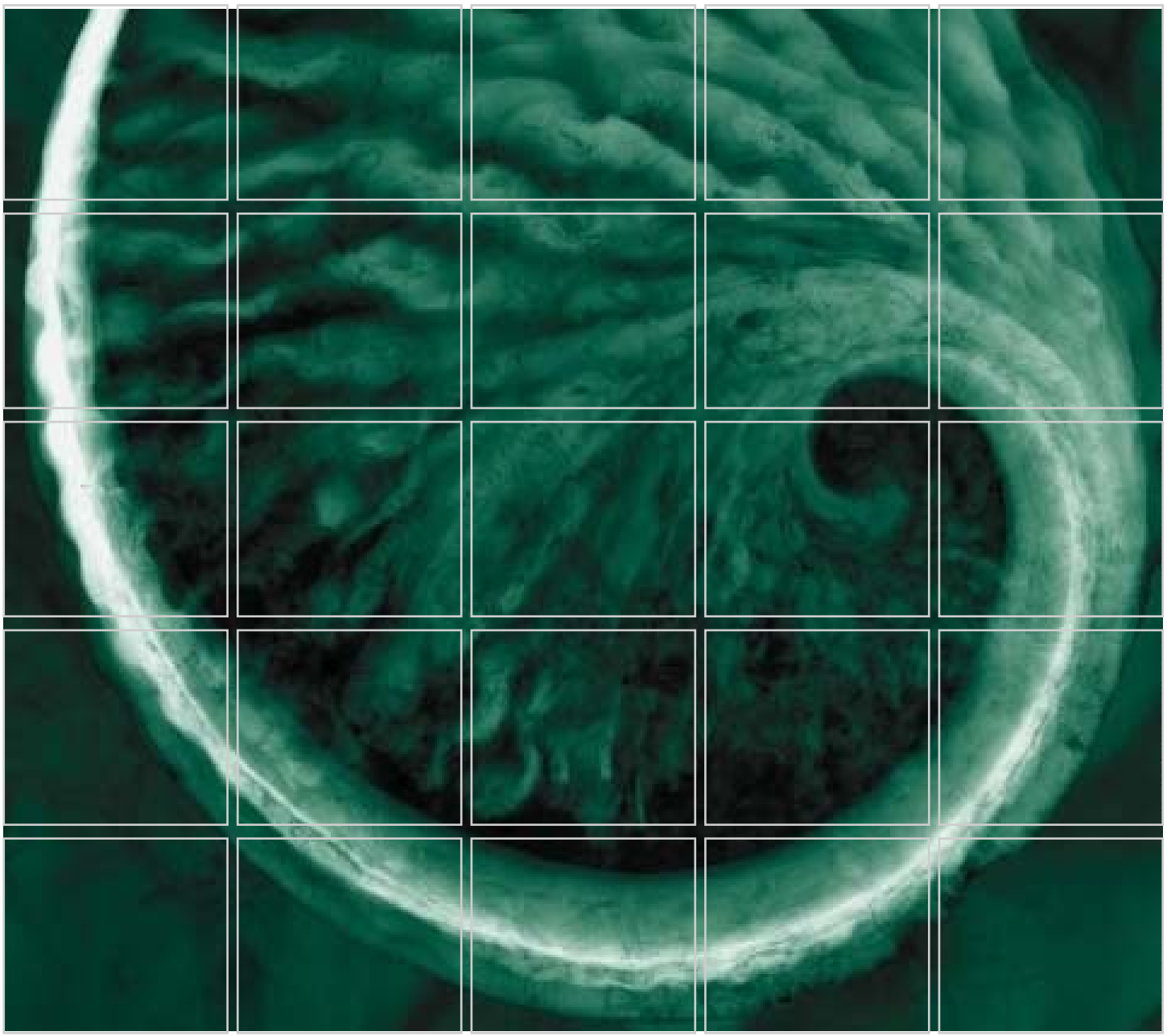

Fifth Semi-Annual Progress Report

BWAY Corporation,
Homerville, Georgia HSI Site No. 10731

Submitted Under Georgia's Voluntary Remediation Program (VRP) Act

January 22, 2014

ERM Project No. 0121022

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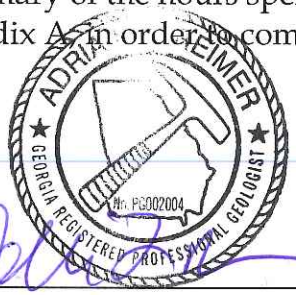
GROUND WATER SCIENTIST STATEMENT

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

I further certify that this report for Hazardous Site Inventory Site No. 10731 was prepared by me and appropriate qualified subordinates working under my direction.

A summary of the hours spent by the Professional Geologist is provided in Appendix A in order to comply with Voluntary Remediation Plan Act.



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1-22-14
Date

1.0 INTRODUCTION

This Fifth Semi-Annual Progress Report has been prepared for the BWAY Corporation Former Drum Site (the Site) located in Homerville, Georgia for submittal to Georgia's Voluntary Remediation Program (VRP) on behalf of BWAY Corporation (BWAY). This Site is listed in Georgia's Hazardous Site Inventory (HSI) as Site Number 10731. The Site was accepted into Georgia's VRP on July 22, 2011.

The purpose of this Progress Report is to document activities conducted during this reporting period (July 1, 2013 through December 31, 2013). The remainder of this report is organized into the following sections to provide information regarding investigation and assessment activities performed in the past six month period:

- Section 2 – Ground Water Assessment,
- Section 3 – Ground Water Fate and Transport Modeling,
- Section 4 - Conceptual Site Model,
- Section 5 –Recommendations, and
- Section 6 – References.

Activities completed during this reporting period were consistent with recommendations included in the Fourth Semi-Annual Progress Report, submitted to the EPD on August 5, 2013.

1.1. BACKGROUND

The Site is listed on Georgia's HSI as Site Number 10731. The Site is located on property that is a planted pine forest across US Highway 84 from the main BWAY plant in Homerville. Specifically, the Site is situated northwest of the intersection of Charley Smith Road (also known as Woodlake Road) and Highway 84. A Site location map is shown on Figure 1.

The BWAY Homerville plant was constructed by the Standard Container Corporation (Standard) in 1957. Standard's operations

included the manufacture of insect sprayers and pie pans. The business eventually expanded into the manufacturing of metal pails, cans, and ammunition boxes. Brockway, Inc. acquired Standard in the early 1980s. Standard's name was changed to Brockway Standard, Inc. in 1985. Owens-Illinois acquired Brockway Standard, Inc. in 1988. A Chicago-based investor group acquired Brockway Standard, Inc. in 1989. The company name was changed to BWAY Corporation in 2000.

A former drum disposal area was discovered on the Site in 2001. Drum removal was conducted following EPD notification. Drums, drum remnants, waste materials, and soil were removed from this area in July and August 2003. Under the guidance of the Georgia Hazardous Site Response Act (HSRA), a Revised Compliance Status Report (RCSR) and a Corrective Action Plan (CAP) were submitted to EPD in 2005. Both were subsequently approved by EPD in 2005.

Ground water corrective action activities were performed at the Site following the approval of the CAP in July 2005. Corrective actions included two high vacuum extraction (HVE) events, injections for enhanced bioremediation, with well installations, sampling and ground water elevation gauging to monitor progress. The work summarized above was conducted while the Site was regulated under the EPD's HSRA Program.

Georgia introduced the VRP in 2009, which allows for a regulated party to perform voluntary investigation, remediation, and calculation of risk-based corrective action standards. A Voluntary Remediation Plan was submitted to the EPD in April 2010. The Site was approved for entry into the VRP on July 22, 2011.

This is the fifth semi-annual progress report submitted to the EPD since acceptance into the VRP program on July 22, 2011. This submittal is in compliance with the deadlines set forth at that time.

1.2. SITE DESCRIPTION

The Site is located in the northwest quadrant of the intersection of Charley Smith Road (a.k.a. Woodlake Road) and U.S. Highway 84. The VRP qualifying tax parcel consists of approximately 29.5 acres of undeveloped, wooded land. The other two contiguous parcels owned by BWAY are developed with structures, but are not part of

the VRP-regulated Site. The main BWAY plant is located at 1601 Valdosta Highway and consists of 87 acres developed with multiple buildings. The main BWAY plant is also listed on the Georgia HSI. See Figure 1 for general Site topography. Other land use in proximity to the Site includes planted pine forests managed by others, a former wood treating site known as the Union Timbers site, and some light industrial and commercial areas.

The ground water monitoring network for the Site consists of twenty-six (26) wells, as shown on Figure 2. With the exception of ERM-MW-7 and ERM-MW-14, groundwater monitoring wells are completed to depths ranging from 11 to 25 feet below ground surface (ft BGS) to evaluate the horizontal extent of groundwater impacts. ERM-MW-7 and ERM-MW-14 were completed to depths of 52 feet and 35 ft BGS, respectively, to provide vertical delineation.

Soils at the Site are primarily sands ranging from fine to coarse-grained with some silt and clay content. The Site topography ranges from 175 to 180 feet above mean sea level (ft MSL). The soil conditions were found to be heterogeneous with intermittent sandy-clay and clay lenses observed at elevations between 157 and 177 ft MSL. An additional sandy-clay lens (approximately 3 feet in thickness) was identified at approximately 50 ft BGS (approximately 180 ft MSL) while drilling the borehole for ERM-MW-7.

