrix<br>(See codes) | PRESERVATION (See codes) |    |    |    |  |  |  |  |  |                                                                                                                                                            |   |                    |
|             |                 |            |      |                    |           |                       | LT                       | H+ | H- | HE |  |  |  |  |  |                                                                                                                                                            |   |                    |
| 1           | MW-9R           | 12/8/15    | 1000 | X                  |           | GW                    | X                        | X  | X  | X  |  |  |  |  |  |                                                                                                                                                            | 3 |                    |
| 2           | MW-4            |            | 1130 |                    |           |                       | X                        | X  | X  | X  |  |  |  |  |  |                                                                                                                                                            | 1 |                    |
| 3           | MW-21           |            | 1305 |                    |           |                       | X                        | X  | X  | X  |  |  |  |  |  |                                                                                                                                                            | 1 |                    |
| 4           | MW-78           | 12/8/15    | 1500 | X                  |           | GW                    | X                        | X  | X  | X  |  |  |  |  |  |                                                                                                                                                            | 4 |                    |
| 5           | MW-5            | 12/9/15    | 1025 | X                  |           | GW                    | X                        | X  | X  | X  |  |  |  |  |  |                                                                                                                                                            | 4 |                    |
| 6           | MW-19           |            | 1300 |                    |           |                       | X                        | X  | X  | X  |  |  |  |  |  |                                                                                                                                                            | 4 |                    |
| 7           | MW-8            |            | 1445 |                    |           |                       | X                        | X  | X  | X  |  |  |  |  |  |                                                                                                                                                            | 4 |                    |
| 8           | MW-8 DUP        |            | 1445 |                    |           |                       | X                        | X  | X  | X  |  |  |  |  |  |                                                                                                                                                            | 4 |                    |
| 9           | Pure water drum | 12/9/15    | 1520 | X                  |           | BW                    | X                        |    |    |    |  |  |  |  |  |                                                                                                                                                            | 2 |                    |
| 10          |                 |            |      |                    |           |                       |                          |    |    |    |  |  |  |  |  |                                                                                                                                                            |   |                    |
| 11          | Trip Blank      |            |      |                    |           | W                     | X                        |    |    |    |  |  |  |  |  |                                                                                                                                                            | 2 |                    |
| 12          |                 |            |      |                    |           |                       |                          |    |    |    |  |  |  |  |  |                                                                                                                                                            |   |                    |
| 13          |                 |            |      |                    |           |                       |                          |    |    |    |  |  |  |  |  |                                                                                                                                                            |   |                    |
| 14          |                 |            |      |                    |           |                       |                          |    |    |    |  |  |  |  |  |                                                                                                                                                            |   |                    |

| RELINQUISHED BY                | DATE/TIME     | RECEIVED BY    | DATE/TIME      | PROJECT INFORMATION                                                                                                                                                                                      |                           | RECEIPT                                                                                |    |
|--------------------------------|---------------|----------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------------------------------------------------------------------|----|
| 1: [Signature]                 | 12/10/15 1212 | 1: [Signature] | 12-10-15 12:22 | PROJECT NAME:                                                                                                                                                                                            | ST1 SWAINSTOWN            | Total # of Containers                                                                  | 36 |
| 2:                             |               | 2:             |                | PROJECT #:                                                                                                                                                                                               | 6125-08-0149              | Turnaround Time Request                                                                |    |
| 3:                             |               | 3:             |                | SITE ADDRESS:                                                                                                                                                                                            | SWAINSTOWN, GA            | <input checked="" type="radio"/> Standard 5 Business Days                              |    |
|                                |               |                |                | SEND REPORT TO:                                                                                                                                                                                          | T Kinnard                 | <input type="radio"/> 2 Business Day Rush                                              |    |
|                                |               |                |                | INVOICE TO:                                                                                                                                                                                              | (IF DIFFERENT FROM ABOVE) | <input type="radio"/> Next Business Day Rush                                           |    |
|                                |               |                |                |                                                                                                                                                                                                          |                           | <input type="radio"/> Same Day Rush (auth req.)                                        |    |
|                                |               |                |                |                                                                                                                                                                                                          |                           | <input type="radio"/> Other                                                            |    |
| SPECIAL INSTRUCTIONS/COMMENTS: |               |                |                | SHIPMENT METHOD                                                                                                                                                                                          |                           | STATE PROGRAM (if any):                                                                |    |
|                                |               |                |                | OUT / / VIA:                                                                                                                                                                                             |                           | E-mail? <input checked="" type="checkbox"/> Y / N; Fax? <input type="checkbox"/> Y / N |    |
|                                |               |                |                | IN / / VIA:                                                                                                                                                                                              |                           | DATA PACKAGE: I II III IV                                                              |    |
|                                |               |                |                | <input checked="" type="radio"/> SLT<br><input type="radio"/> FedEx<br><input type="radio"/> UPS MAIL<br><input type="radio"/> COURIER<br><input type="radio"/> GREYHOUND<br><input type="radio"/> OTHER |                           | QUOTE #: PO# 6012403205                                                                |    |

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

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White Copy - Original; Yellow Copy - Client

## Analytical Environmental Services, Inc

Date: 16-Dec-15

Client: AMEC E&I, Inc. -Kennesaw  
 Project Name: STI Swainsboro GA  
 Lab ID: 1512B97-001

Client Sample ID: MW6  
 Collection Date: 12/8/2015 9:50:00 AM  
 Matrix: Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| 1,1-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| 1,1-Dichloroethene                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| cis-1,2-Dichloroethene                            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| Trichloroethene                                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| Vinyl chloride                                    | BRL    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| Surr: 4-Bromofluorobenzene                        | 82.9   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| Surr: Dibromofluoromethane                        | 99     | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| Surr: Toluene-d8                                  | 93     | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 21:05 | NP      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 11:00 | MD      |
| Ethylene                                          | BRL    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 11:00 | MD      |
| Methane                                           | 3800   | 200             |      | ug/L             | 217091  | 50              | 12/15/2015 11:47 | MD      |

**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: 16-Dec-15

Client: AMEC E&I, Inc. -Kennesaw  
 Project Name: STI Swainsboro GA  
 Lab ID: 1512B97-002

Client Sample ID: MW12  
 Collection Date: 12/8/2015 11:00:00 AM  
 Matrix: Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| 1,1-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| 1,1-Dichloroethene                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| cis-1,2-Dichloroethene                            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| Trichloroethene                                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| Vinyl chloride                                    | BRL    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| Surr: 4-Bromofluorobenzene                        | 83.4   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| Surr: Dibromofluoromethane                        | 98.8   | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| Surr: Toluene-d8                                  | 97.6   | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 21:31 | NP      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 11:04 | MD      |
| Ethylene                                          | BRL    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 11:04 | MD      |
| Methane                                           | 39     | 4.0             |      | ug/L             | 217091  | 1               | 12/15/2015 11:04 | MD      |

**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: 16-Dec-15

Client: AMEC E&I, Inc. -Kennesaw  
 Project Name: STI Swainsboro GA  
 Lab ID: 1512B97-003

Client Sample ID: MW15  
 Collection Date: 12/8/2015 12:15:00 PM  
 Matrix: Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| 1,1-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| 1,1-Dichloroethene                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| cis-1,2-Dichloroethene                            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| Trichloroethene                                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| Vinyl chloride                                    | BRL    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| Surr: 4-Bromofluorobenzene                        | 80.9   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| Surr: Dibromofluoromethane                        | 101    | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| Surr: Toluene-d8                                  | 98     | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 21:57 | NP      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 11:09 | MD      |
| Ethylene                                          | BRL    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 11:09 | MD      |
| Methane                                           | 4900   | 200             |      | ug/L             | 217091  | 50              | 12/15/2015 11:51 | MD      |

**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: 16-Dec-15

Client: AMEC E&I, Inc. -Kennesaw  
 Project Name: STI Swainsboro GA  
 Lab ID: 1512B97-004

Client Sample ID: MW20  
 Collection Date: 12/8/2015 2:45:00 PM  
 Matrix: Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| 1,1-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| 1,1-Dichloroethene                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| cis-1,2-Dichloroethene                            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| Trichloroethene                                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| Vinyl chloride                                    | 5.5    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| Surr: 4-Bromofluorobenzene                        | 78     | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| Surr: Dibromofluoromethane                        | 119    | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| Surr: Toluene-d8                                  | 105    | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 08:17 | CH      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 11:14 | MD      |
| Ethylene                                          | BRL    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 11:14 | MD      |
| Methane                                           | 5900   | 200             |      | ug/L             | 217091  | 50              | 12/15/2015 11:57 | MD      |

**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:** 16-Dec-15

**Client:** AMEC E&I, Inc. -Kennesaw  
**Project Name:** STI Swainsboro GA  
**Lab ID:** 1512B97-005

**Client Sample ID:** MW11  
**Collection Date:** 12/9/2015 11:55:00 AM  
**Matrix:** Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| 1,1-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| 1,1-Dichloroethene                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| cis-1,2-Dichloroethene                            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| Trichloroethene                                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| Vinyl chloride                                    | BRL    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| Surr: 4-Bromofluorobenzene                        | 78.5   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| Surr: Dibromofluoromethane                        | 115    | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| Surr: Toluene-d8                                  | 97.7   | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 08:43 | CH      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 11:18 | MD      |
| Ethylene                                          | BRL    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 11:18 | MD      |
| Methane                                           | 290    | 20              |      | ug/L             | 217091  | 5               | 12/15/2015 12:02 | MD      |

**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:** 16-Dec-15

**Client:** AMEC E&I, Inc. -Kennesaw  
**Project Name:** STI Swainsboro GA  
**Lab ID:** 1512B97-006

**Client Sample ID:** MW7  
**Collection Date:** 12/9/2015 12:50:00 PM  
**Matrix:** Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| 1,1-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| 1,1-Dichloroethene                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| cis-1,2-Dichloroethene                            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| Trichloroethene                                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| Vinyl chloride                                    | BRL    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| Surr: 4-Bromofluorobenzene                        | 81.8   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| Surr: Dibromofluoromethane                        | 99.7   | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| Surr: Toluene-d8                                  | 96.9   | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 22:22 | NP      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 12:42 | MD      |
| Ethylene                                          | BRL    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 12:42 | MD      |
| Methane                                           | 810    | 40              |      | ug/L             | 217091  | 10              | 12/15/2015 14:51 | MD      |

**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: 16-Dec-15

Client: AMEC E&I, Inc. -Kennesaw  
 Project Name: STI Swainsboro GA  
 Lab ID: 1512B97-007

Client Sample ID: EB  
 Collection Date: 12/9/2015 2:00:00 PM  
 Matrix: Aqueous

| Analyses                             | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b> |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| 1,1,2,2-Tetrachloroethane            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| 1,1,2-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| 1,1-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| 1,1-Dichloroethene                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| 1,2-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| Chloroethane                         | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| cis-1,2-Dichloroethene               | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| trans-1,2-Dichloroethene             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| Trichloroethene                      | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| Vinyl chloride                       | BRL    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| Surr: 4-Bromofluorobenzene           | 72.7   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| Surr: Dibromofluoromethane           | 113    | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 09:35 | CH      |
| Surr: Toluene-d8                     | 98.7   | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 09:35 | CH      |

**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: 16-Dec-15

Client: AMEC E&I, Inc. -Kennesaw  
 Project Name: STI Swainsboro GA  
 Lab ID: 1512B97-008

Client Sample ID: SW4  
 Collection Date: 12/9/2015 2:10:00 PM  
 Matrix: Surface Water

| Analyses                             | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b> |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| 1,1,2,2-Tetrachloroethane            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| 1,1,2-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| 1,1-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| 1,1-Dichloroethene                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| 1,2-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| Chloroethane                         | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| cis-1,2-Dichloroethene               | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| trans-1,2-Dichloroethene             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| Trichloroethene                      | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| Vinyl chloride                       | BRL    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| Surr: 4-Bromofluorobenzene           | 73     | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| Surr: Dibromofluoromethane           | 118    | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 10:01 | CH      |
| Surr: Toluene-d8                     | 98.1   | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 10:01 | CH      |

**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: 16-Dec-15

Client: AMEC E&I, Inc. -Kennesaw  
 Project Name: STI Swainsboro GA  
 Lab ID: 1512B97-009

Client Sample ID: SW2  
 Collection Date: 12/9/2015 2:20:00 PM  
 Matrix: Surface Water

| Analyses                             | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b> |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| 1,1,2,2-Tetrachloroethane            | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| 1,1,2-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| 1,1-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| 1,1-Dichloroethene                   | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| 1,2-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| Chloroethane                         | BRL    | 10              |      | ug/L             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| cis-1,2-Dichloroethene               | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| trans-1,2-Dichloroethene             | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| Trichloroethene                      | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| Vinyl chloride                       | BRL    | 2.0             |      | ug/L             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| Surr: 4-Bromofluorobenzene           | 94.8   | 70.7-125        |      | %REC             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| Surr: Dibromofluoromethane           | 103    | 82.2-120        |      | %REC             | 217170  | 1               | 12/15/2015 04:52 | NP      |
| Surr: Toluene-d8                     | 97     | 81.8-120        |      | %REC             | 217170  | 1               | 12/15/2015 04:52 | 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: 16-Dec-15

Client: AMEC E&I, Inc. -Kennesaw  
 Project Name: STI Swainsboro GA  
 Lab ID: 1512B97-010

Client Sample ID: MW20D  
 Collection Date: 12/9/2015 2:25:00 PM  
 Matrix: Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| 1,1-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| 1,1-Dichloroethene                                | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| cis-1,2-Dichloroethene                            | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| Trichloroethene                                   | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| Vinyl chloride                                    | BRL    | 2.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| Surr: 4-Bromofluorobenzene                        | 93.9   | 70.7-125        |      | %REC             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| Surr: Dibromofluoromethane                        | 106    | 82.2-120        |      | %REC             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| Surr: Toluene-d8                                  | 97.4   | 81.8-120        |      | %REC             | 217170  | 1               | 12/15/2015 05:15 | NP      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 12:46 | MD      |
| Ethylene                                          | BRL    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 12:46 | MD      |
| Methane                                           | BRL    | 4.0             |      | ug/L             | 217091  | 1               | 12/15/2015 12:46 | MD      |

**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: 16-Dec-15

Client: AMEC E&I, Inc. -Kennesaw  
 Project Name: STI Swainsboro GA  
 Lab ID: 1512B97-011

Client Sample ID: SW5  
 Collection Date: 12/9/2015 3:00:00 PM  
 Matrix: Surface Water

| Analyses                             | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b> |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| 1,1,2,2-Tetrachloroethane            | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| 1,1,2-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| 1,1-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| 1,1-Dichloroethene                   | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| 1,2-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| Chloroethane                         | BRL    | 10              |      | ug/L             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| cis-1,2-Dichloroethene               | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| trans-1,2-Dichloroethene             | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| Trichloroethene                      | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| Vinyl chloride                       | BRL    | 2.0             |      | ug/L             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| Surr: 4-Bromofluorobenzene           | 96.1   | 70.7-125        |      | %REC             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| Surr: Dibromofluoromethane           | 104    | 82.2-120        |      | %REC             | 217170  | 1               | 12/15/2015 05:39 | NP      |
| Surr: Toluene-d8                     | 98.6   | 81.8-120        |      | %REC             | 217170  | 1               | 12/15/2015 05:39 | 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: 16-Dec-15

Client: AMEC E&I, Inc. -Kennesaw  
 Project Name: STI Swainsboro GA  
 Lab ID: 1512B97-012

Client Sample ID: SW6  
 Collection Date: 12/9/2015 3:20:00 PM  
 Matrix: Surface Water

| Analyses                             | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b> |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| 1,1,2,2-Tetrachloroethane            | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| 1,1,2-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| 1,1-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| 1,1-Dichloroethene                   | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| 1,2-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| Chloroethane                         | BRL    | 10              |      | ug/L             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| cis-1,2-Dichloroethene               | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| trans-1,2-Dichloroethene             | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| Trichloroethene                      | BRL    | 5.0             |      | ug/L             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| Vinyl chloride                       | BRL    | 2.0             |      | ug/L             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| Surr: 4-Bromofluorobenzene           | 94.8   | 70.7-125        |      | %REC             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| Surr: Dibromofluoromethane           | 104    | 82.2-120        |      | %REC             | 217170  | 1               | 12/15/2015 06:02 | NP      |
| Surr: Toluene-d8                     | 97.2   | 81.8-120        |      | %REC             | 217170  | 1               | 12/15/2015 06:02 | 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: 16-Dec-15

**Client:** AMEC E&I, Inc. -Kennesaw  
**Project Name:** STI Swainsboro GA  
**Lab ID:** 1512B97-013

**Client Sample ID:** MW-9R  
**Collection Date:** 12/8/2015 10:00:00 AM  
**Matrix:** Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| 1,1-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| 1,1-Dichloroethene                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| cis-1,2-Dichloroethene                            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| Trichloroethene                                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| Vinyl chloride                                    | BRL    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| Surr: 4-Bromofluorobenzene                        | 77.7   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| Surr: Dibromofluoromethane                        | 113    | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| Surr: Toluene-d8                                  | 97.7   | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 04:24 | CH      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 12:51 | MD      |
| Ethylene                                          | BRL    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 12:51 | MD      |
| Methane                                           | 170    | 4.0             |      | ug/L             | 217091  | 1               | 12/15/2015 12:51 | MD      |

**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: 16-Dec-15

**Client:** AMEC E&I, Inc. -Kennesaw  
**Project Name:** STI Swainsboro GA  
**Lab ID:** 1512B97-014

**Client Sample ID:** MW-4  
**Collection Date:** 12/8/2015 11:30:00 AM  
**Matrix:** Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| 1,1-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| 1,1-Dichloroethene                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| cis-1,2-Dichloroethene                            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| Trichloroethene                                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| Vinyl chloride                                    | 18     | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| Surr: 4-Bromofluorobenzene                        | 82.7   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| Surr: Dibromofluoromethane                        | 116    | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| Surr: Toluene-d8                                  | 101    | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 04:50 | CH      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 12:57 | MD      |
| Ethylene                                          | BRL    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 12:57 | MD      |
| Methane                                           | 5900   | 400             |      | ug/L             | 217091  | 100             | 12/15/2015 14:55 | MD      |

**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:** 16-Dec-15

**Client:** AMEC E&I, Inc. -Kennesaw  
**Project Name:** STI Swainsboro GA  
**Lab ID:** 1512B97-015

**Client Sample ID:** MW-21  
**Collection Date:** 12/8/2015 1:05:00 PM  
**Matrix:** Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| 1,1-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| 1,1-Dichloroethene                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| cis-1,2-Dichloroethene                            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| Trichloroethene                                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| Vinyl chloride                                    | 2.7    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| Surr: 4-Bromofluorobenzene                        | 85     | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| Surr: Dibromofluoromethane                        | 101    | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| Surr: Toluene-d8                                  | 95.6   | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 22:49 | NP      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:01 | MD      |
| Ethylene                                          | BRL    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:01 | MD      |
| Methane                                           | 5500   | 200             |      | ug/L             | 217091  | 50              | 12/15/2015 15:00 | MD      |

**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: 16-Dec-15

**Client:** AMEC E&I, Inc. -Kennesaw  
**Project Name:** STI Swainsboro GA  
**Lab ID:** 1512B97-016

**Client Sample ID:** MW-18  
**Collection Date:** 12/8/2015 3:00:00 PM  
**Matrix:** Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| 1,1-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| 1,1-Dichloroethene                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| cis-1,2-Dichloroethene                            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| Trichloroethene                                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| Vinyl chloride                                    | BRL    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| Surr: 4-Bromofluorobenzene                        | 81.2   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| Surr: Dibromofluoromethane                        | 120    | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| Surr: Toluene-d8                                  | 105    | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 05:42 | CH      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:06 | MD      |
| Ethylene                                          | BRL    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:06 | MD      |
| Methane                                           | 5900   | 400             |      | ug/L             | 217091  | 100             | 12/15/2015 15:05 | MD      |

**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:** 16-Dec-15

**Client:** AMEC E&I, Inc. -Kennesaw  
**Project Name:** STI Swainsboro GA  
**Lab ID:** 1512B97-017

**Client Sample ID:** MW-5  
**Collection Date:** 12/9/2015 10:25:00 AM  
**Matrix:** Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| 1,1-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| 1,1-Dichloroethene                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| cis-1,2-Dichloroethene                            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| Trichloroethene                                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| Vinyl chloride                                    | BRL    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| Surr: 4-Bromofluorobenzene                        | 82.2   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| Surr: Dibromofluoromethane                        | 116    | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| Surr: Toluene-d8                                  | 101    | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 06:08 | CH      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:11 | MD      |
| Ethylene                                          | BRL    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:11 | MD      |
| Methane                                           | 150    | 4.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:11 | MD      |

**Qualifiers:** \* Value exceeds maximum contaminant level  
 BRL Below reporting limit  
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 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: 16-Dec-15

Client: AMEC E&I, Inc. -Kennesaw  
 Project Name: STI Swainsboro GA  
 Lab ID: 1512B97-018

Client Sample ID: MW-19  
 Collection Date: 12/9/2015 1:00:00 PM  
 Matrix: Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:31 | CH      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:31 | CH      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:31 | CH      |
| 1,1-Dichloroethane                                | 6.9    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:31 | CH      |
| 1,1-Dichloroethene                                | 270    | 50              |      | ug/L             | 217230  | 10              | 12/15/2015 01:23 | CH      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:31 | CH      |
| Chloroethane                                      | 14     | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 00:31 | CH      |
| cis-1,2-Dichloroethene                            | 70     | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:31 | CH      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:31 | CH      |
| Trichloroethene                                   | 500    | 50              |      | ug/L             | 217230  | 10              | 12/15/2015 01:23 | CH      |
| Vinyl chloride                                    | 52     | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:31 | CH      |
| Surr: 4-Bromofluorobenzene                        | 78.4   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 00:31 | CH      |
| Surr: 4-Bromofluorobenzene                        | 80.4   | 70.7-125        |      | %REC             | 217230  | 10              | 12/15/2015 01:23 | CH      |
| Surr: Dibromofluoromethane                        | 113    | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 00:31 | CH      |
| Surr: Dibromofluoromethane                        | 119    | 82.2-120        |      | %REC             | 217230  | 10              | 12/15/2015 01:23 | CH      |
| Surr: Toluene-d8                                  | 98.1   | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 00:31 | CH      |
| Surr: Toluene-d8                                  | 106    | 81.8-120        |      | %REC             | 217230  | 10              | 12/15/2015 01:23 | CH      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | 9.9    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:16 | MD      |
| Ethylene                                          | 95     | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:16 | MD      |
| Methane                                           | 2000   | 80              |      | ug/L             | 217091  | 20              | 12/15/2015 15:09 | MD      |

**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: 16-Dec-15

**Client:** AMEC E&I, Inc. -Kennesaw  
**Project Name:** STI Swainsboro GA  
**Lab ID:** 1512B97-019

**Client Sample ID:** MW-8  
**Collection Date:** 12/9/2015 2:45:00 PM  
**Matrix:** Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | 3000   | 500             |      | ug/L             | 217230  | 100             | 12/16/2015 00:06 | NP      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 23:14 | NP      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 23:14 | NP      |
| 1,1-Dichloroethane                                | 65     | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 23:14 | NP      |
| 1,1-Dichloroethene                                | 2900   | 500             |      | ug/L             | 217230  | 100             | 12/16/2015 00:06 | NP      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 23:14 | NP      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 23:14 | NP      |
| cis-1,2-Dichloroethene                            | 1100   | 50              |      | ug/L             | 217230  | 10              | 12/15/2015 23:40 | NP      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 23:14 | NP      |
| Trichloroethene                                   | 4600   | 500             |      | ug/L             | 217230  | 100             | 12/16/2015 00:06 | NP      |
| Vinyl chloride                                    | 350    | 20              |      | ug/L             | 217230  | 10              | 12/15/2015 23:40 | NP      |
| Surr: 4-Bromofluorobenzene                        | 79.5   | 70.7-125        |      | %REC             | 217230  | 100             | 12/16/2015 00:06 | NP      |
| Surr: 4-Bromofluorobenzene                        | 83.9   | 70.7-125        |      | %REC             | 217230  | 10              | 12/15/2015 23:40 | NP      |
| Surr: 4-Bromofluorobenzene                        | 86.2   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 23:14 | NP      |
| Surr: Dibromofluoromethane                        | 104    | 82.2-120        |      | %REC             | 217230  | 100             | 12/16/2015 00:06 | NP      |
| Surr: Dibromofluoromethane                        | 110    | 82.2-120        |      | %REC             | 217230  | 10              | 12/15/2015 23:40 | NP      |
| Surr: Dibromofluoromethane                        | 142    | 82.2-120        | S    | %REC             | 217230  | 1               | 12/15/2015 23:14 | NP      |
| Surr: Toluene-d8                                  | 95.8   | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 23:14 | NP      |
| Surr: Toluene-d8                                  | 97.8   | 81.8-120        |      | %REC             | 217230  | 100             | 12/16/2015 00:06 | NP      |
| Surr: Toluene-d8                                  | 97.8   | 81.8-120        |      | %REC             | 217230  | 10              | 12/15/2015 23:40 | NP      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:21 | MD      |
| Ethylene                                          | 8.5    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:21 | MD      |
| Methane                                           | 3400   | 200             |      | ug/L             | 217091  | 50              | 12/15/2015 15:14 | MD      |