2.0 GROUND WATER ASSESSMENT

The following ground water assessment work has been completed at the Site since the last submittal to EPD:

- Potentiometric surface mapping and
- Collection of ground water samples from twelve (12) wells for analysis of volatile organic compounds (VOC).

Monitoring well locations are shown on Figure 2 and well construction details are provided in Table 1.

2.1. GROUND WATER SAMPLING AND DELINEATION

ERM gauged depth to water in available monitoring wells to evaluate the potentiometric surface at the Site and collected ground water samples at select wells as discussed in the following sections.

2.1.1 Potentiometric Surface

Ground water levels were measured most recently on October 28, 2013. Depth to ground water data from October 2013 are shown on Figure 3 and summarized in Table 2. These measurements were converted to elevations for the purpose of creating a potentiometric surface map, with the exception of the wells discussed below:

- Monitoring wells MW-5 and MW-23 are part of the ground water monitoring network for the BWAY property to the south. These wells are shared with another consultant, and locks on these wells had been replaced making them inaccessible to ERM.
- Elevation data associated with the deep wells (ERM-MW-7 and ERM-MW-14) were not contoured as they are completed deeper in the aquifer system.

The direction of ground water movement at the Site, as shown in Figure 3, generally trends to the west with local variations to the north, northwest, and southwest.

2.1.2 *Ground Water Sampling Methods*

The nine wells that have potential for use in the calculation of the risk-based corrective action standards (ERM-MW-3, ERM-MW-9, and ERM-MW-15 through ERM-MW-21) and recently installed delineation wells ERM-MW-24 through ERM-MW-26 were sampled for Site-specific VOCs in October 2013.

Ground water samples were analyzed for the following Site-specific compounds of concern (COCs): chloroethane, 1,1-dichloroethene (1,1-DCE), ethylbenzene, isopropylbenzene, methyl ethyl ketone (2-butanone), naphthalene, toluene, 1,1,1-trichloroethane (1,1,1-TCA), vinyl chloride (VC), and xylenes. The delineation concentration for each of these compounds is listed in Table 3.

Ground water samples were collected utilizing low flow/low volume techniques in accordance with the SESDPROC-301-R2 sampling protocol. Temperature, specific conductance, pH, and turbidity were measured in the field during the purging period prior to sample collection. Field parameter measurements collected during the ground water sampling event are shown on the ground water sampling log forms located in Appendix B. The turbidity at ERM-MW-21, ERM-MW-24, and ERM-MW-26 did not decrease below 10 NTUs. ERM-MW-21 was purged until turbidity stabilized within 10% for three consecutive readings. A sample was collected from ERM-MW-24 after five well volumes had been removed. Due to excessive drawdown, a sample was collected from ERM-MW-26 after three well volumes had been removed.

The ground water samples and associated trip blanks were analyzed for Site-specific VOCs by EPA Method 8260B.

2.1.3 *Ground Water Analytical Results*

Five VOCs were detected in ground water during the October 2013 sampling event. VOC concentrations exceeded delineation criteria in six of the twelve wells sampled during the event. No VOCs were detected above laboratory detection limits in samples collected from ERM-MW-24 and ERM-MW-25 in October 2013.

A copy of the analytical data reports are provided in Appendix C. A summary of detected VOCs is shown in Table 4. Highlighted values

in Table 4 are chemical concentrations that exceed the delineation criteria.

The five VOCs that were detected in ground water during the October 2013 sampling event are:

- Chloroethane was detected above the applicable delineation concentration (5 µg/L) in ERM-MW-9.

- 1,1-DCE was detected in ERM-MW-9, ERM-MW-15, ERM-MW-16, and ERM-MW-18 at concentrations below the applicable delineation criterion (7 µg/L). 1,1-DCE was detected above the delineation concentration in ERM-MW-17, ERM-MW-19, ERM-MW-20, and ERM-MW-21.

- Naphthalene was detected in one well, ERM-MW-3, at a concentration below the applicable delineation criterion (20 µg/L).

- Toluene was detected in one well, ERM-MW-26, at a concentration below the applicable delineation criterion (1,000 µg/L).

- VC was detected above the applicable delineation concentration (2 µg/L) in ERM-MW-9, ERM-MW-16, and ERM-MW-17.

Ground water VOC results from October 2013 are shown on Figure 4. The distribution of VOC concentrations in ground water relative to the established delineation concentrations is discussed in the following section.

2.2. *GROUND WATER DELINEATION*

Figure 4 shows the delineation boundary for regulated compounds detected on Site. Based on the October 2013 sampling data, horizontal delineation has been achieved for the second time (July 2013 and October 2013) at monitoring wells ERM-MW-3, ERM-MW-7, ERM-MW-11, ERM-MW-15, ERM-MW-18, ERM-MW-22, MW-23, ERM-MW-24, ERM-MW-25 and ERM-MW-26.

3.0 GROUND WATER FATE AND TRANSPORT MODELING

Recent sampling results indicate that the only COC in ground water at the Site that is not in compliance with the applicable Risk Reduction Standard (RRS) calculated using the methods described in Rule 391-3-19-.07 is VC. These RRS were presented in the 2010 Voluntary Remediation Plan, and are included in this report as Table 5 for reference. Although 1,1-DCE and chloroethane have been detected in wells above their respective delineation criterion, concentrations are still well below the Type 2 RRS presented in Table 5. As such, ground water contaminant fate and transport modeling was conducted to estimate the concentrations of VC that could remain on-Site without exceeding standards protective of human health and the environment (Type 1 RRS) at the selected down gradient point of exposure (POE). These VC concentrations are referred to herein as Site-specific cleanup standards.

The Site-specific cleanup standards for VC were calculated to be protective of a hypothetical POE 1,000 feet down gradient of the edge of the plume (the edge of the plume is defined to be the delineation boundary shown on Figure 4). The Site-specific cleanup standards for VC were calculated using the BIOCHLOR model.

BIOCHLOR is a screening model intended for the simulation of remediation of dissolved solvents at chlorinated solvent release sites by natural attenuation. It is based on the Domenico analytical solute transport model and has the ability to simulate one-dimensional advection, three-dimensional dispersion, linear adsorption, and biotransformation via the deductive dechlorination process. BIOCHLOR (version 1.0) was co-published in January 2000 by the U.S. EPA and U.S. Air Force (USEPA 2000). It was subsequently revised in March 2002 (version 2.2). The revised version includes source decay and has a module to estimate site-specific biodegradation rates based on field data (USEPA 2002).

BIOCHLOR was used to predict the fate and transport of VC at the Site. Although geochemical conditions at the Site may support biodegradation, the biodegradation process was not used for modeling. This provides a degree of conservancy to the model predictions.

An electronic version of the BIOCHLOR modeling files discussed in this report is provided in Appendix D on the compact disc version of this report.

3.1. *MODEL CALIBRATION AND VALIDATION*

The BIOCHLOR model was calibrated with data from the November 2012 sampling event and validated with data from both the April 2013 and October 2013 sampling events (validation run 1 and 2, respectively). Input parameters and corresponding sources are summarized in Table 6. The source area degradation rate was calculated using the methodology described in EPA's *Calculations and Use of First-Order Rate Constants for Monitored Natural Attenuation Studies.* Calculations used to estimate input parameters that have not previously been presented in historical reports (e.g. hydraulic gradient and source area degradation rate) are included in Appendix E. Considering that the highest concentrations of VC have been observed in ERM-MW-9, this was considered to be the source area for the purpose of the model.

The model was calibrated and validated with sampling data collected from the following wells located along the centerline of the plume: ERM-MW-9, ERM-MW-16, ERM-MW-17, and ERM-MW-20. The BIOCHLOR files used for the calibration and validation runs are included in Appendix D on the compact disc version of this report. Input and output screen shots of the calibration and two validation scenarios are included in Appendix F.

Based on the calibration and validation scenarios presented on Appendix F, the BIOCHLOR model reproduces observed Site data accurately and can be used to estimate future Site conditions.

3.2. *PROJECTED PLUME EXTENT*

The calibrated and validated BIOCHLOR model was used to estimate the maximum extent of the VC plume by increasing the simulation time and extending the modeled area length. The calibrated and verified BIOCHLOR model estimates that in 270 years approximately 1 ug/L of VC may remain in ground water as far as 4,000 feet from the source area. The BIOCHLOR file used for the projected plume extent estimation is included in Appendix D on the compact disc

version of this report. Input and output screen shots of this modeling scenario are included in Appendix F.