**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:** 16-Dec-15

**Client:** AMEC E&I, Inc. -Kennesaw  
**Project Name:** STI Swainsboro GA  
**Lab ID:** 1512B97-020

**Client Sample ID:** MW-8 DUP  
**Collection Date:** 12/9/2015 2:45:00 PM  
**Matrix:** Groundwater

| Analyses                                          | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---------------------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b>              |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                             | 2900   | 500             |      | ug/L             | 217230  | 100             | 12/16/2015 13:36 | NP      |
| 1,1,2,2-Tetrachloroethane                         | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:50 | NP      |
| 1,1,2-Trichloroethane                             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:50 | NP      |
| 1,1-Dichloroethane                                | 51     | 5.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:50 | NP      |
| 1,1-Dichloroethene                                | 2800   | 500             |      | ug/L             | 217230  | 100             | 12/16/2015 13:36 | NP      |
| 1,2-Dichloroethane                                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:50 | NP      |
| Chloroethane                                      | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/16/2015 12:50 | NP      |
| cis-1,2-Dichloroethene                            | 1100   | 50              |      | ug/L             | 217230  | 10              | 12/16/2015 13:13 | NP      |
| trans-1,2-Dichloroethene                          | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:50 | NP      |
| Trichloroethene                                   | 5100   | 500             |      | ug/L             | 217230  | 100             | 12/16/2015 13:36 | NP      |
| Vinyl chloride                                    | 330    | 20              |      | ug/L             | 217230  | 10              | 12/16/2015 13:13 | NP      |
| Surr: 4-Bromofluorobenzene                        | 88.7   | 70.7-125        |      | %REC             | 217230  | 1               | 12/16/2015 12:50 | NP      |
| Surr: 4-Bromofluorobenzene                        | 90.9   | 70.7-125        |      | %REC             | 217230  | 100             | 12/16/2015 13:36 | NP      |
| Surr: 4-Bromofluorobenzene                        | 91.9   | 70.7-125        |      | %REC             | 217230  | 10              | 12/16/2015 13:13 | NP      |
| Surr: Dibromofluoromethane                        | 103    | 82.2-120        |      | %REC             | 217230  | 100             | 12/16/2015 13:36 | NP      |
| Surr: Dibromofluoromethane                        | 107    | 82.2-120        |      | %REC             | 217230  | 10              | 12/16/2015 13:13 | NP      |
| Surr: Dibromofluoromethane                        | 110    | 82.2-120        |      | %REC             | 217230  | 1               | 12/16/2015 12:50 | NP      |
| Surr: Toluene-d8                                  | 96.2   | 81.8-120        |      | %REC             | 217230  | 1               | 12/16/2015 12:50 | NP      |
| Surr: Toluene-d8                                  | 97.3   | 81.8-120        |      | %REC             | 217230  | 100             | 12/16/2015 13:36 | NP      |
| Surr: Toluene-d8                                  | 97.5   | 81.8-120        |      | %REC             | 217230  | 10              | 12/16/2015 13:13 | NP      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      | <b>(RSK175)</b>  |         |                 |                  |         |
| Ethane                                            | BRL    | 9.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:26 | MD      |
| Ethylene                                          | 7.8    | 7.0             |      | ug/L             | 217091  | 1               | 12/15/2015 13:26 | MD      |
| Methane                                           | 3100   | 200             |      | ug/L             | 217091  | 50              | 12/15/2015 15:19 | MD      |

**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: 16-Dec-15

**Client:** AMEC E&I, Inc. -Kennesaw  
**Project Name:** STI Swainsboro GA  
**Lab ID:** 1512B97-021

**Client Sample ID:** PURGE WATER DRUM  
**Collection Date:** 12/9/2015 3:20:00 PM  
**Matrix:** Groundwater

| Analyses                             | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b> |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                | 170    | 5.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:03 | NP      |
| 1,1,2,2-Tetrachloroethane            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:03 | NP      |
| 1,1,2-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:03 | NP      |
| 1,1-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:03 | NP      |
| 1,1-Dichloroethene                   | 250    | 50              |      | ug/L             | 217230  | 10              | 12/16/2015 12:26 | NP      |
| 1,2-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:03 | NP      |
| Chloroethane                         | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/16/2015 12:03 | NP      |
| cis-1,2-Dichloroethene               | 71     | 5.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:03 | NP      |
| trans-1,2-Dichloroethene             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:03 | NP      |
| Trichloroethene                      | 490    | 50              |      | ug/L             | 217230  | 10              | 12/16/2015 12:26 | NP      |
| Vinyl chloride                       | 18     | 2.0             |      | ug/L             | 217230  | 1               | 12/16/2015 12:03 | NP      |
| Surr: 4-Bromofluorobenzene           | 93.9   | 70.7-125        |      | %REC             | 217230  | 1               | 12/16/2015 12:03 | NP      |
| Surr: 4-Bromofluorobenzene           | 94.4   | 70.7-125        |      | %REC             | 217230  | 10              | 12/16/2015 12:26 | NP      |
| Surr: Dibromofluoromethane           | 103    | 82.2-120        |      | %REC             | 217230  | 10              | 12/16/2015 12:26 | NP      |
| Surr: Dibromofluoromethane           | 106    | 82.2-120        |      | %REC             | 217230  | 1               | 12/16/2015 12:03 | NP      |
| Surr: Toluene-d8                     | 96.5   | 81.8-120        |      | %REC             | 217230  | 1               | 12/16/2015 12:03 | NP      |
| Surr: Toluene-d8                     | 96.5   | 81.8-120        |      | %REC             | 217230  | 10              | 12/16/2015 12:26 | 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: 16-Dec-15

Client: AMEC E&I, Inc. -Kennesaw  
 Project Name: STI Swainsboro GA  
 Lab ID: 1512B97-022

Client Sample ID: TRIP BLANK  
 Collection Date: 12/10/2015  
 Matrix: Aqueous

| Analyses                             | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--------------------------------------|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b> |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| 1,1,1-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| 1,1,2,2-Tetrachloroethane            | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| 1,1,2-Trichloroethane                | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| 1,1-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| 1,1-Dichloroethene                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| 1,2-Dichloroethane                   | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| Chloroethane                         | BRL    | 10              |      | ug/L             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| cis-1,2-Dichloroethene               | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| trans-1,2-Dichloroethene             | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| Trichloroethene                      | BRL    | 5.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| Vinyl chloride                       | BRL    | 2.0             |      | ug/L             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| Surr: 4-Bromofluorobenzene           | 78.1   | 70.7-125        |      | %REC             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| Surr: Dibromofluoromethane           | 119    | 82.2-120        |      | %REC             | 217230  | 1               | 12/15/2015 00:06 | CH      |
| Surr: Toluene-d8                     | 102    | 81.8-120        |      | %REC             | 217230  | 1               | 12/15/2015 00:06 | CH      |

**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 / Kenresaw Work Order Number 1512B97

Checklist completed by Christy 12-11-15  
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? ( $0^{\circ} \leq 6^{\circ}C$ ) \* Yes ☒ No ☐

Cooler #1 3.7°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\\Sample Receipt\\My Documents\\COCs and pH Adjustment Sheet\\Sample\_Cooler\_Recpt\_Checklist\_Rev1.rtf

**Client:** AMEC E&I, Inc. -Kennesaw  
**Project Name:** STI Swainsboro GA  
**Workorder:** 1512B97

**ANALYTICAL QC SUMMARY REPORT****BatchID: 217091**

|                             |                                                 |                    |           |             |                        |                                  |                        |             |      |           |      |
|-----------------------------|-------------------------------------------------|--------------------|-----------|-------------|------------------------|----------------------------------|------------------------|-------------|------|-----------|------|
| Sample ID: <b>MB-217091</b> | Client ID:                                      |                    |           |             | Units: <b>ug/L</b>     | Prep Date: <b>12/14/2015</b>     | Run No: <b>306475</b>  |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>GC Analysis of Gaseous Samples</b> | <b>SOP-RSK 175</b> |           |             | BatchID: <b>217091</b> | Analysis Date: <b>12/15/2015</b> | Seq No: <b>6571734</b> |             |      |           |      |
| 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: <b>LCS-217091</b> | Client ID:                                      | Units: <b>ug/L</b> |           |             |      | Prep Date: <b>12/14/2015</b> | Run No: <b>306475</b>            |                        |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>GC Analysis of Gaseous Samples</b> | SOP-RSK 175        |           |             |      | BatchID: <b>217091</b>       | Analysis Date: <b>12/15/2015</b> | Seq No: <b>6571735</b> |      |           |      |
| Analyte                      | Result                                          | RPT Limit          | SPK value | SPK Ref Val | %REC | Low Limit                    | High Limit                       | RPD Ref Val            | %RPD | RPD Limit | Qual |

Ethane 115.2 9.0 200.0 57.6 41.2 115  
 Ethylene 76.49 7.0 200.0 38.2 26.5 115  
 Methane 123.7 4.0 200.0 61.9 45.1 115

|                               |                                                 |                    |           |             |      |                        |                                  |                        |      |           |      |
|-------------------------------|-------------------------------------------------|--------------------|-----------|-------------|------|------------------------|----------------------------------|------------------------|------|-----------|------|
| Sample ID: <b>LCSD-217091</b> | Client ID:                                      |                    |           |             |      | Units: <b>ug/L</b>     | Prep Date: <b>12/14/2015</b>     | Run No: <b>306475</b>  |      |           |      |
| SampleType: <b>LCSD</b>       | TestCode: <b>GC Analysis of Gaseous Samples</b> | <b>SOP-RSK 175</b> |           |             |      | BatchID: <b>217091</b> | Analysis Date: <b>12/15/2015</b> | Seq No: <b>6571736</b> |      |           |      |
| Analyte                       | Result                                          | RPT Limit          | SPK value | SPK Ref Val | %REC | Low Limit              | High Limit                       | RPD Ref Val            | %RPD | RPD Limit | Qual |

Ethane 109.9 9.0 200.0 54.9 41.2 115 115.2 4.74 20  
 Ethylene 74.72 7.0 200.0 37.4 26.5 115 76.49 2.35 20  
 Methane 117.6 4.0 200.0 58.8 45.1 115 123.7 5.05 20

|                                  |                                                 |                    |           |             |      |                        |                                  |                        |      |           |      |
|----------------------------------|-------------------------------------------------|--------------------|-----------|-------------|------|------------------------|----------------------------------|------------------------|------|-----------|------|
| Sample ID: <b>1512C26-002BMS</b> | Client ID:                                      |                    |           |             |      | Units: <b>ug/L</b>     | Prep Date: <b>12/15/2015</b>     | Run No: <b>306475</b>  |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>GC Analysis of Gaseous Samples</b> | <b>SOP-RSK 175</b> |           |             |      | BatchID: <b>217091</b> | Analysis Date: <b>12/15/2015</b> | Seq No: <b>6571775</b> |      |           |      |
| Analyte                          | Result                                          | RPT Limit          | SPK value | SPK Ref Val | %REC | Low Limit              | High Limit                       | RPD Ref Val            | %RPD | RPD Limit | Qual |

Ethane 99.89 9.0 200.0 49.9 40.5 115  
 Ethylene 68.05 7.0 200.0 34.0 25.1 115

**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 Swainsboro GA  
Workorder: 1512B97

ANALYTICAL QC SUMMARY REPORT

BatchID: 217091

|                                  |                                                 |                    |           |             |      |                        |                                  |                        |      |           |      |
|----------------------------------|-------------------------------------------------|--------------------|-----------|-------------|------|------------------------|----------------------------------|------------------------|------|-----------|------|
| Sample ID: <b>1512C26-002BMS</b> | Client ID:                                      |                    |           |             |      | Units: <b>ug/L</b>     | Prep Date: <b>12/15/2015</b>     | Run No: <b>306475</b>  |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>GC Analysis of Gaseous Samples</b> | <b>SOP-RSK 175</b> |           |             |      | BatchID: <b>217091</b> | Analysis Date: <b>12/15/2015</b> | Seq No: <b>6571777</b> |      |           |      |
| Analyte                          | Result                                          | RPT Limit          | SPK value | SPK Ref Val | %REC | Low Limit              | High Limit                       | RPD Ref Val            | %RPD | RPD Limit | Qual |

Methane 729.1 20 200.0 639.0 45.1 40.4 115

|                                   |                                                 |                    |           |             |      |                        |                                  |                        |      |           |      |
|-----------------------------------|-------------------------------------------------|--------------------|-----------|-------------|------|------------------------|----------------------------------|------------------------|------|-----------|------|
| Sample ID: <b>1512C26-002BMSD</b> | Client ID:                                      |                    |           |             |      | Units: <b>ug/L</b>     | Prep Date: <b>12/15/2015</b>     | Run No: <b>306475</b>  |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>GC Analysis of Gaseous Samples</b> | <b>SOP-RSK 175</b> |           |             |      | BatchID: <b>217091</b> | Analysis Date: <b>12/15/2015</b> | Seq No: <b>6571776</b> |      |           |      |
| Analyte                           | Result                                          | RPT Limit          | SPK value | SPK Ref Val | %REC | Low Limit              | High Limit                       | RPD Ref Val            | %RPD | RPD Limit | Qual |

Ethane 100.6 9.0 200.0 50.3 40.5 115 99.89 0.700 20  
Ethylene 68.99 7.0 200.0 34.5 25.1 115 68.05 1.38 20

|                                   |                                                 |                    |                        |             |                    |                                  |                        |             |      |           |      |
|-----------------------------------|-------------------------------------------------|--------------------|------------------------|-------------|--------------------|----------------------------------|------------------------|-------------|------|-----------|------|
| Sample ID: <b>1512C26-002BMSD</b> | Client ID:                                      |                    |                        |             | Units: <b>ug/L</b> | Prep Date: <b>12/15/2015</b>     | Run No: <b>306475</b>  |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>GC Analysis of Gaseous Samples</b> | <b>SOP-RSK 175</b> | BatchID: <b>217091</b> |             |                    | Analysis Date: <b>12/15/2015</b> | Seq No: <b>6571778</b> |             |      |           |      |
| Analyte                           | Result                                          | RPT Limit          | SPK value              | SPK Ref Val | %REC               | Low Limit                        | High Limit             | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 728.6 20 200.0 639.0 44.8 40.4 115 729.1 0.074 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 Swainsboro GA  
Workorder: 1512B97

ANALYTICAL QC SUMMARY REPORT

BatchID: 217170

|                             |                                                |                        |           |             |      |                                  |                        |             |      |           |      |
|-----------------------------|------------------------------------------------|------------------------|-----------|-------------|------|----------------------------------|------------------------|-------------|------|-----------|------|
| Sample ID: <b>MB-217170</b> | Client ID:                                     | Units: <b>ug/L</b>     |           |             |      | Prep Date: <b>12/14/2015</b>     | Run No: <b>306346</b>  |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b> | BatchID: <b>217170</b> |           |             |      | Analysis Date: <b>12/14/2015</b> | Seq No: <b>6568731</b> |             |      |           |      |
| 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 | 44.52 | 0   | 50.00 |  | 89.0 | 70.7 | 125 |  |  |  |  |
| Surr: Dibromofluoromethane | 51.52 | 0   | 50.00 |  | 103  | 82.2 | 120 |  |  |  |  |
| Surr: Toluene-d8           | 48.93 | 0   | 50.00 |  | 97.9 | 81.8 | 120 |  |  |  |  |

|                              |                                                |           |           |             |      |                        |                                  |                        |      |           |      |
|------------------------------|------------------------------------------------|-----------|-----------|-------------|------|------------------------|----------------------------------|------------------------|------|-----------|------|
| Sample ID: <b>LCS-217170</b> | Client ID:                                     |           |           |             |      | Units: <b>ug/L</b>     | Prep Date: <b>12/14/2015</b>     | Run No: <b>306346</b>  |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b> |           |           |             |      | BatchID: <b>217170</b> | Analysis Date: <b>12/14/2015</b> | Seq No: <b>6568726</b> |      |           |      |
| Analyte                      | Result                                         | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit              | High Limit                       | RPD Ref Val            | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| 1,1-Dichloroethene         | 53.10 | 5.0 | 50.00 |  | 106  | 64.2 | 137 |  |  |  |  |
| Trichloroethene            | 53.04 | 5.0 | 50.00 |  | 106  | 70.5 | 134 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 47.12 | 0   | 50.00 |  | 94.2 | 70.7 | 125 |  |  |  |  |
| Surr: Dibromofluoromethane | 49.30 | 0   | 50.00 |  | 98.6 | 82.2 | 120 |  |  |  |  |
| Surr: Toluene-d8           | 47.83 | 0   | 50.00 |  | 95.7 | 81.8 | 120 |  |  |  |  |

|             |         |                                                |   |                                             |   |                                                    |
|-------------|---------|------------------------------------------------|---|---------------------------------------------|---|----------------------------------------------------|
| 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 Swainsboro GA  
Workorder: 1512B97

ANALYTICAL QC SUMMARY REPORT

BatchID: 217170

|                                  |                                                |                        |           |             |      |                                  |                        |             |      |           |      |
|----------------------------------|------------------------------------------------|------------------------|-----------|-------------|------|----------------------------------|------------------------|-------------|------|-----------|------|
| Sample ID: <b>1512880-001AMS</b> | Client ID:                                     | Units: <b>ug/L</b>     |           |             |      | Prep Date: <b>12/14/2015</b>     | Run No: <b>306346</b>  |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b> | BatchID: <b>217170</b> |           |             |      | Analysis Date: <b>12/14/2015</b> | Seq No: <b>6568755</b> |             |      |           |      |
| Analyte                          | Result                                         | RPT Limit              | SPK value | SPK Ref Val | %REC | Low Limit                        | High Limit             | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| 1,1-Dichloroethene         | 56.11 | 5.0 | 50.00 |  | 112  | 60.5 | 156 |  |  |  |  |
| Trichloroethene            | 52.80 | 5.0 | 50.00 |  | 106  | 71.8 | 139 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 46.92 | 0   | 50.00 |  | 93.8 | 70.7 | 125 |  |  |  |  |
| Surr: Dibromofluoromethane | 49.73 | 0   | 50.00 |  | 99.5 | 82.2 | 120 |  |  |  |  |
| Surr: Toluene-d8           | 46.93 | 0   | 50.00 |  | 93.9 | 81.8 | 120 |  |  |  |  |

|                                   |                                                |                        |           |             |      |                                  |                        |             |      |           |      |
|-----------------------------------|------------------------------------------------|------------------------|-----------|-------------|------|----------------------------------|------------------------|-------------|------|-----------|------|
| Sample ID: <b>1512880-001AMSD</b> | Client ID:                                     | Units: <b>ug/L</b>     |           |             |      | Prep Date: <b>12/14/2015</b>     | Run No: <b>306346</b>  |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b> | BatchID: <b>217170</b> |           |             |      | Analysis Date: <b>12/15/2015</b> | Seq No: <b>6568756</b> |             |      |           |      |
| Analyte                           | Result                                         | RPT Limit              | SPK value | SPK Ref Val | %REC | Low Limit                        | High Limit             | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |       |       |    |  |
|----------------------------|-------|-----|-------|--|------|------|-----|-------|-------|----|--|
| 1,1-Dichloroethene         | 53.40 | 5.0 | 50.00 |  | 107  | 60.5 | 156 | 56.11 | 4.95  | 20 |  |
| Trichloroethene            | 52.29 | 5.0 | 50.00 |  | 105  | 71.8 | 139 | 52.80 | 0.971 | 20 |  |
| Surr: 4-Bromofluorobenzene | 45.68 | 0   | 50.00 |  | 91.4 | 70.7 | 125 | 46.92 | 0     | 0  |  |
| Surr: Dibromofluoromethane | 49.67 | 0   | 50.00 |  | 99.3 | 82.2 | 120 | 49.73 | 0     | 0  |  |
| Surr: Toluene-d8           | 46.71 | 0   | 50.00 |  | 93.4 | 81.8 | 120 | 46.93 | 0     | 0  |  |

Client: AMEC E&I, Inc. -Kennesaw  
Project Name: STI Swainsboro GA  
Workorder: 1512B97

ANALYTICAL QC SUMMARY REPORT

BatchID: 217230

|                             |                                                |                        |           |             |      |                                  |                        |             |      |           |      |
|-----------------------------|------------------------------------------------|------------------------|-----------|-------------|------|----------------------------------|------------------------|-------------|------|-----------|------|
| Sample ID: <b>MB-217230</b> | Client ID:                                     | Units: <b>ug/L</b>     |           |             |      | Prep Date: <b>12/14/2015</b>     | Run No: <b>306456</b>  |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b> | BatchID: <b>217230</b> |           |             |      | Analysis Date: <b>12/14/2015</b> | Seq No: <b>6571205</b> |             |      |           |      |
| 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 | 37.29 | 0   | 50.00 |  | 74.6 | 70.7 | 125 |  |  |  |  |
| Surr: Dibromofluoromethane | 56.62 | 0   | 50.00 |  | 113  | 82.2 | 120 |  |  |  |  |
| Surr: Toluene-d8           | 48.05 | 0   | 50.00 |  | 96.1 | 81.8 | 120 |  |  |  |  |

|                              |                                                |                        |           |             |      |           |                                  |                        |      |           |      |
|------------------------------|------------------------------------------------|------------------------|-----------|-------------|------|-----------|----------------------------------|------------------------|------|-----------|------|
| Sample ID: <b>LCS-217230</b> | Client ID:                                     | Units: <b>ug/L</b>     |           |             |      |           | Prep Date: <b>12/14/2015</b>     | Run No: <b>306456</b>  |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b> | BatchID: <b>217230</b> |           |             |      |           | Analysis Date: <b>12/14/2015</b> | Seq No: <b>6571202</b> |      |           |      |
| Analyte                      | Result                                         | RPT Limit              | SPK value | SPK Ref Val | %REC | Low Limit | High Limit                       | RPD Ref Val            | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| 1,1-Dichloroethene         | 60.70 | 5.0 | 50.00 |  | 121  | 64.2 | 137 |  |  |  |  |
| Trichloroethene            | 54.89 | 5.0 | 50.00 |  | 110  | 70.5 | 134 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 39.15 | 0   | 50.00 |  | 78.3 | 70.7 | 125 |  |  |  |  |
| Surr: Dibromofluoromethane | 53.25 | 0   | 50.00 |  | 106  | 82.2 | 120 |  |  |  |  |
| Surr: Toluene-d8           | 48.16 | 0   | 50.00 |  | 96.3 | 81.8 | 120 |  |  |  |  |

|             |         |                                                |   |                                             |   |                                                    |
|-------------|---------|------------------------------------------------|---|---------------------------------------------|---|----------------------------------------------------|
| 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 Swainsboro GA  
Workorder: 1512B97