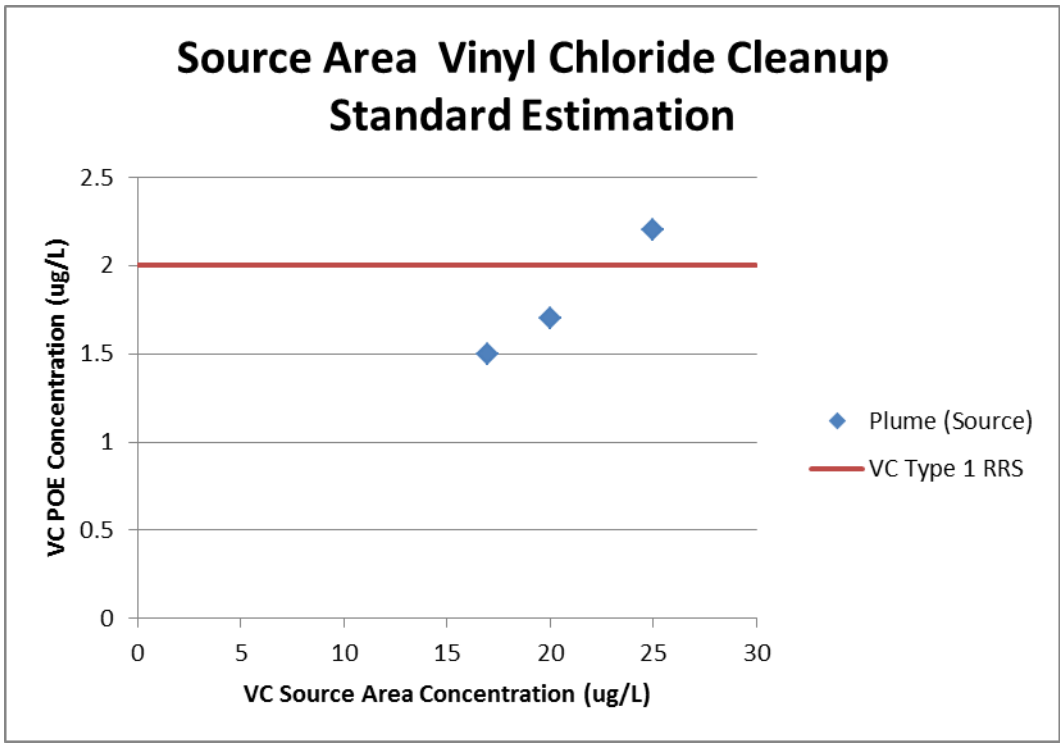
3.3. SITE SPECIFIC CLEANUP STANDARDS

The calibrated and validated BIOCHLOR model was used to estimate Site specific source area concentrations of VC that can remain on-Site without resulting in an exceedance of the Type 1 RRS for VC (2 ug/L) at the POE. The POE is defined as a hypothetical well located 1,000 feet down gradient of the edge of the plume. The edge of the plume is defined as the delineation boundary depicted on Figure 4. The distance from ERM-MW-9 (the source) to the delineation boundary is approximately 960 feet. Therefore, the hypothetical down gradient well is located approximately 2,000 feet from ERM-MW-9. Concentrations of VC must be less than or equal to 2 ug/L at this hypothetical POE in order to be protective of human health and the environment.

Source area concentrations of VC in ground water protective of human health and the environment were estimated with the calibrated and validated BIOCHLOR model by changing the following input parameters:

- The simulation time was increased to 250 years (additional simulation time was determined to be unnecessary).
- Source area VC concentrations were varied until VC concentrations at the POE equaled or exceeded 2 ug/L.

Ground water modeling results for the three prediction model runs, inputting 17 ug/L, 20 ug/L, and 25 ug/L as the source area concentrations, are summarized in the graph below. The BIOCHLOR file used for the prediction model runs is included in Appendix D on the compact disc version of this report. Input and output screen shots of this modeling scenario are included in Appendix F.



This graph displays VC POE concentrations as a function of the initial VC source area concentration. As shown, source area concentrations of VC must be below approximately 23 ug/L in order for VC concentrations at the down gradient POE to remain below 2 ug/L. The BIOCHLOR file used for the protection of ground water modeling is included in Appendix D on the compact disc version of this report. Images for the input and output screens of this modeling scenario are included in Appendix F.

Based on the source area model discussed above, the highest concentration of VC that can be detected in the point of demonstration (POD) monitoring well, ERM-MW-24, without exceeding the Type 1 RRS (2 ug/L) at the POE is approximately 3.8 ug/L. Images of the input and output screens for this modeling scenario are included in Appendix F. Ground water modeling results for the three evaluation points within the plume are summarized below.

Evaluation Point	Location at Site	Site-Specific Cleanup Standards for VC
Source Area	ERM-MW-9	23 µg/L
Point of Demonstration	ERM-MW-24	3.8 µg/L
Point of Exposure	Hypothetical well located 1,000 feet down gradient of down gradient plume boundary (2,000 ft. from source area)	2 µg/L

VC concentrations observed in ground water during the October 2013 sampling event are less than the Site-specific cleanup standards at both the source area (ERM-MW-9) and POD well (ERM-MW-24). Furthermore, the VC concentrations measured in ERM-MW-9 and ERM-MW-24 have not exceeded the calculated Site-specific cleanup standards for VC during any previous sampling event.

3.4. SENSITIVITY ANALYSIS

A sensitivity analysis was performed to evaluate parameters with the greatest potential impact on down gradient VC concentrations. Component parameters (e.g. hydraulic conductivity, hydraulic gradient, soil bulk density, etc.) which are used to calculate model input values were not explicitly included in the sensitivity analysis. Perturbation of the actual model input values provides sufficient indication of the model's sensitivity to the component parameters. Since vertical dispersivity is essentially zero, it was not included in the sensitivity analysis. In addition, the following model inputs that do not affect model predictions were not included in the sensitivity analysis: modeled area width, modeled area length, zone 1 length, and biotransformation parameters.

As shown on the below table, perturbation of individual input parameters by ±10% had little effect on the resulting VC

concentrations observed at the POE. Furthermore, perturbation of the input parameters by ±10% did not cause predicted VC concentrations to exceed the Type 1 RRS for VC (2 ug/L) at the POE.

Input Parameter	Units	Input Values			Output VC Concentration (ug/L)*		
		Low	Base	High	Low	Base	High
Seepage Velocity	ft/yr	23.76	26.4	29.04	1.7	1.8	1.8
Longitudinal Dispersivity	ft	45	50	55	1.9	1.8	1.8
Transverse Dispersivity	ft	0.009	0.01	0.011	1.9	1.8	1.7
Retardation Factor	unitless	1.323	1.47	1.617	1.9	1.8	1.7
Source Thickness in Sat. Zone	ft	10.8	12	13.2	1.8	1.8	1.8
Source Width	ft	18	20	22	1.6	1.8	1.9
Source Concentration	mg/L	0.018	0.02	0.022	1.6	1.8	1.9
Source Degradation Rate	yr^{-1}	0.0135	0.015	0.0165	1.9	1.8	1.7

*Maximum VC concentration observed at the POE.

4.0 CONCEPTUAL SITE MODEL

Since the last submittal to EPD, the following activities related to the conceptual Site model (CSM), have been completed:

- During the October 2013 sampling event, all available monitoring wells at the Site were gauged to determine ground water elevations.
- Ground water samples were collected along the ground water flow path.
- Additional ground water samples were collected from new delineation wells to assess seasonal variations in ground water conditions.
- Contaminant transport modeling was conducted to calculate cleanup standards protective of ground water.

These activities were used to update the CSM as discussed below.

A potentiometric surface map produced based on data collected during the October 2013 ground water sampling event is shown on Figure 3. As shown in Figure 3, the local direction of ground water movement is generally to west, with a southwesterly component near ERM-MW-19 and a northwesterly component near ERM-MW-20.

Horizontal delineation of regulated compounds in the ground water plume has been achieved in all directions. Delineation wells ERM-MW-24, ERM-MW-25, and ERM-MW-26 were resampled to measure any seasonal variations in ground water conditions. All VOC concentrations in these wells were below delineation criteria.

With the exception of VC, the concentrations of all COCs in ground water are compliant with RRS calculated using Rule 391-3-19-.07. As discussed in Section 3.0, contaminant transport modeling was conducted to calculate Site-specific cleanup standards for VC to be protective of human health and the environmental at the ground water POE. The source area is represented by ERM-MW-9, and the Site-specific cleanup standard calculated for VC at this location is 23 µg/L.

5.0 RECOMMENDATIONS

Following submittal of this report, BWAY will be requesting a meeting with EPD to discuss the ground water fate and transport modeling results, potential implementation of a uniform environmental covenant (UEC), and the appropriate next steps to complete the Compliance Status Report (CSR) and delist the Site from the HSI.

Depending on the outcome of the meeting with EPD, BWAY anticipates that a CSR will be submitted in lieu of the next semi-annual report. The CSR will certify compliance with RRS and Site-specific cleanup standards for ground water.

6.0 REFERENCES

EPD, 2012, Georgia Department of Natural Resources Environmental Protection Division, "*Hazardous Site Inventory*" July 2, 2012.

USEPA Region 4, 2011, Science and Ecosystem Support Division, "*Groundwater Sampling Operating Procedure (SESDPROC-301-R2)*" October 2011.

USEPA, National Risk Management Laboratory. *BIOCHLOR User's Manual Addendum, version 2.2.* Ada, Oklahoma, 2002.

USEPA, Office of Research and Development. BIOCHLOR User's Manual, version 1.0. Cincinnati, OH 45268: EPA/600/R-00/008, 2000.

USEPA. *Ground Water Issue: Calculation and Use of First-Order Rate Constants for Monitored Natural Attenuation Studies.* November 2002.