ANALYTICAL QC SUMMARY REPORT

BatchID: 217230

|                           |                                         |                 |                           |                 |      |           |            |             |      |           |      |
|---------------------------|-----------------------------------------|-----------------|---------------------------|-----------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: 1512B97-018AMS | Client ID: MW-19                        | Units: ug/L     | Prep Date: 12/14/2015     | Run No: 306456  |      |           |            |             |      |           |      |
| SampleType: MS            | TestCode: TCL VOLATILE ORGANICS SW8260B | BatchID: 217230 | Analysis Date: 12/15/2015 | Seq No: 6571234 |      |           |            |             |      |           |      |
| Analyte                   | Result                                  | RPT Limit       | SPK value                 | SPK Ref Val     | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |       |      |      |     |  |  |  |   |
|----------------------------|-------|----|-------|-------|------|------|-----|--|--|--|---|
| 1,1-Dichloroethene         | 938.6 | 50 | 500.0 | 291.6 | 129  | 60.5 | 156 |  |  |  |   |
| Trichloroethene            | 1122  | 50 | 500.0 | 824.9 | 59.3 | 71.8 | 139 |  |  |  | S |
| Surr: 4-Bromofluorobenzene | 385.3 | 0  | 500.0 |       | 77.1 | 70.7 | 125 |  |  |  |   |
| Surr: Dibromofluoromethane | 545.7 | 0  | 500.0 |       | 109  | 82.2 | 120 |  |  |  |   |
| Surr: Toluene-d8           | 500.2 | 0  | 500.0 |       | 100  | 81.8 | 120 |  |  |  |   |

|                            |                                         |                 |                           |                 |      |           |            |             |      |           |      |
|----------------------------|-----------------------------------------|-----------------|---------------------------|-----------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: 1512B97-018AMSD | Client ID: MW-19                        | Units: ug/L     | Prep Date: 12/14/2015     | Run No: 306456  |      |           |            |             |      |           |      |
| SampleType: MSD            | TestCode: TCL VOLATILE ORGANICS SW8260B | BatchID: 217230 | Analysis Date: 12/15/2015 | Seq No: 6571237 |      |           |            |             |      |           |      |
| Analyte                    | Result                                  | RPT Limit       | SPK value                 | SPK Ref Val     | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |       |      |      |     |       |      |    |   |
|----------------------------|-------|----|-------|-------|------|------|-----|-------|------|----|---|
| 1,1-Dichloroethene         | 858.0 | 50 | 500.0 | 291.6 | 113  | 60.5 | 156 | 938.6 | 8.97 | 20 |   |
| Trichloroethene            | 1054  | 50 | 500.0 | 824.9 | 45.7 | 71.8 | 139 | 1122  | 6.25 | 20 | S |
| Surr: 4-Bromofluorobenzene | 387.0 | 0  | 500.0 |       | 77.4 | 70.7 | 125 | 385.3 | 0    | 0  |   |
| Surr: Dibromofluoromethane | 552.9 | 0  | 500.0 |       | 111  | 82.2 | 120 | 545.7 | 0    | 0  |   |
| Surr: Toluene-d8           | 498.4 | 0  | 500.0 |       | 99.7 | 81.8 | 120 | 500.2 | 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 |   |                                                    |

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Savannah

5102 LaRoche Avenue

Savannah, GA 31404

Tel: (912)354-7858

TestAmerica Job ID: 680-118853-1

Client Project/Site: STI-Swainsboro, GA

For:

AMEC Foster Wheeler E & I, Inc

1075 Big Shanty Road, NW

Suite 100

Kennesaw, Georgia 30144

Attn: Ms. Tanya Kinnard



Authorized for release by:

11/11/2015 12:28:11 PM

Lisa Harvey, Project Manager II

(912)354-7858 e.3221

[lisa.harvey@testamericainc.com](mailto:lisa.harvey@testamericainc.com)

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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: 680-118853-1

### 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.                                 |
|----------------|-------------------------------------------------------------------------------------------------------------|
| α              | 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: 680-118853-1

| Lab Sample ID | Client Sample ID     | Matrix | Collected      | Received       |
|---------------|----------------------|--------|----------------|----------------|
| 680-118853-1  | HVR Water            | Water  | 11/10/15 16:35 | 11/11/15 07:45 |
| 680-118853-2  | Trip Blank (ATL 158) | Water  | 11/10/15 00:00 | 11/11/15 07:45 |

## Case Narrative

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

TestAmerica Job ID: 680-118853-1

**Job ID: 680-118853-1**

**Laboratory: TestAmerica Savannah**

### Narrative

#### CASE NARRATIVE

**Client: AMEC Foster Wheeler E & I, Inc**  
**Project: STI-Swainsboro, GA**  
**Report Number: 680-118853-1**

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 11/11/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.4 C.

#### VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples HVR Water (680-118853-1) and Trip Blank (ATL 158) (680-118853-2) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/11/2015.

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-409834.

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



# Client Sample Results

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

TestAmerica Job ID: 680-118853-1

**Client Sample ID: HVR Water**

**Date Collected: 11/10/15 16:35**

**Date Received: 11/11/15 07:45**

**Lab Sample ID: 680-118853-1**

**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 |   |          | 11/11/15 11:39 | 1       |
| cis-1,2-Dichloroethene       | 1.0       | U         | 1.0      | 0.41 | ug/L |   |          | 11/11/15 11:39 | 1       |
| 1,1-Dichloroethane           | 1.0       | U         | 1.0      | 0.38 | ug/L |   |          | 11/11/15 11:39 | 1       |
| 1,2-Dichloroethane           | 1.0       | U         | 1.0      | 0.50 | ug/L |   |          | 11/11/15 11:39 | 1       |
| 1,1-Dichloroethene           | 1.0       | U         | 1.0      | 0.36 | ug/L |   |          | 11/11/15 11:39 | 1       |
| 1,1,1,2-Tetrachloroethane    | 1.0       | U         | 1.0      | 0.62 | ug/L |   |          | 11/11/15 11:39 | 1       |
| trans-1,2-Dichloroethene     | 1.0       | U         | 1.0      | 0.37 | ug/L |   |          | 11/11/15 11:39 | 1       |
| 1,1,1-Trichloroethane        | 1.0       | U         | 1.0      | 0.37 | ug/L |   |          | 11/11/15 11:39 | 1       |
| 1,1,2-Trichloroethane        | 1.0       | U         | 1.0      | 0.33 | ug/L |   |          | 11/11/15 11:39 | 1       |
| Trichloroethene              | 1.0       | U         | 1.0      | 0.48 | ug/L |   |          | 11/11/15 11:39 | 1       |
| Vinyl chloride               | 1.0       | U         | 1.0      | 0.50 | ug/L |   |          | 11/11/15 11:39 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| Toluene-d8 (Surr)            | 93        |           | 70 - 130 |      |      |   |          | 11/11/15 11:39 | 1       |
| Dibromofluoromethane (Surr)  | 98        |           | 70 - 130 |      |      |   |          | 11/11/15 11:39 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 91        |           | 70 - 130 |      |      |   |          | 11/11/15 11:39 | 1       |
| 4-Bromofluorobenzene (Surr)  | 95        |           | 70 - 130 |      |      |   |          | 11/11/15 11:39 | 1       |

**Client Sample ID: Trip Blank (ATL 158)**

**Date Collected: 11/10/15 00:00**

**Date Received: 11/11/15 07:45**

**Lab Sample ID: 680-118853-2**

**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 |   |          | 11/11/15 11:18 | 1       |
| cis-1,2-Dichloroethene       | 1.0       | U         | 1.0      | 0.41 | ug/L |   |          | 11/11/15 11:18 | 1       |
| 1,1-Dichloroethane           | 1.0       | U         | 1.0      | 0.38 | ug/L |   |          | 11/11/15 11:18 | 1       |
| 1,2-Dichloroethane           | 1.0       | U         | 1.0      | 0.50 | ug/L |   |          | 11/11/15 11:18 | 1       |
| 1,1-Dichloroethene           | 1.0       | U         | 1.0      | 0.36 | ug/L |   |          | 11/11/15 11:18 | 1       |
| 1,1,1,2-Tetrachloroethane    | 1.0       | U         | 1.0      | 0.62 | ug/L |   |          | 11/11/15 11:18 | 1       |
| trans-1,2-Dichloroethene     | 1.0       | U         | 1.0      | 0.37 | ug/L |   |          | 11/11/15 11:18 | 1       |
| 1,1,1-Trichloroethane        | 1.0       | U         | 1.0      | 0.37 | ug/L |   |          | 11/11/15 11:18 | 1       |
| 1,1,2-Trichloroethane        | 1.0       | U         | 1.0      | 0.33 | ug/L |   |          | 11/11/15 11:18 | 1       |
| Trichloroethene              | 1.0       | U         | 1.0      | 0.48 | ug/L |   |          | 11/11/15 11:18 | 1       |
| Vinyl chloride               | 1.0       | U         | 1.0      | 0.50 | ug/L |   |          | 11/11/15 11:18 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| Toluene-d8 (Surr)            | 99        |           | 70 - 130 |      |      |   |          | 11/11/15 11:18 | 1       |
| Dibromofluoromethane (Surr)  | 96        |           | 70 - 130 |      |      |   |          | 11/11/15 11:18 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 91        |           | 70 - 130 |      |      |   |          | 11/11/15 11:18 | 1       |
| 4-Bromofluorobenzene (Surr)  | 95        |           | 70 - 130 |      |      |   |          | 11/11/15 11:18 | 1       |

TestAmerica Savannah

# QC Sample Results

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

TestAmerica Job ID: 680-118853-1

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

Lab Sample ID: MB 680-409834/9

Matrix: Water

Analysis Batch: 409834

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 |   |          | 11/11/15 10:57 | 1       |
| cis-1,2-Dichloroethene    | 1.0       | U            | 1.0 | 0.41 | ug/L |   |          | 11/11/15 10:57 | 1       |
| 1,1-Dichloroethane        | 1.0       | U            | 1.0 | 0.38 | ug/L |   |          | 11/11/15 10:57 | 1       |
| 1,2-Dichloroethane        | 1.0       | U            | 1.0 | 0.50 | ug/L |   |          | 11/11/15 10:57 | 1       |
| 1,1-Dichloroethene        | 1.0       | U            | 1.0 | 0.36 | ug/L |   |          | 11/11/15 10:57 | 1       |
| 1,1,2,2-Tetrachloroethane | 1.0       | U            | 1.0 | 0.62 | ug/L |   |          | 11/11/15 10:57 | 1       |
| trans-1,2-Dichloroethene  | 1.0       | U            | 1.0 | 0.37 | ug/L |   |          | 11/11/15 10:57 | 1       |
| 1,1,1-Trichloroethane     | 1.0       | U            | 1.0 | 0.37 | ug/L |   |          | 11/11/15 10:57 | 1       |
| 1,1,2-Trichloroethane     | 1.0       | U            | 1.0 | 0.33 | ug/L |   |          | 11/11/15 10:57 | 1       |
| Trichloroethene           | 1.0       | U            | 1.0 | 0.48 | ug/L |   |          | 11/11/15 10:57 | 1       |
| Vinyl chloride            | 1.0       | U            | 1.0 | 0.50 | ug/L |   |          | 11/11/15 10:57 | 1       |

| Surrogate                    | MB %Recovery | MB Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------------|--------------|----------|----------|----------------|---------|
| Toluene-d8 (Surr)            | 98           |              | 70 - 130 |          | 11/11/15 10:57 | 1       |
| Dibromofluoromethane (Surr)  | 94           |              | 70 - 130 |          | 11/11/15 10:57 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 88           |              | 70 - 130 |          | 11/11/15 10:57 | 1       |
| 4-Bromofluorobenzene (Surr)  | 93           |              | 70 - 130 |          | 11/11/15 10:57 | 1       |

Lab Sample ID: LCS 680-409834/4

Matrix: Water

Analysis Batch: 409834

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        | 59.4       |               | ug/L |   | 119  | 50 - 151     |
| cis-1,2-Dichloroethene    | 50.0        | 45.0       |               | ug/L |   | 90   | 80 - 122     |
| 1,1-Dichloroethane        | 50.0        | 45.1       |               | ug/L |   | 90   | 80 - 120     |
| 1,2-Dichloroethane        | 50.0        | 47.3       |               | ug/L |   | 95   | 75 - 130     |
| 1,1-Dichloroethene        | 50.0        | 45.9       |               | ug/L |   | 92   | 74 - 125     |
| 1,1,2,2-Tetrachloroethane | 50.0        | 46.6       |               | ug/L |   | 93   | 72 - 128     |
| trans-1,2-Dichloroethene  | 50.0        | 47.1       |               | ug/L |   | 94   | 78 - 123     |
| 1,1,1-Trichloroethane     | 50.0        | 47.1       |               | ug/L |   | 94   | 74 - 128     |
| 1,1,2-Trichloroethane     | 50.0        | 49.3       |               | ug/L |   | 99   | 79 - 125     |
| Trichloroethene           | 50.0        | 49.3       |               | ug/L |   | 99   | 80 - 123     |
| Vinyl chloride            | 50.0        | 46.8       |               | ug/L |   | 94   | 68 - 132     |

| Surrogate                    | LCS %Recovery | LCS Qualifier | Limits   |
|------------------------------|---------------|---------------|----------|
| Toluene-d8 (Surr)            | 99            |               | 70 - 130 |
| Dibromofluoromethane (Surr)  | 99            |               | 70 - 130 |
| 1,2-Dichloroethane-d4 (Surr) | 94            |               | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 97            |               | 70 - 130 |

Lab Sample ID: LCSD 680-409834/5

Matrix: Water

Analysis Batch: 409834

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        | 49.5        |                | ug/L |   | 99   | 50 - 151     | 18  | 30        |

TestAmerica Savannah

# QC Sample Results

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

TestAmerica Job ID: 680-118853-1

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

Lab Sample ID: LCSD 680-409834/5

Matrix: Water

Analysis Batch: 409834

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        | 42.6        |                | ug/L |   | 85   | 80 - 122     | 6   | 20        |
| 1,1-Dichloroethane        | 50.0        | 42.5        |                | ug/L |   | 85   | 80 - 120     | 6   | 20        |
| 1,2-Dichloroethane        | 50.0        | 44.9        |                | ug/L |   | 90   | 75 - 130     | 5   | 20        |
| 1,1-Dichloroethene        | 50.0        | 41.1        |                | ug/L |   | 82   | 74 - 125     | 11  | 20        |
| 1,1,2,2-Tetrachloroethane | 50.0        | 44.5        |                | ug/L |   | 89   | 72 - 128     | 4   | 20        |
| trans-1,2-Dichloroethene  | 50.0        | 44.2        |                | ug/L |   | 88   | 78 - 123     | 6   | 20        |
| 1,1,1-Trichloroethane     | 50.0        | 42.6        |                | ug/L |   | 85   | 74 - 128     | 10  | 20        |
| 1,1,2-Trichloroethane     | 50.0        | 45.3        |                | ug/L |   | 91   | 79 - 125     | 8   | 20        |
| Trichloroethene           | 50.0        | 45.6        |                | ug/L |   | 91   | 80 - 123     | 8   | 20        |
| Vinyl chloride            | 50.0        | 41.5        |                | ug/L |   | 83   | 68 - 132     | 12  | 30        |

| Surrogate                    | LCSD %Recovery | LCSD Qualifier | Limits   |
|------------------------------|----------------|----------------|----------|
| Toluene-d8 (Surr)            | 89             |                | 70 - 130 |
| Dibromofluoromethane (Surr)  | 93             |                | 70 - 130 |
| 1,2-Dichloroethane-d4 (Surr) | 89             |                | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 90             |                | 70 - 130 |

## QC Association Summary

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

TestAmerica Job ID: 680-118853-1

### GC/MS VOA

#### Analysis Batch: 409834

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 680-118853-1      | HVR Water              | Total/NA  | Water  | 8260B  |            |
| 680-118853-2      | Trip Blank (ATL 158)   | Total/NA  | Water  | 8260B  |            |
| LCS 680-409834/4  | Lab Control Sample     | Total/NA  | Water  | 8260B  |            |
| LCSD 680-409834/5 | Lab Control Sample Dup | Total/NA  | Water  | 8260B  |            |
| MB 680-409834/9   | Method Blank           | Total/NA  | Water  | 8260B  |            |

## Lab Chronicle

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

TestAmerica Job ID: 680-118853-1

**Client Sample ID: HVR Water**

**Date Collected: 11/10/15 16:35**

**Date Received: 11/11/15 07:45**

**Lab Sample ID: 680-118853-1**

**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         | 409834       | 11/11/15 11:39       | CEJ     | TAL SAV |
| Instrument ID: CMSO2 |            |              |     |            |                |              |              |                      |         |         |

**Client Sample ID: Trip Blank (ATL 158)**

**Date Collected: 11/10/15 00:00**

**Date Received: 11/11/15 07:45**

**Lab Sample ID: 680-118853-2**

**Matrix: Water**

| Prep Type            | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|----------------------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA             | Analysis   | 8260B        |     | 1          | 5 mL           | 5 mL         | 409834       | 11/11/15 11:18       | CEJ     | TAL SAV |
| Instrument ID: CMSO2 |            |              |     |            |                |              |              |                      |         |         |

### 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: 680-118853-1

| 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: 680-118853-1

**Login Number: 118853**

**List Source: TestAmerica Savannah**

**List Number: 1**

**Creator: Barnett, Eddie T**

| Question                                                                                 | Answer | Comment |
|------------------------------------------------------------------------------------------|--------|---------|
| Radioactivity wasn't checked or is $\leq$ 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?                                              | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time.                                                | True   |         |
| Sample containers have legible labels.                                                   | True   |         |
| Containers are not broken or leaking.                                                    | True   |         |
| Sample collection date/times are provided.                                               | True   |         |
| Appropriate sample containers are used.                                                  | True   |         |
| Sample bottles are completely filled.                                                    | True   |         |
| Sample Preservation Verified.                                                            | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (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](http://www.testamericainc.com)  
Phone: (912) 354-7858  
Fax: (912) 352-0165

**○ Alternate Laboratory Name/Location**

Phone:  
Fax:

| PROJECT REFERENCE         |  | PROJECT NO.         |  | PROJECT LOCATION (STATE)         |  | MATRIX TYPE                                   |  | REQUIRED ANALYSIS     |  |               |  |                                       |  | PAGE               |  | OF              |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|---------------------------|--|---------------------|--|----------------------------------|--|-----------------------------------------------|--|-----------------------|--|---------------|--|---------------------------------------|--|--------------------|--|-----------------|--|------------------------------------|--|--------------------------|--|----------|--|---------------------------------------|--|----------|--|------------------------------------------|--|----------|--|------|--|
| TAL (LAB) PROJECT MANAGER |  | P.O. NUMBER         |  | CONTRACT NO.                     |  | CLIENT PHONE                                  |  | CLIENT FAX            |  | CLIENT E-MAIL |  | NONAQUEOUS LIQUID (OIL, SOLVENT, AIR) |  | SOLID OR SEMISOLID |  | AQUEOUS (WATER) |  | COMPOSITE (C) OR GRAB (G) INDICATE |  | STANDARD REPORT DELIVERY |  | DATE DUE |  | EXPEDITED REPORT DELIVERY (SURCHARGE) |  | DATE DUE |  | NUMBER OF COOLERS SUBMITTED PER SHIPMENT |  | REMARKS  |  |      |  |
| CLIENT (SITE) PM          |  | CLIENT NAME         |  | CLIENT ADDRESS                   |  | COMPANY CONTRACTING THIS WORK (if applicable) |  | SAMPLE IDENTIFICATION |  | DATE          |  | TIME                                  |  | DATE               |  | TIME            |  | DATE                               |  | TIME                     |  | DATE     |  | TIME                                  |  | DATE     |  | TIME                                     |  | DATE     |  | TIME |  |
| Lisa Harvey               |  | Amec Foster Wheeler |  | 1075 Big Shanty Rd, Kennesaw, GA |  | COMPANY CONTRACTING THIS WORK (if applicable) |  | HVR water             |  | 11/10/15      |  | 1635                                  |  | 11/10/15           |  | 0745            |  | 11/10/15                           |  | 0745                     |  | 11/10/15 |  | 0745                                  |  | 11/10/15 |  | 0745                                     |  | 11/10/15 |  | 0745 |  |
|                           |  |                     |  |                                  |  |                                               |  | TOP Blank (ATL 150)   |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |
|                           |  |                     |  |                                  |  |                                               |  |                       |  |               |  |                                       |  |                    |  |                 |  |                                    |  |                          |  |          |  |                                       |  |          |  |                                          |  |          |  |      |  |



# Certification Summary

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

TestAmerica Job ID: 680-118853-1

## Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

| Authority | Program       | EPA Region | Certification ID | Expiration Date |
|-----------|---------------|------------|------------------|-----------------|
| Georgia   | State Program | 4          | 803              | 06-30-16        |

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## **APPENDIX D**

### MODEL UPDATE

# MODEL CALIBRATION – YEAR 2015 (YR 19) STI SWAINSBORO, GA

## BIOCHLOR Natural Attenuation Decision Support System

Version 2.2  
Excel 2000

TYPE OF CHLORINATED SOLVENT: Ethenes ☒  
Ethanes ☐

### 1. ADVECTION

Seepage Velocity\*  $V_s$  50.0 (ft/yr) C

Hydraulic Conductivity  $K$  7.1E-04 (cm/sec)

Hydraulic Gradient  $i$  0.0136 (ft/ft)

Effective Porosity  $n$  0.2 (-)

### 2. DISPERSION

Alpha x\* 11.74 (ft)

(Alpha y) / (Alpha x)\* 0.1 (-)

(Alpha z) / (Alpha x)\* 1.E-99 (-)

### 3. ADSORPTION

Retardation Factor\* R C

Soil Bulk Density, rho 1.6 (kg/L)

Fraction Organic Carbon, f<sub>oc</sub> 1.0E-3 (-)

Partition Coefficient  $K_{oc}$

|     |     |        |      |     |
|-----|-----|--------|------|-----|
| 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 C

|           | $\lambda$ (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

|           | $\lambda$ (1/yr) | half-life (yrs) |
|-----------|------------------|-----------------|
| PCE → TCE | 0.000            |                 |
| TCE → DCE | 0.000            |                 |
| DCE → VC  | 0.000            |                 |
| VC → ETH  | 0.000            |                 |

**HELP**

### 5. GENERAL

Simulation Time\* 19 (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)

Width\* (ft) 20

Conc. (mg/L)\*  $C_1$

|     |      |
|-----|------|
| PCE | 28.0 |
| TCE | 18.0 |
| DCE | 4.0  |
| VC  | 0.23 |
| ETH |      |

$k_d$  (1/yr)

|     |     |
|-----|-----|
| PCE | 0.1 |
| TCE | 0.1 |
| DCE | 0.1 |
| VC  | 0.1 |
| ETH | 0.1 |

View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

### 7. FIELD DATA FOR COMPARISON

|                           |      |      |      |  |  |  |  |  |  |
|---------------------------|------|------|------|--|--|--|--|--|--|
| PCE Conc. (mg/L)          |      |      |      |  |  |  |  |  |  |
| TCE Conc. (mg/L)          | 2.5  | .003 | .003 |  |  |  |  |  |  |
| DCE Conc. (mg/L)          | 1.9  | .003 | .003 |  |  |  |  |  |  |
| VC Conc. (mg/L)           | 0.5  | .005 | .001 |  |  |  |  |  |  |
| ETH Conc. (mg/L)          |      |      |      |  |  |  |  |  |  |
| Distance from Source (ft) | 10   | 100  | 350  |  |  |  |  |  |  |
| Date Data Collected       | 2015 |      |      |  |  |  |  |  |  |

### 8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN  
CENTERLINE

RUN ARRAY

Help

Restore  
Formulas

RESET

SEE  
OUTPUT

Paste  
Example

Unprotect

### Data Input Instructions:

115 ↑ or 0.02

1. Enter value directly....or  
2. Calculate by filling in gray 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

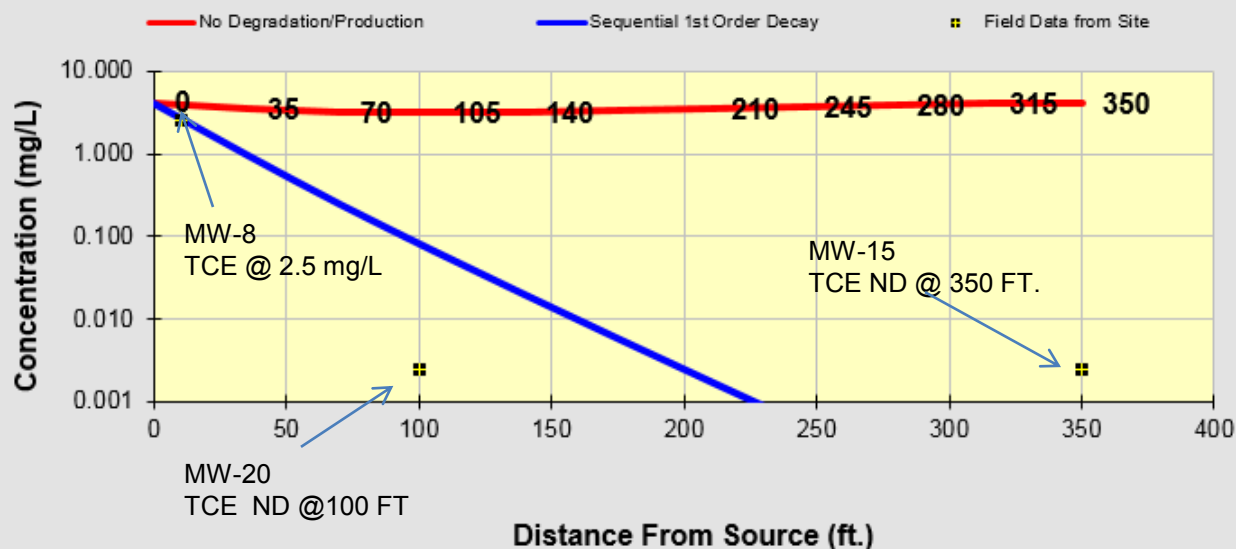
# MODEL CALIBRATION – TCE IN YEAR 2015 (YR 19) STI SWAINSBORO, GA

## DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

| TCE               | Distance from Source (ft) |       |       |       |       |       |       |       |       |       |       |
|-------------------|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                   | 0                         | 35    | 70    | 105   | 140   | 175   | 210   | 245   | 280   | 315   | 350   |
| No Degradation    | 4.188                     | 3.554 | 3.195 | 3.129 | 3.197 | 3.344 | 3.540 | 3.755 | 3.947 | 4.064 | 4.047 |
| Biotransformation | 4.1879                    | 0.999 | 0.252 | 0.069 | 0.020 | 0.006 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 |

| Field Data from Site | Monitoring Well Locations (ft) |       |       |  |  |  |  |  |  |  |  |
|----------------------|--------------------------------|-------|-------|--|--|--|--|--|--|--|--|
|                      | 10                             | 100   | 350   |  |  |  |  |  |  |  |  |
| Field Data from Site | 2.500                          | 0.003 | 0.003 |  |  |  |  |  |  |  |  |