Tables

January 22, 2014
Project No. 0121022
BWAY Corporation

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

Table 1
Ground Water Monitoring Well Construction Details

BWAY, HSI Site No. 10731
Homerville, Clinch County, Georgia

Well ID	Date Installed	Well Diameter (inches)	Total Depth (feet bgs)	Screen Length (feet)	Top Screen (feet bgs)	Bottom Screen (feet bgs)	Northing	Easting	Reference Point Elevation (feet)
ERM-MW-1	09/15/03	2	22.0	10	10.0	20.0	375885.9	465916.2	182.14
ERM-MW-2	09/15/03	2	22.0	10	10.0	20.0	375790.9	465698.3	182.51
ERM-MW-3	09/15/03	2	22.0	10	10.0	20.0	376188.2	465875.9	182.98
ERM-MW-4	12/14/04	2	22.0	10	10.0	20.0	376396.7	465821.5	183.69
MW-5	04/14/93	4	17.0	15	2.0	17.0	375476.0	466115.2	179.49
MW-6R	11/08/10	2	17.0	15	1.8	16.8	375852.2	466208.8	179.91
ERM-MW-7	02/21/06	2	52.4	10	42.1	52.1	376102.8	465879.1	182.66
ERM-MW-8	06/14/07	2	21.0	10	10.0	20.0	376202.0	466063.9	182.41
ERM-MW-9	11/09/10	2	20.5	10	10.0	20.0	376152.8	465783.1	182.92
ERM-MW-10	11/09/10	2	20.5	10	9.3	19.3	376194.9	456907.9	182.85
ERM-MW-11	11/09/10	2	12.0	10	1.8	11.8	376097.4	465873.3	182.75
ERM-MW-12	11/09/10	2	20.0	10	9.8	19.8	375852.5	465670.6	182.06
ERM-MW-13	11/08/10	2	13.0	10	1.8	11.8	375882.2	465914.4	182.21
ERM-MW-14	11/08/10	2	35.0	10	24.8	34.8	375878.5	465913.0	181.87
ERM-MW-15	05/10/11	2	19.0	10	8.0	18.0	376236.7	465679.8	182.22
ERM-MW-16	05/10/11	2	20.5	10	10.0	20.0	376116.1	465630.3	182.69
ERM-MW-17	10/26/11	2	20.0	10	9.70	19.70	376107.5	465422.1	182.84
ERM-MW-18	10/26/11	2	20.0	10	9.70	19.70	375939.3	465514.0	182.91
ERM-MW-19	10/26/11	2	20.9	10	9.55	19.55	375820.2	465104.1	181.01
ERM-MW-20	03/26/12	2	22.0	10	10.0	20.0	376355.5	465074.2	181.52
ERM-MW-21	03/28/12	2	22.0	10	10.0	20.0	375723.3	464738.7	178.40
ERM-MW-22	03/27/12	2	22.0	10	10.0	20.0	375340.7	465110.8	179.63
MW-23	07/29/02	2	21.0	10	11.0	21.0	375416.1	465628.7	182.34
ERM-MW-24	02/11/13	2	22.0	10	10.0	20.0	376488.1	464980.0	180.22
ERM-MW-25	07/10/13	2	20.0	10	10.0	20.0	376030.4	464573.9	178.56
ERM-MW-26	07/10/13	2	20.0	10	10.0	20.0	375544.2	464591.6	178.83

Table 2
Ground Water Elevation Data

BWAY Drum Site, HSI Site No. 10731
Homerville, Georgia

Well ID	Date	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
ERM-MW-1	8/17/2005	182.14	4.9	177.24
ERM-MW-1	11/4/2005	182.14	8.51	173.63
ERM-MW-1	8/31/2006	182.14	10.71	171.43
ERM-MW-1	2/26/2007	182.14	6.64	175.50
ERM-MW-1	6/14/2007	182.14	9.57	172.57
ERM-MW-1	9/17/2007	182.14	9.86	172.28
ERM-MW-1	12/17/2007	182.14	8.92	173.22
ERM-MW-1	3/3/2008	182.14	5.50	176.64
ERM-MW-1	9/29/2008	182.14	8.02	174.12
ERM-MW-1	12/9/2008	182.14	6.39	175.75
ERM-MW-1	3/11/2009	182.14	6.08	176.06
ERM-MW-1	6/30/2009	182.14	7.93	174.21
ERM-MW-1	9/28/2009	182.14	8.95	173.19
ERM-MW-1	12/9/2009	182.14	NM	--
ERM-MW-1	3/15/2010	182.14	4.86	177.28
ERM-MW-1	11/30/2010	182.14	12.20	169.94
ERM-MW-1	5/12/2011	182.14	8.19	173.95
ERM-MW-1	6/20/2011	182.14	11.44	170.70
ERM-MW-1	10/25/2011	182.14	7.90	174.24
ERM-MW-1	3/29/2012	182.14	5.96	176.18
ERM-MW-1	5/7/2012	182.14	7.23	174.91
ERM-MW-1	11/12/2012	182.14	10.70	171.44
ERM-MW-1	4/15/2013	182.14	4.85	177.29
ERM-MW-1	10/28/2013	182.14	7.41	174.73
ERM-MW-2	8/17/2005	182.51	5.71	176.80
ERM-MW-2	11/4/2005	182.51	9.37	173.14
ERM-MW-2	8/31/2006	182.51	11.11	171.40
ERM-MW-2	2/26/2007	182.51	7.59	174.92
ERM-MW-2	6/14/2007	182.51	10.52	171.99
ERM-MW-2	9/17/2007	182.51	9.66	172.85
ERM-MW-2	12/17/2007	182.51	9.70	172.81
ERM-MW-2	3/3/2008	182.51	6.35	176.16
ERM-MW-2	9/29/2008	182.51	9.02	173.49
ERM-MW-2	12/9/2008	182.51	7.37	175.14
ERM-MW-2	3/11/2009	182.51	7.04	175.47
ERM-MW-2	6/30/2009	182.51	6.01	176.50
ERM-MW-2	9/28/2009	182.51	9.62	172.89
ERM-MW-2	12/9/2009	182.51	NM	--
ERM-MW-2	3/15/2010	182.51	5.73	176.78

Table 2
Ground Water Elevation Data

BWAY Drum Site, HSI Site No. 10731
Homerville, Georgia

Well ID	Date	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
ERM-MW-2	11/30/2010	182.51	12.04	170.47
ERM-MW-2	5/12/2011	182.51	9.30	173.21
ERM-MW-2	6/20/2011	182.51	12.10	170.41
ERM-MW-2	10/25/2011	182.51	8.62	173.89
ERM-MW-2	3/29/2012	182.51	6.84	175.67
ERM-MW-2	5/7/2012	182.51	8.35	174.16
ERM-MW-2	11/12/2012	182.51	14.85	167.66
ERM-MW-2	4/15/2013	182.51	5.72	176.79
ERM-MW-2	10/28/2013	182.51	8.21	174.30
ERM-MW-3	8/17/2005	182.98	6.00	176.98
ERM-MW-3	11/4/2005	182.98	9.51	173.47
ERM-MW-3	8/31/2006	182.98	12.09	170.89
ERM-MW-3	2/26/2007	182.98	7.51	175.47
ERM-MW-3	6/14/2007	182.98	10.62	172.36
ERM-MW-3	9/17/2007	182.98	9.98	173.00
ERM-MW-3	12/17/2007	182.98	9.93	173.05
ERM-MW-3	3/3/2008	182.98	6.50	176.48
ERM-MW-3	9/29/2008	182.98	9.06	173.92
ERM-MW-3	12/9/2008	182.98	7.25	175.73
ERM-MW-3	3/11/2009	182.98	6.99	175.99
ERM-MW-3	6/30/2009	182.98	9.08	173.90
ERM-MW-3	9/28/2009	182.98	9.91	173.07
ERM-MW-3	12/9/2009	182.98	7.85	175.13
ERM-MW-3	3/15/2010	182.98	6.02	176.96
ERM-MW-3	11/30/2010	182.98	13.31	169.67
ERM-MW-3	5/12/2011	182.98	9.29	173.69
ERM-MW-3	6/20/2011	182.98	12.61	170.37
ERM-MW-3	10/25/2011	182.98	8.85	174.13
ERM-MW-3	3/29/2012	182.98	6.95	176.03
ERM-MW-3	5/7/2012	182.98	8.00	174.98
ERM-MW-3	11/12/2012	182.98	11.81	171.17
ERM-MW-3	4/15/2013	182.98	5.80	177.18
ERM-MW-3	10/28/2013	182.98	8.41	174.57
ERM-MW-4	8/17/2005	183.69	7.04	176.65
ERM-MW-4	11/4/2005	183.69	10.46	173.23
ERM-MW-4	8/31/2006	183.69	13.05	170.64
ERM-MW-4	2/26/2007	183.69	8.42	175.27
ERM-MW-4	6/14/2007	183.69	11.78	171.91
ERM-MW-4	9/17/2007	183.69	10.75	172.94