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

19.0 Years

Log ↔ Linear

Unprotect  
Sheet

Return to  
Input

To All

To Array

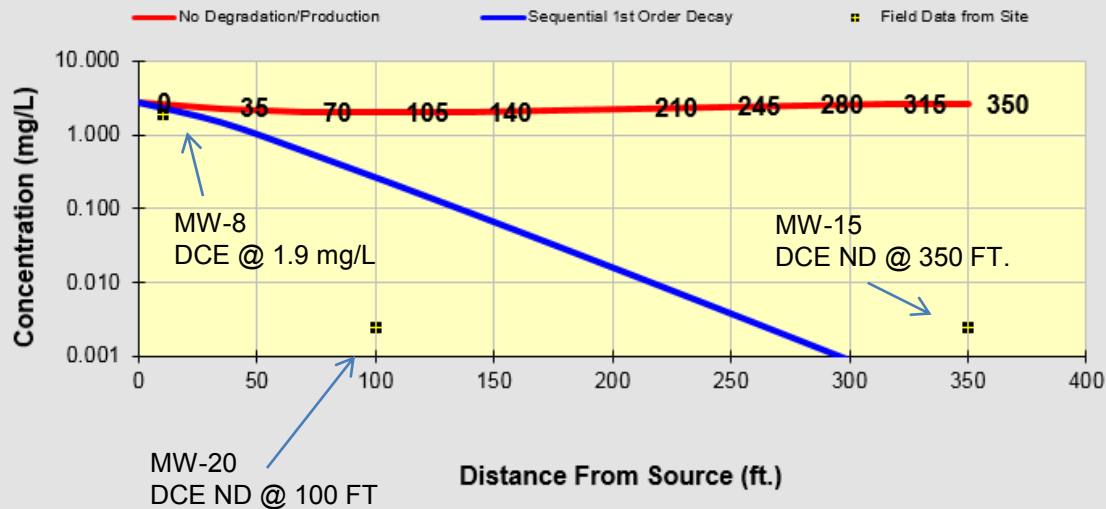
# MODEL CALIBRATION – DCE IN YEAR 2015 (YR 19) STI SWAINSBORO, GA

## DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

| DCE               | Distance from Source (ft) |       |       |       |       |       |       |       |       |       |       |
|-------------------|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                   | 0                         | 35    | 70    | 105   | 140   | 175   | 210   | 245   | 280   | 315   | 350   |
| No Degradation    | 2.692                     | 2.285 | 2.054 | 2.011 | 2.055 | 2.150 | 2.276 | 2.414 | 2.538 | 2.613 | 2.602 |
| Biotransformation | 2.6922                    | 1.445 | 0.585 | 0.227 | 0.086 | 0.032 | 0.012 | 0.004 | 0.002 | 0.001 | 0.000 |

| Monitoring Well Locations (ft) |       |       |       |  |  |  |  |  |  |  |
|--------------------------------|-------|-------|-------|--|--|--|--|--|--|--|
|                                | 10    | 100   | 350   |  |  |  |  |  |  |  |
| Field Data from Site           | 1.900 | 0.003 | 0.003 |  |  |  |  |  |  |  |



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

19.0 Years

Log ↔ Linear

Unprotect Sheet

Return to Input

To All

To Array

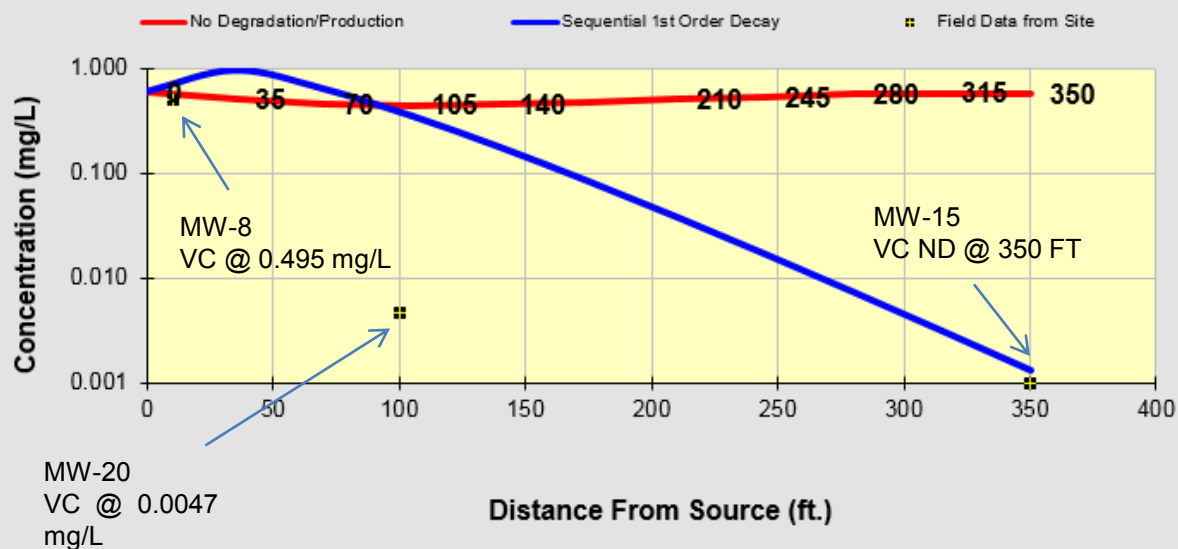
# MODEL CALIBRATION – VC IN YEAR 2015 (YR 19) STI SWAINSBORO, GA

## DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

| VC                | Distance from Source (ft) |       |       |       |       |       |       |       |       |       |       |
|-------------------|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                   | 0                         | 35    | 70    | 105   | 140   | 175   | 210   | 245   | 280   | 315   | 350   |
| No Degradation    | 0.598                     | 0.508 | 0.456 | 0.447 | 0.457 | 0.478 | 0.506 | 0.536 | 0.564 | 0.581 | 0.578 |
| Biotransformation | 0.5983                    | 0.956 | 0.636 | 0.351 | 0.176 | 0.084 | 0.038 | 0.017 | 0.007 | 0.003 | 0.001 |

| Field Data from Site | Monitoring Well Locations (ft) |       |       |  |  |  |  |  |  |  |  |
|----------------------|--------------------------------|-------|-------|--|--|--|--|--|--|--|--|
|                      | 10                             | 100   | 350   |  |  |  |  |  |  |  |  |
|                      | 0.495                          | 0.005 | 0.001 |  |  |  |  |  |  |  |  |


[See PCE](#)
[See TCE](#)
[See DCE](#)
[See VC](#)
[See ETH](#)
[Prepare Animation](#)

Time:

19.0 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

November 19, 2015

Tanya Kinnard  
AMEC  
1075 Big Shanty Road, NW, Suite 100  
Kennesaw, GA 30144

Subject: 24-Hour Multi-Phase Extraction Event  
STI Properties, Inc.  
162 East Meadowlake Parkway  
Swainsboro, GA  
Project No. GA111530  
**AMEC PO No.: C012403501**

Dear Ms. Kinnard:

Brown Remediation, Inc. is pleased to provide you with this report of our Multi-Phase Extraction (MPE) service conducted at the subject facility on November 10, 2015.

Site monitoring wells MW-8, MW-19, MW-3, 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 measured 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 Number                                  | Before Event |          |           | Influence Vacuum | After Event |          |           | Change in Elevation (ft) |
|                                              | DTP (ft)     | DTW (ft) | Prod.(ft) | Time: 15:00      | DTP (ft)    | DTW (ft) | Prod.(ft) |                          |
| MW-8                                         |              | 1.82     |           | -7.5" Hg         |             | 9.50     |           | -7.68                    |
| MW-19                                        |              | 3.03     |           | -4.0" Hg         |             | 8.06     |           | -5.03                    |
| MW-3                                         |              | 1.97     |           | 0.00             |             | 2.09     |           | -0.12                    |
| MW-18                                        |              | 2.26     |           | -0.37" WC        |             | 2.48     |           | -0.22                    |
| MW-20                                        |              | 4.39     |           | -0.01" WC        |             | 4.45     |           | -0.06                    |
| MW-21                                        |              | 4.37     |           | -0.02" WC        |             | 4.58     |           | -0.21                    |
| Comments                                     |              |          |           |                  |             |          |           |                          |
| MW-11 was submerged during the entire event. |              |          |           |                  |             |          |           |                          |

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.

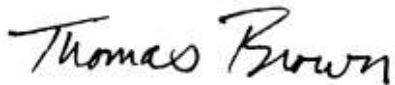
| Event Totals                  |        | Cumulative Totals             |        |
|-------------------------------|--------|-------------------------------|--------|
| Total Carbon (lbs)            | 0.18   | Total Carbon (lbs)            | 0.18   |
| Total Methane (lbs)           | 0.00   | Total Methane (lbs)           | 0.00   |
| Total Hydrocarbon (lbs)       | 374.95 | Total Hydrocarbon (lbs)       | 556.12 |
| Equiv. Hydrocarbons (gallons) | 30.79  | Equiv. Hydrocarbons (gallons) | 45.67  |
| Total Liquid (gallons)        | 1300   | Total Liquid (gallons)        | 2550   |
| Total Propane (gallons)       | 80.0   | Total Propane (gallons)       | 155.0  |
| Total Event Time (hours)      | 24.0   | Events                        | 2      |

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.

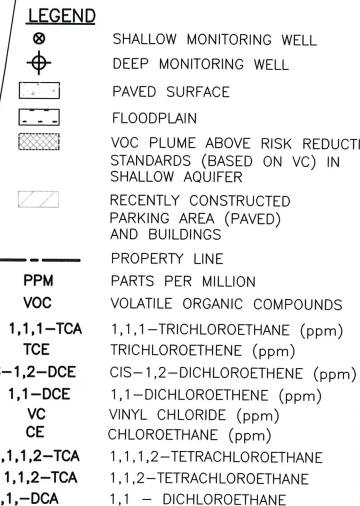
Sincerely,

Brown Remediation, Inc.