Table 2
Ground Water Elevation Data

BWAY Drum Site, HSI Site No. 10731
Homerville, Georgia

Well ID	Date	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
ERM-MW-4	12/17/2007	183.69	10.69	173.00
ERM-MW-4	3/3/2008	183.69	7.40	176.29
ERM-MW-4	9/29/2008	183.69	10.07	173.62
ERM-MW-4	12/9/2008	183.69	8.19	175.50
ERM-MW-4	3/11/2009	183.69	7.96	175.73
ERM-MW-4	6/30/2009	183.69	10.12	173.57
ERM-MW-4	9/28/2009	183.69	10.64	173.05
ERM-MW-4	12/9/2009	183.69	8.70	174.99
ERM-MW-4	3/15/2010	183.69	7.10	176.59
ERM-MW-4	11/30/2010	183.69	14.21	169.48
ERM-MW-4	5/12/2011	183.69	10.31	173.38
ERM-MW-4	6/20/2011	183.69	13.60	170.09
ERM-MW-4	10/25/2011	183.69	9.75	173.94
ERM-MW-4	3/29/2012	183.69	8.86	174.83
ERM-MW-4	5/7/2012	183.69	9.04	174.65
ERM-MW-4	11/12/2012	183.69	12.58	171.11
ERM-MW-4	4/15/2013	183.69	6.82	176.87
ERM-MW-4	10/28/2013	183.69	9.31	174.38
MW-5	8/17/2005	179.49	2.64	176.85
MW-5	11/4/2005	179.49	5.88	173.61
MW-5	8/31/2006	179.49	NM	-
MW-5	2/26/2007	179.49	4.26	175.23
MW-5	6/14/2007	179.49	6.92	172.57
MW-5	9/17/2007	179.49	NM	-
MW-5	12/17/2007	179.49	NM	-
MW-5	3/3/2008	179.49	3.17	176.32
MW-5	9/29/2008	179.49	5.47	174.02
MW-5	12/9/2008	179.49	4.01	175.48
MW-5	3/11/2009	179.49	3.69	175.80
MW-5	6/30/2009	179.49	4.92	174.57
MW-5	9/28/2009	179.49	6.42	173.07
MW-5	12/9/2009	179.49	NM	--
MW-5	3/15/2010	179.49	2.55	176.94
MW-5	11/30/2010	179.49	9.31	170.18
MW-5	5/12/2011	179.49	5.60	173.89
MW-5	6/20/2011	179.49	8.53	170.96
MW-5	10/25/2011	179.49	5.35	174.14
MW-5	3/29/2012	179.49	3.70	175.79
MW-5	5/7/2012	179.49	4.77	174.72

Table 2
Ground Water Elevation Data

BWAY Drum Site, HSI Site No. 10731
Homerville, Georgia

Well ID	Date	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
MW-5	11/12/2012	179.49	NM	--
MW-5	4/15/2013	179.49	2.50	176.99
MW-5	10/28/2013	179.49	NM	--
MW-6	8/17/2005	183.05	5.84	177.21
MW-6	11/4/2005	183.05	9.43	173.62
MW-6	8/31/2006	183.05	11.71	171.34
MW-6	2/26/2007	183.05	7.54	175.51
MW-6	6/14/2007	183.05	10.36	172.69
MW-6	9/17/2007	183.05	9.86	173.19
MW-6	12/17/2007	183.05	9.81	173.24
MW-6	3/3/2008	183.05	6.40	176.65
MW-6	9/29/2008	183.05	8.86	174.19
MW-6	12/9/2008	183.05	7.23	175.82
MW-6	3/11/2009	183.05	6.91	176.14
MW-6	6/30/2009	183.05	8.87	174.18
MW-6	9/28/2009	183.05	10.03	173.02
MW-6	12/9/2009	183.05	NM	--
MW-6	3/15/2010	183.05	Damaged	Damaged
MW-6	11/30/2010	179.91	10.04	169.87
MW-6	5/12/2011	179.91	5.90	174.01
MW-6	6/20/2011	179.91	9.10	170.81
MW-6	10/25/2011	179.91	5.67	174.24
MW-6	3/29/2012	179.91	3.83	176.08
MW-6	5/7/2012	179.91	4.98	174.93
MW-6	11/12/2012	179.91	16.90	163.01
MW-6	4/15/2013	179.91	2.25	177.66
MW-6	10/28/2013	179.91	5.31	174.60
ERM-MW-7	8/17/2005	182.66	NM	-
ERM-MW-7	11/4/2005	182.66	NM	-
ERM-MW-7	8/31/2006	182.66	24.94	157.72
ERM-MW-7	2/26/2007	182.66	24.74	157.92
ERM-MW-7	6/14/2007	182.66	26.51	156.15
ERM-MW-7	9/17/2007	182.66	25.6	157.06
ERM-MW-7	12/17/2007	182.66	25.26	157.40
ERM-MW-7	3/3/2008	182.66	NM	-
ERM-MW-7	9/29/2008	182.66	25.99	156.67
ERM-MW-7	12/9/2008	182.66	24.86	157.80
ERM-MW-7	3/11/2009	182.66	24.28	158.38
ERM-MW-7	6/30/2009	182.66	25.07	157.59

Table 2
Ground Water Elevation Data

BWAY Drum Site, HSI Site No. 10731
Homerville, Georgia

Well ID	Date	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
ERM-MW-7	9/28/2009	182.66	24.48	158.18
ERM-MW-7	12/9/2009	182.66	NM	--
ERM-MW-7	3/15/2010	182.66	23.15	159.51
ERM-MW-7	11/30/2010	182.66	25.58	157.08
ERM-MW-7	5/12/2011	182.66	25.06	157.60
ERM-MW-7	6/20/2011	182.66	25.92	156.74
ERM-MW-7	10/25/2011	182.66	25.35	157.31
ERM-MW-7	3/29/2012	182.66	24.35	158.31
ERM-MW-7	5/7/2012	182.66	24.75	157.91
ERM-MW-7	11/12/2012	182.66	25.05	157.61
ERM-MW-7	4/15/2013	182.66	24.25	158.41
ERM-MW-7	10/28/2013	182.66	23.52	159.14
ERM-MW-8	6/14/2007	NYS	10.92	-
ERM-MW-8	9/17/2007	NYS	9.24	-
ERM-MW-8	12/17/2007	182.41	9.07	173.34
ERM-MW-8	3/3/2008	182.41	5.78	176.63
ERM-MW-8	9/29/2008	182.41	8.27	174.14
ERM-MW-8	12/9/2008	182.41	6.52	175.89
ERM-MW-8	3/11/2009	182.41	6.27	176.14
ERM-MW-8	6/30/2009	182.41	7.76	174.65
ERM-MW-8	9/28/2009	182.41	8.26	174.15
ERM-MW-8	12/9/2009	182.41	NM	--
ERM-MW-8	3/15/2010	182.41	5.41	177.00
ERM-MW-8	11/30/2010	182.41	12.70	169.71
ERM-MW-8	5/12/2011	182.41	8.50	173.91
ERM-MW-8	6/20/2011	182.41	11.80	170.61
ERM-MW-8	10/25/2011	182.41	8.18	174.23
ERM-MW-8	3/29/2012	182.41	6.32	176.09
ERM-MW-8	5/7/2012	182.41	7.39	175.02
ERM-MW-8	11/12/2012	182.41	11.12	171.29
ERM-MW-8	4/15/2013	182.41	5.12	177.29
ERM-MW-8	10/28/2013	182.41	7.74	174.67
ERM-MW-9	11/30/2010	182.92	13.50	169.42
ERM-MW-9	5/12/2011	182.92	9.42	173.50
ERM-MW-9	6/20/2011	182.92	12.69	170.23
ERM-MW-9	10/25/2011	182.92	8.90	174.02
ERM-MW-9	3/29/2012	182.92	6.96	175.96
ERM-MW-9	5/7/2012	182.92	8.17	174.75
ERM-MW-9	11/12/2012	182.92	11.85	171.07

Table 2
Ground Water Elevation Data

BWAY Drum Site, HSI Site No. 10731
Homerville, Georgia

Well ID	Date	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
ERM-MW-9	4/15/2013	182.92	5.83	177.09
ERM-MW-9	10/28/2013	182.92	8.42	174.50
ERM-MW-10	11/30/2010	182.85	13.23	169.62
ERM-MW-10	5/12/2011	182.85	9.17	173.68
ERM-MW-10	6/20/2011	182.85	12.48	170.37
ERM-MW-10	10/25/2011	182.85	8.78	174.07
ERM-MW-10	3/29/2012	182.85	6.87	175.98
ERM-MW-10	5/7/2012	182.85	7.88	174.97
ERM-MW-10	11/12/2012	182.85	11.75	171.10
ERM-MW-10	4/15/2013	182.85	5.72	177.13
ERM-MW-10	10/28/2013	182.85	8.33	174.52
ERM-MW-11	11/30/2010	182.75	13.07	169.68
ERM-MW-11	5/12/2011	182.75	9.05	173.70
ERM-MW-11	6/20/2011	182.75	12.35	170.40
ERM-MW-11	10/25/2011	182.75	8.65	174.10
ERM-MW-11	3/29/2012	182.75	6.68	176.07
ERM-MW-11	5/7/2012	182.75	7.91	174.84
ERM-MW-11	11/12/2012	182.75	11.56	171.19
ERM-MW-11	4/15/2013	182.75	6.32	176.43
ERM-MW-11	10/28/2013	182.75	8.15	174.60
ERM-MW-12	11/30/2010	182.06	12.26	169.80
ERM-MW-12	5/12/2011	182.06	9.00	173.06
ERM-MW-12	6/20/2011	182.06	11.83	170.23
ERM-MW-12	10/25/2011	182.06	8.28	173.78
ERM-MW-12	3/29/2012	182.06	6.44	175.62
ERM-MW-12	5/7/2012	182.06	8.04	174.02
ERM-MW-12	11/12/2012	182.06	12.35	169.71
ERM-MW-12	4/15/2013	182.06	5.30	176.76
ERM-MW-12	10/28/2013	182.06	7.85	174.21
ERM-MW-13	11/30/2010	182.21	12.36	169.85
ERM-MW-13	5/12/2011	182.21	7.46	174.75
ERM-MW-13	6/20/2011	182.21	11.39	170.82
ERM-MW-13	10/25/2011	182.21	7.40	174.81
ERM-MW-13	3/29/2012	182.21	5.72	176.49
ERM-MW-13	5/7/2012	182.21	6.83	175.38
ERM-MW-13	11/12/2012	182.21	9.68	172.53
ERM-MW-13	4/15/2013	182.21	4.72	177.49
ERM-MW-13	10/28/2013	182.21	6.64	175.57
ERM-MW-14	11/30/2010	181.87	12.16	169.71

Table 2
Ground Water Elevation Data

BWAY Drum Site, HSI Site No. 10731
Homerville, Georgia

Well ID	Date	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
ERM-MW-14	5/12/2011	181.87	8.19	173.68
ERM-MW-14	6/20/2011	181.87	11.38	170.49
ERM-MW-14	10/25/2011	181.87	7.85	174.02
ERM-MW-14	3/29/2012	181.87	5.95	175.92
ERM-MW-14	5/7/2012	181.87	7.30	174.57
ERM-MW-14	11/12/2012	181.87	10.65	171.22
ERM-MW-14	4/15/2013	181.87	4.85	177.02
ERM-MW-14	10/28/2013	181.87	7.36	174.51
ERM-MW-15	5/12/2011	182.22	9.12	173.10
ERM-MW-15	6/20/2011	182.22	12.30	169.92
ERM-MW-15	10/25/2011	182.22	8.35	173.87
ERM-MW-15	3/29/2012	182.22	6.37	175.85
ERM-MW-15	5/7/2012	182.22	7.97	174.25
ERM-MW-15	11/12/2012	182.22	11.22	171.00
ERM-MW-15	4/15/2013	182.22	5.22	177.00
ERM-MW-15	10/28/2013	182.22	7.88	174.34
ERM-MW-16	5/12/2011	182.69	9.61	173.08
ERM-MW-16	6/20/2011	182.69	12.68	170.01
ERM-MW-16	10/25/2011	182.69	8.82	173.87
ERM-MW-16	3/29/2012	182.69	6.86	175.83
ERM-MW-16	5/7/2012	182.69	8.51	174.18
ERM-MW-16	11/12/2012	182.69	11.68	171.01
ERM-MW-16	4/15/2013	182.69	5.70	176.99
ERM-MW-16	10/28/2013	182.69	8.34	174.35
ERM-MW-17	10/25/2011	182.84	9.20	173.64
ERM-MW-17	3/29/2012	182.84	7.12	175.72
ERM-MW-17	5/7/2012	182.84	8.95	173.89
ERM-MW-17	11/12/2012	182.84	11.86	170.98
ERM-MW-17	4/15/2013	182.84	5.88	176.96
ERM-MW-17	10/28/2013	182.84	8.61	174.23
ERM-MW-18	10/25/2011	182.91	9.30	173.61
ERM-MW-18	3/29/2012	182.91	7.24	175.67
ERM-MW-18	5/7/2012	182.91	8.90	174.01
ERM-MW-18	11/12/2012	182.91	11.75	171.16
ERM-MW-18	4/15/2013	182.91	6.08	176.83
ERM-MW-18	10/28/2013	182.91	8.69	174.22
ERM-MW-19	10/25/2011	181.01	7.55	173.46
ERM-MW-19	3/29/2012	181.01	5.37	175.64
ERM-MW-19	5/7/2012	181.01	7.46	173.55

Table 2
Ground Water Elevation Data

BWAY Drum Site, HSI Site No. 10731
Homerville, Georgia

Well ID	Date	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
ERM-MW-19	11/12/2012	181.01	10.03	170.98
ERM-MW-19	4/15/2013	181.01	5.82	175.19
ERM-MW-19	10/28/2013	181.01	6.90	174.11
ERM-MW-20	3/29/2012	181.52	5.70	175.82
ERM-MW-20	5/7/2012	181.52	7.92	173.60
ERM-MW-20	11/12/2012	181.52	10.95	170.57
ERM-MW-20	4/15/2013	181.52	4.12	177.40
ERM-MW-20	10/28/2013	181.52	7.45	174.07
ERM-MW-21	3/29/2012	178.40	4.10	174.30
ERM-MW-21	5/7/2012	178.40	5.82	172.58
ERM-MW-21	11/12/2012	178.40	8.51	169.89
ERM-MW-21	4/15/2013	178.40	NM	--
ERM-MW-21	10/28/2013	178.40	5.53	172.87
ERM-MW-22	3/29/2012	179.63	4.81	174.82
ERM-MW-22	5/7/2012	179.63	4.94	174.69
ERM-MW-22	11/12/2012	179.63	7.80	171.83
ERM-MW-22	4/15/2013	179.63	3.52	176.11
ERM-MW-22	10/28/2013	179.63	5.74	173.89
MW-23	8/17/2005	182.34	6.51	175.83
MW-23	11/4/2005	182.34	9.09	173.25
MW-23	8/31/2006	182.34	10.18	172.16
MW-23	2/26/2007	182.34	7.50	174.84
MW-23	6/14/2007	182.34	10.16	172.18
MW-23	9/17/2007	182.34	9.24	173.10
MW-23	12/17/2007	182.34	9.19	173.15
MW-23	3/3/2008	182.34	6.90	175.44
MW-23	9/29/2008	182.34	8.78	173.56
MW-23	12/9/2008	182.34	7.59	174.75
MW-23	3/11/2009	182.34	7.34	175.00
MW-23	6/30/2009	182.34	6.07	176.27
MW-23	9/28/2009	182.34	9.26	173.08
MW-23	12/9/2009	182.34	NM	--
MW-23	3/15/2010	182.34	6.46	175.88
MW-23	11/30/2010	182.34	11.74	170.60
MW-23	5/12/2011	182.34	9.00	173.34
MW-23	6/20/2011	182.34	11.18	171.16
MW-23	10/25/2011	182.34	8.47	173.87
MW-23	3/29/2012	182.34	7.30	175.04
MW-23	5/7/2012	182.34	8.14	174.20

Table 2
Ground Water Elevation Data

BWAY Drum Site, HSI Site No. 10731
Homerville, Georgia

Well ID	Date	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
MW-23	11/12/2012	182.34	10.50	171.84
MW-23	4/15/2013	182.34	6.41	175.93
MW-23	10/28/2013	182.34	NM	--
ERM-MW-24	4/15/2013	180.22	3.15	177.07
ERM-MW-24	10/28/2013	180.22	6.45	173.77
ERM-MW-25	7/11/2013	178.56	5.27	173.29
ERM-MW-25	10/28/2013	178.56	5.15	173.41
ERM-MW-26	7/11/2013	178.83	7.05	171.78
ERM-MW-26	10/28/2013	178.83	5.98	172.85

Notes:
NM = Not Measured
NYS = Not Yet Surveyed

Table 3
Table of Site Delineation Concentrations

BWAY Drum Disposal Site, HSI Site No. 10731
Homerville, Georgia

Media	Chemical	Delineation Concentration	Comments
Soil	Not Applicable	Not Applicable	Certification of compliance already occurred under HSRA program
Ground Water	Chloroethane	5 ug/L	HSRA Type 1 RRS, but use detection limit per note in HSRA Type 1 table
	1,1-dichloroethene	7 ug/L	HSRA Type 1 RRS
	Ethylbenzene	700 ug/L	HSRA Type 1 RRS
	Isopropylbenzene (cumene)	5 ug/L	HSRA Type 1 RRS, but use detection limit per note in HSRA Type 1 table
	Methyl ethyl ketone (MEK)	2000 ug/L	HSRA Type 1 RRS
	Naphthalene	20 ug/L	HSRA Type 1 RRS
	Toluene	1000 ug/L	HSRA Type 1 RRS
	1,1,1-trichloroethane	200 ug/L	HSRA Type 1 RRS
	Vinyl chloride	2 ug/L	HSRA Type 1 RRS
	Xylenes, total	10,000 ug/L	HSRA Type 1 RRS

Table 4
Ground Water VOC Monitoring Data

BWAY Drum Disposal Site, HSI Site No. 10731
Homerville, Georgia

		Concentrations (ug/L)									
Well ID	**Date**	**Chloroethane**	**1,1-Dichloroethene**	**Ethylbenzene**	**Isopropylbenzene**	**Methyl Ethyl Ketone (2-Butanone)**	**Naphthalene**	**Toluene**	**1,1,1-Trichloroethane**	**Vinyl Chloride**	**Xylenes, total**
Delineation Criteria (µg/L)		5	7	700	5	2000	20	1000	200	2	10000
MW-5	Nov-10	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
MW-5	May-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	Jun-11	< 5	< 2	< 2	< 10	<100	< 10	< 5	< 5	< 2	< 5
MW-5	Oct-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	May-12	< 5	< 2	< 2	< 10	<100	< 10	**2.8**	< 5	< 2	< 5
MW-5	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6/6R	Nov-10	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
MW-6/6R	May-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6/6R	Jun-11	< 5	< 2	< 2	< 10	<100	< 10	< 5	< 5	< 2	< 5
MW-6/6R	Oct-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6/6R	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6/6R	May-12	< 5	< 2	< 2	< 10	<100	< 10	**2.8**	< 5	< 2	< 5
MW-6/6R	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6/6R	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6/6R	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6/6R	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-23	Nov-10	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
MW-23	May-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-23	Jun-11	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
MW-23	Oct-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-23	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-23	May-12	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
MW-23	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-23	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-23	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-23	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-1	Nov-10	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-1	May-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-1	Jun-11	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-1	Oct-11	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-1	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-1	May-12	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-1	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-1	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-1	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-1	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-2	Nov-10	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-2	May-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-2	Jun-11	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5