Thomas Brown  
Director of Operations

Attachments: Site Map  
MPE Event Data Summary  
Field Data Sheet  
Flow and Hydrocarbon Removal Rates  
MPE Technology Description and Calculations



JOB NO. 6125-08-0149

STI Properties, Inc.  
162 East Meadowlake Park, Swainsboro, GA  
Operator Name: Chuck Parsons  
Date: November 10, 2015  
Project # GA111530

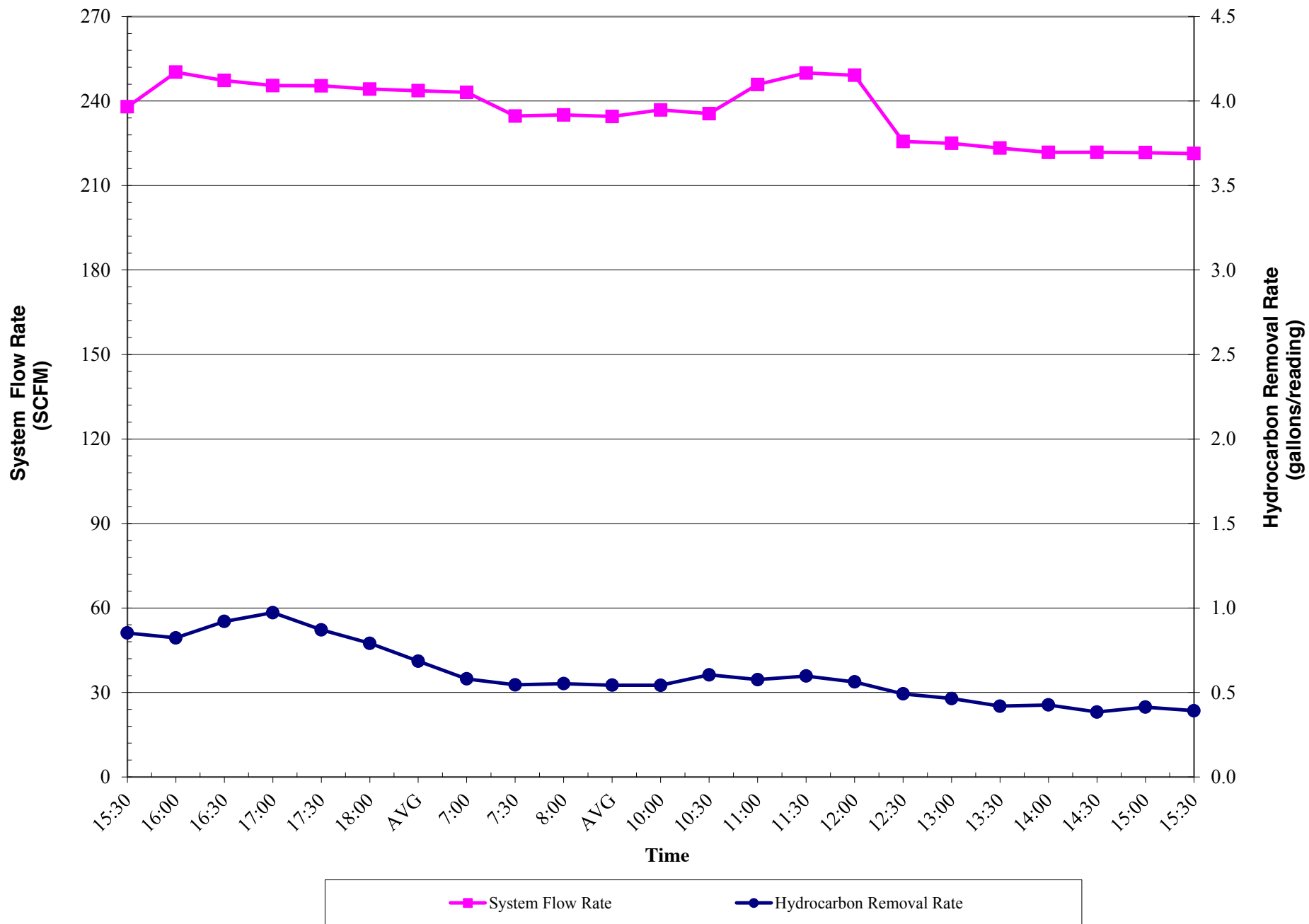
[illegible]

STI Properties, Inc.  
162 East Meadowlake Park, Swainsboro, GA  
Operator Name: Chuck Parsons  
Date: November 10, 2015  
Project # GA111530

(Gas=0.74, Diesel=0.83, JetA=0.80)

| LINE #           | Time  | 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                | 15:30 | 0.01          | 1.98                        | 67             | 0.4                     | 8                      | 113                     | 1.61                      | 4                     | 5                  | 3                   | 3.5                   | 5                  | 2                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 1     |
| 2                | 16:00 | 30            | 1.48                        | 68             | 0.4                     | 13.5                   | 129                     | 1.83                      | 8                     | 5                  | 5                   | 8                     | 5                  | 4                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 2     |
| 3                | 16:30 | 30            | 1.48                        | 71             | 0.4                     | 13.5                   | 143                     | 1.83                      | 8                     | 5                  | 5                   | 8                     | 5                  | 4                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 3     |
| 4                | 17:00 | 30            | 1.42                        | 75             | 0.4                     | 13.5                   | 152                     | 1.83                      | 8                     | 5                  | 7                   | 8                     | 5                  | 6                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 4     |
| 5                | 17:30 | 30            | 1.39                        | 77             | 0.4                     | 13.5                   | 159                     | 1.85                      | 8                     | 5                  | 7                   | 8                     | 5                  | 6                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 5     |
| 6                | 18:00 | 30            | 1.47                        | 79             | 0.4                     | 13.5                   | 165                     | 1.85                      | 8                     | 5                  | 7                   | 8                     | 5                  | 6                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 6     |
| 7                | AVG   | 780           | 1.45                        | 67             | 0.4                     | 13.5                   | 168                     | 1.85                      | 8                     | 5                  | 7                   | 8                     | 5                  | 6                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 7     |
| 8                | 7:00  | 0.01          | 1.45                        | 56             | 0.4                     | 13.5                   | 171                     | 1.85                      | 8                     | 5                  | 7                   | 8                     | 5                  | 6                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 8     |
| 9                | 7:30  | 30            | 1.29                        | 56             | 0.4                     | 14                     | 173                     | 1.73                      | 9                     | 5                  | 7                   | 9.5                   | 5                  | 6                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 9     |
| 10               | 8:00  | 30            | 1.29                        | 57             | 0.4                     | 14                     | 171                     | 1.73                      | 9                     | 5                  | 7                   | 9.5                   | 5                  | 6                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 10    |
| 11               | AVG   | 120           | 1.28                        | 57             | 0.4                     | 14                     | 174                     | 1.73                      | 9                     | 5                  | 7                   | 9.5                   | 5                  | 6                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 11    |
| 12               | 10:00 | 0.01          | 1.2                         | 58             | 0.4                     | 14                     | 177                     | 1.773                     | 9                     | 5                  | 7                   | 9.5                   | 5                  | 6                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 12    |
| 13               | 10:30 | 30            | 1.24                        | 60             | 0.4                     | 14                     | 183                     | 1.77                      | 9                     | 5                  | 9                   | 9.5                   | 5                  | 8                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 13    |
| 14               | 11:00 | 30            | 1.26                        | 64             | 0.4                     | 14                     | 190                     | 1.95                      | 9                     | 5                  | 9                   | 9.5                   | 5                  | 8                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 14    |
| 15               | 11:30 | 30            | 1.23                        | 68             | 0.4                     | 14                     | 198                     | 2.04                      | 9                     | 5                  | 9                   | 9.5                   | 5                  | 8                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 15    |
| 16               | 12:00 | 30            | 1.22                        | 69             | 0.4                     | 14                     | 199                     | 2.03                      | 9                     | 5                  | 9                   | 9.59                  | 5                  | 8                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 16    |
| 17               | 12:30 | 30            | 1.05                        | 74             | 0.4                     | 14                     | 201                     | 1.67                      | 9                     | 5                  | 9                   | 9.5                   | 5                  | 8                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 17    |
| 18               | 13:00 | 30            | 1.02                        | 79             | 0.4                     | 14                     | 205                     | 1.67                      | 9                     | 5                  | 9                   | 9.5                   | 5                  | 8                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 18    |
| 19               | 13:30 | 30            | 0.98                        | 80             | 0.4                     | 14                     | 211                     | 1.66                      | 9                     | 5                  | 9                   | 9.5                   | 5                  | 8                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 19    |
| 20               | 14:00 | 30            | 0.97                        | 80             | 0.4                     | 14                     | 216                     | 1.65                      | 9                     | 5                  | 9                   | 9.5                   | 5                  | 8                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 20    |
| 21               | 14:30 | 30            | 0.96                        | 80             | 0.4                     | 14                     | 216                     | 1.65                      | 9                     | 5                  | 9                   | 9.5                   | 5                  | 8                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 21    |
| 22               | 15:00 | 30            | 0.96                        | 81             | 0.4                     | 14                     | 225                     | 1.67                      | 9                     | 5                  | 9                   | 9.5                   | 5                  | 8                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 22    |
| 23               | 15:30 | 30            | 0.95                        | 81             | 0.4                     | 14                     | 227                     | 1.67                      | 9                     | 5                  | 9                   | 9.5                   | 5                  | 8                   |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  | 23    |
| Average Reading: |       |               | 1.26                        | 69.74          | 0.40                    | 13.59                  | 181.13                  | 1.78                      | 8.48                  | 5.00               | 7.61                | 8.79                  | 5.00               | 6.61                |                       |                    |                     |                       |                    |                     |                       |                    |                     |  |  |       |

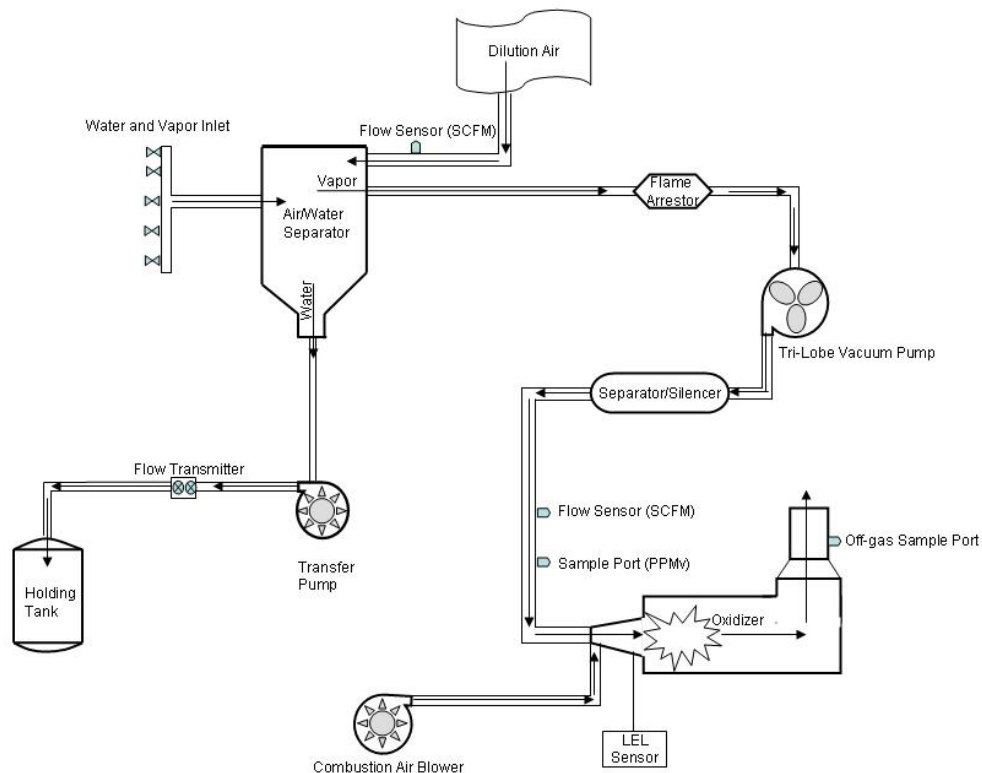
## System Flow and Hydrocarbon Removal Rates



## 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

$$Q = 128.8 \times K \times D \times \text{SQRT}((P \times dP) / (T + 460) \times Ss)$$

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<sup>3</sup>)**

$$C = (\text{PPMv} / R) \times (1000 \text{ L} / 1 \text{ m}^3)$$

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**

$$M = Q \times C \times c$$

Where:

M = Contaminant loading rate (lbs/hr)

Q = Air flow rate (SCFM)

C = Contaminant concentration (mg/m<sup>3</sup>)

$$c = (1 \text{ m}^3 / 35.31 \text{ ft}^3) \times (1 \text{ lb} / 454 \times 10^3 \text{ mg}) \times (60 \text{ min} / 1 \text{ hr}) = 3.743 \times 10^{-6}$$

#### **Conversion of Pounds of Hydrocarbon to Equivalent Gallons**

$$\text{Equivalent Gallons} = Ss \times c$$

Where:

Ss = Specific gravity (0.74 = gasoline, 0.84 = diesel fuel)

c = 8.34 lbs/gallon