Table 4
Ground Water VOC Monitoring Data

BWAY Drum Disposal Site, HSI Site No. 10731
Homerville, Georgia

		Concentrations (ug/L)									
Well ID	**Date**	**Chloroethane**	**1,1-Dichloroethene**	**Ethylbenzene**	**Isopropylbenzene**	**Methyl Ethyl Ketone (2-Butanone)**	**Naphthalene**	**Toluene**	**1,1,1-Trichloroethane**	**Vinyl Chloride**	**Xylenes, total**
Delineation Criteria (µg/L)		5	7	700	5	2000	20	1000	200	2	10000
ERM-MW-2	Oct-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-2	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-2	May-12	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-2	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-2	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-2	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-2	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-3	Nov-10	< 5	< 2	**40**	< 10	<100	**45**	< 2	< 2	< 2	**60**
ERM-MW-3	May-11	< 5	< 2	< 2	< 10	<100	**39**	< 2	< 2	< 2	**30**
ERM-MW-3	Jun-11	< 5	< 2	**99**	**23**	<100	**92**	< 2	< 2	< 2	**110**
ERM-MW-3	Oct-11	< 5	< 2	**140**	**33**	<100	**95**	< 2	< 2	< 2	**180**
ERM-MW-3	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-3	May-12	< 5	< 2	**20**	< 10	<100	< 10	< 2	< 2	< 2	**5.5**
ERM-MW-3	Nov-12	< 5	< 2	**88**	**36**	<100	**130**	< 2	< 2	< 2	**65**
ERM-MW-3	Apr-13	< 5.0	< 2.0	**43**	**16**	<100	**84**	< 2.0	< 2.0	< 2.0	**25**
ERM-MW-3	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-3	Oct-13	< 5.0	< 2.0	< 2.0	< 10	< 100	**16**	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-4	Nov-10	< 5	< 2	< 2	< 10	<100	< 10	< 5	< 5	< 2	< 5
ERM-MW-4	May-11	< 5	< 2	< 2	< 10	<100	< 10	< 5	< 5	< 2	< 5
ERM-MW-4	Jun-11	< 5	< 2	< 2	< 10	<100	< 10	< 5	< 5	< 2	< 5
ERM-MW-4	Oct-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-4	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-4	May-12	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-4	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-4	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-4	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-4	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-7	Nov-10	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-7	May-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-7	Jun-11	< 5	**2.6**	< 2	< 10	<100	< 10	< 5	< 5	< 2	< 5
ERM-MW-7	Oct-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-7	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-7	May-12	< 5	**4.1**	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-7	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-7	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-7	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-7	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-8	Nov-10	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-8	May-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-8	Jun-11	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-8	Oct-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-8	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-8	May-12	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5

Table 4
Ground Water VOC Monitoring Data

BWAY Drum Disposal Site, HSI Site No. 10731
Homerville, Georgia

		Concentrations (ug/L)									
Well ID	**Date**	**Chloroethane**	**1,1-Dichloroethene**	**Ethylbenzene**	**Isopropylbenzene**	**Methyl Ethyl Ketone (2-Butanone)**	**Naphthalene**	**Toluene**	**1,1,1-Trichloroethane**	**Vinyl Chloride**	**Xylenes, total**
Delineation Criteria (µg/L)		5	7	700	5	2000	20	1000	200	2	10000
ERM-MW-8	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-8	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-8	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-8	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-9	Nov-10	**13**	**7.2**	< 2	< 10	<100	< 10	< 2	< 2	**16**	< 5
ERM-MW-9	May-11	< 5	**7.3**	< 2	< 10	<100	< 10	< 2	< 2	**12**	< 5
ERM-MW-9	Jun-11	< 5	**7.7**	< 2	< 10	<100	< 10	< 2	< 2	**13**	< 5
ERM-MW-9	Oct-11	**17**	**5.4**	< 2	< 10	<100	< 10	< 2	< 2	**7.1**	< 5
ERM-MW-9	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-9	May-12	< 5	**4.6**	< 2	< 10	<100	< 10	< 2	< 2	**7.3**	< 5
ERM-MW-9	Nov-12	< 5	**7.8**	< 2	< 10	<100	< 10	< 2	< 2	**12**	< 5
ERM-MW-9	Apr-13	< 5.0	**7.2**	< 2.0	< 10	<100	< 10	< 2.0	< 2.0	**14**	< 5.0
ERM-MW-9	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-9	Oct-13	**5.6**	**3.8**	< 2.0	< 10	<100	< 10	< 2.0	< 2.0	**12**	< 5.0
ERM-MW-10	Nov-10	< 5	< 2	**7.4**	< 10	<100	< 10	< 2	< 2	< 2	**7.3**
ERM-MW-10	May-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-10	Jun-11	< 5	**3.7**	**9.3**	< 10	<100	< 10	< 2	< 2	< 2	**19**
ERM-MW-10	Oct-11	< 5	**2.8**	**20**	< 10	<100	**14**	< 2	< 2	< 2	**32**
ERM-MW-10	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-10	May-12	< 5	**3.1**	**4.5**	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-10	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-10	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-10	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-10	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-11	Nov-10	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-11	May-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-11	Jun-11	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-11	Oct-11	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-11	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-11	May-12	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-11	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-11	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-11	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-11	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-12	Nov-10	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-12	May-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-12	Jun-11	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-12	Oct-11	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-12	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-12	May-12	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-12	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-12	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-12	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 4
Ground Water VOC Monitoring Data

BWAY Drum Disposal Site, HSI Site No. 10731
Homerville, Georgia

		Concentrations (ug/L)									
Well ID	**Date**	**Chloroethane**	**1,1-Dichloroethene**	**Ethylbenzene**	**Isopropylbenzene**	**Methyl Ethyl Ketone (2-Butanone)**	**Naphthalene**	**Toluene**	**1,1,1-Trichloroethane**	**Vinyl Chloride**	**Xylenes, total**
Delineation Criteria (µg/L)		5	7	700	5	2000	20	1000	200	2	10000
ERM-MW-12	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-13	Nov-10	< 5	< 2	**5.1**	**33**	<100	< 10	< 2	< 2	< 2	**20**
ERM-MW-13	May-11	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-13	Jun-11	< 5	< 2	**88**	**30**	<100	**25**	< 2	< 2	< 2	**250**
ERM-MW-13	Oct-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-13	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-13	May-12	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	**33**
ERM-MW-13	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-13	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-13	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-13	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-14	Nov-10	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-14	May-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-14	Jun-11	< 5	**2**	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-14	Oct-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-14	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-14	May-12	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-14	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-14	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-14	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-14	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-15	Nov-10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-15	May-11	< 5	**6.1**	< 2	< 2	<100	< 10	< 10	< 2	< 2	< 2
ERM-MW-15	Jun-11	< 5	**5**	**4.6**	< 10	<100	**10**	< 2	< 2	< 2	< 5
ERM-MW-15	Oct-11	< 5	**3.2**	< 2	< 10	<100	**12**	< 2	< 2	< 2	< 5
ERM-MW-15	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-15	May-12	< 5	**3**	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-15	Nov-12	< 5	**3**	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-15	Apr-13	< 5.0	< 2.0	< 2.0	< 10	<100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-15	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-15	Oct-13	< 5.0	**3.2**	< 2.0	< 10	<100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-16	Nov-10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-16	May-11	< 5	**5.4**	< 2	< 10	<100	< 10	< 2	< 2	**11**	<5
ERM-MW-16	Jun-11	< 5	**7.1**	< 2	< 10	<100	< 10	< 2	< 2	**10**	< 5
ERM-MW-16	Oct-11	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	**7**	< 5
ERM-MW-16	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-16	May-12	< 5	**2.3**	< 2	< 10	<100	< 10	< 2	< 2	**2.8**	< 5
ERM-MW-16	Nov-12	< 5	**6**	< 2	< 10	<100	< 10	< 2	< 2	**6.4**	< 5
ERM-MW-16	Apr-13	< 5.0	**3.6**	< 2.0	< 10	<100	< 10	< 2.0	< 2.0	**6.5**	< 5.0
ERM-MW-16	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-16	Oct-13	< 5.0	**3.7**	< 2.0	< 10	<100	< 10	< 2.0	< 2.0	**7.1**	< 5.0
ERM-MW-17	Nov-10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI

Table 4
Ground Water VOC Monitoring Data

BWAY Drum Disposal Site, HSI Site No. 10731
Homerville, Georgia

		Concentrations (ug/L)									
Well ID	**Date**	**Chloroethane**	**1,1-Dichloroethene**	**Ethylbenzene**	**Isopropylbenzene**	**Methyl Ethyl Ketone (2-Butanone)**	**Naphthalene**	**Toluene**	**1,1,1-Trichloroethane**	**Vinyl Chloride**	**Xylenes, total**
Delineation Criteria (µg/L)		5	7	700	5	2000	20	1000	200	2	10000
ERM-MW-17	May-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-17	Jun-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-17	Oct-11	**110**	**41**	< 2	< 10	<100	< 10	< 2	< 2	**17**	< 5
ERM-MW-17	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-17	May-12	< 5	**34**	< 2	< 10	< 100	< 10	< 2	< 2	**19**	< 5
ERM-MW-17	Nov-12	< 5	**26**	< 2	< 10	< 100	< 10	< 2	< 2	**15**	< 5
ERM-MW-17	Apr-13	< 5.0	**27**	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	**13**	< 5.0
ERM-MW-17	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-17	Oct-13	< 5.0	**22**	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	**8.9**	< 5.0
ERM-MW-18	Nov-10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-18	May-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-18	Jun-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-18	Oct-11	**130**	**25**	< 2	< 10	<100	< 10	< 2	< 2	**5.3**	< 5
ERM-MW-18	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-18	May-12	**11**	**18**	< 2	< 10	< 100	< 10	< 2	< 2	**4.9**	< 5
ERM-MW-18	Nov-12	**28**	**31**	< 2	< 10	< 100	< 10	< 2	< 2	**13**	< 5
ERM-MW-18	Apr-13	**6.2**	**21**	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	**5.2**	< 5.0
ERM-MW-18	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-18	Oct-13	< 5.0	**2.8**	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-19	Nov-10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-19	May-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-19	Jun-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-19	Oct-11	< 5	**47**	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
ERM-MW-19	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-19	May-12	< 5	**47**	< 2	< 10	< 100	< 10	< 2	< 2	< 2	< 5
ERM-MW-19	Nov-12	< 5	**47**	< 2	< 10	< 100	< 10	< 2	< 2	< 2	< 5
ERM-MW-19	Apr-13	< 5.0	**56**	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-19	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-19	Oct-13	< 5.0	**47**	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-20	Nov-10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-20	May-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-20	Jun-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-20	Oct-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-20	Mar-12	< 5	**30**	< 2	< 10	< 100	< 10	< 2	**2.1**	**4.2**	< 5
ERM-MW-20	May-12	< 5	**41**	< 2	< 10	< 100	< 10	< 2	**2.1**	**8.7**	< 5
ERM-MW-20	Nov-12	< 5	**13**	**11**	< 10	< 100	< 10	**30**	< 2	< 2	< 5
ERM-MW-20	Apr-13	< 5.0	**35**	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	**4.3**	< 5.0
ERM-MW-20	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-20	Oct-13	< 5.0	**31**	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-21	Nov-10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-21	May-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-21	Jun-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-21	Oct-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI

Table 4
Ground Water VOC Monitoring Data

BWAY Drum Disposal Site, HSI Site No. 10731
Homerville, Georgia

		Concentrations (ug/L)									
Well ID	**Date**	**Chloroethane**	**1,1-Dichloroethene**	**Ethylbenzene**	**Isopropylbenzene**	**Methyl Ethyl Ketone (2-Butanone)**	**Naphthalene**	**Toluene**	**1,1,1-Trichloroethane**	**Vinyl Chloride**	**Xylenes, total**
Delineation Criteria (µg/L)		5	7	700	5	2000	20	1000	200	2	10000
ERM-MW-21	Mar-12	< 5	**2.2**	< 2	< 10	< 100	< 10	< 2	< 2	< 2	< 5
ERM-MW-21	May-12	< 5	< 2	< 2	< 10	< 100	< 10	< 2	< 2	< 2	< 5
ERM-MW-21	Nov-12	< 5	**15**	< 2	< 10	< 100	< 10	< 2	< 2	< 2	< 5
ERM-MW-21	Apr-13	< 5.0	**13**	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-21	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-21	Oct-13	< 5.0	**30**	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-22	Nov-10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-22	May-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-22	Jun-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-22	Oct-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-22	Mar-12	< 5	< 2	< 2	< 10	< 100	< 10	< 2	< 2	< 2	< 5
ERM-MW-22	May-12	< 5	< 2	< 2	< 10	< 100	< 10	< 2	< 2	< 2	< 5
ERM-MW-22	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-22	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-22	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-22	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-24	Nov-10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-24	May-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-24	Jun-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-24	Oct-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-24	Mar-12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-24	May-12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-24	Nov-12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-24	Apr-13	< 5.0	< 2.0	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-24	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-MW-24	Oct-13	< 5.0	< 2.0	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-25	Nov-10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-25	May-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-25	Jun-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-25	Oct-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-25	Mar-12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-25	May-12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-25	Nov-12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-25	Apr-13	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-25	Jul-13	< 5.0	< 2.0	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-25	Oct-13	< 5.0	< 2.0	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-26	Nov-10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-26	May-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-26	Jun-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-26	Oct-11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-26	Mar-12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-26	May-12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-26	Nov-12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI

Table 4
Ground Water VOC Monitoring Data

BWAY Drum Disposal Site, HSI Site No. 10731
Homerville, Georgia

		Concentrations (ug/L)									
Well ID	**Date**	**Chloroethane**	**1,1-Dichloroethene**	**Ethylbenzene**	**Isopropylbenzene**	**Methyl Ethyl Ketone (2-Butanone)**	**Naphthalene**	**Toluene**	**1,1,1-Trichloroethane**	**Vinyl Chloride**	**Xylenes, total**
Delineation Criteria (µg/L)		5	7	700	5	2000	20	1000	200	2	10000
ERM-MW-26	Apr-13	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
ERM-MW-26	Jul-13	< 5.0	< 2.0	< 2.0	< 10	< 100	< 10	< 2.0	< 2.0	< 2.0	< 5.0
ERM-MW-26	Oct-13	< 5.0	< 2.0	< 2.0	< 10	< 100	< 10	**2.2**	< 2.0	< 2.0	< 5.0
Storm Water	Nov-10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Storm Water	May-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Storm Water	Jun-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Storm Water	Oct-11	< 5	< 2	< 2	< 10	<100	< 10	< 2	< 2	< 2	< 5
Storm Water	Mar-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Storm Water	May-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Storm Water	Nov-12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Storm Water	Apr-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Storm Water	Jul-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Storm Water	Oct-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

[1] Only VOCs that have been detected in ground water at the site are listed in this table.

NS = Not Sampled.

NI = Not Installed.

J = Estimated value.

BOLD = Detected above laboratory detection limit

Detected above delineation concentration

Table 5
Table of Regulated Substances

BWAY, HSI Site No. 10731
Homerville, Clinch County, Georgia

HSRA-Regulated VOCs That Have Been Detected in Ground Water	Highest Concentration Detected in Ground Water (mg/L) *	Wells Where Compound was Detected *	Type 1 RRS (mg/L) **	Type 2 RRS (mg/L) **	Comments	Has the Compound Exceeded HSRA GW RRS in the Past?
Chloroethane	0.020	ERM-MW-1	< 0.005	**0.629**	Highest concentration is less than the Type 2 RRS. Ground water is in compliance with the Type 2 RRS for chloroethane.	**NO**
1,1-dichloroethene	0.009	ERM-MW-3, ERM-MW-4, ERM-MW-7, and MW-23	0.007	**0.103**	Highest concentration is less than the Type 2 RRS. Ground water is in compliance with the Type 2 RRS for 1,1-dichlorethene.	**NO**
Ethylbenzene	0.120	ERM-MW-1, ERM-MW-3, ERM-MW-4	**0.7**	--	Highest concentration is less than the Type 1 RRS. Ground water is in compliance with the Type 1 RRS for ethylbenzene.	**NO**
Isopropylbenzene (cumene)	0.026	ERM-MW-3	< 0.005	**0.2**	Highest concentration is less than the Type 2 RRS. Ground water is in compliance with the Type 2 RRS for cumene.	**NO**
Methyl ethyl ketone (MEK)	0.082	WESI Test Pit Ground Water, 2001	**2**	**--**	Highest concentration is less than the Type 1 RRS. Ground water is in compliance with the Type 1 RRS for MEK.	**NO**
Naphthalene	0.093	ERM-MW-3	**0.02**	0.002	Highest concentration is greater than the Type 1, 2, 3, and 4 RRS. Ground water is not in compliance with any of the RRS for naphthalene. Naphthalene exceeds the RRS at ERM-MW-3.	**YES**
Toluene	0.006	ERM-MW-3	**1**	--	Highest concentration is less than the Type 1 RRS. Ground water is in compliance with the Type 1 RRS for toluene.	**NO**
1,1,1-trichloroethane	0.009	ERM-MW-1	**0.2**	--	1,1,1-TCA concentrations at all wells are less than the Type 1 RRS. Ground water is in compliance with the Type 1 RRS for 1,1,1-TCA.	**NO**
Vinyl chloride	0.002	ERM-MW-3	**0.002**	--	Vinyl chloride concentrations at all wells do not exceed the Type 1 RRS. Ground water is in compliance with the Type 1 RRS for vinyl chloride.	**NO**
Xylenes, total	0.220	ERM-MW-1, ERM-MW-3, ERM-MW-4	**10**	--	Highest concentration is less than the Type 1 RRS. Ground water is in compliance with the Type 1 RRS for xylenes.	**NO**

Notes:
* Based on ground water data collected between 2003 and 2010
** RRS as designated by GA EPD in February 16, 2005 NOD

Table 6
BIOCHLOR Model Input and Calibration Parameters

BWAY Drum Disposal Site, HSI Site No. 10731
Homerville, Georgia

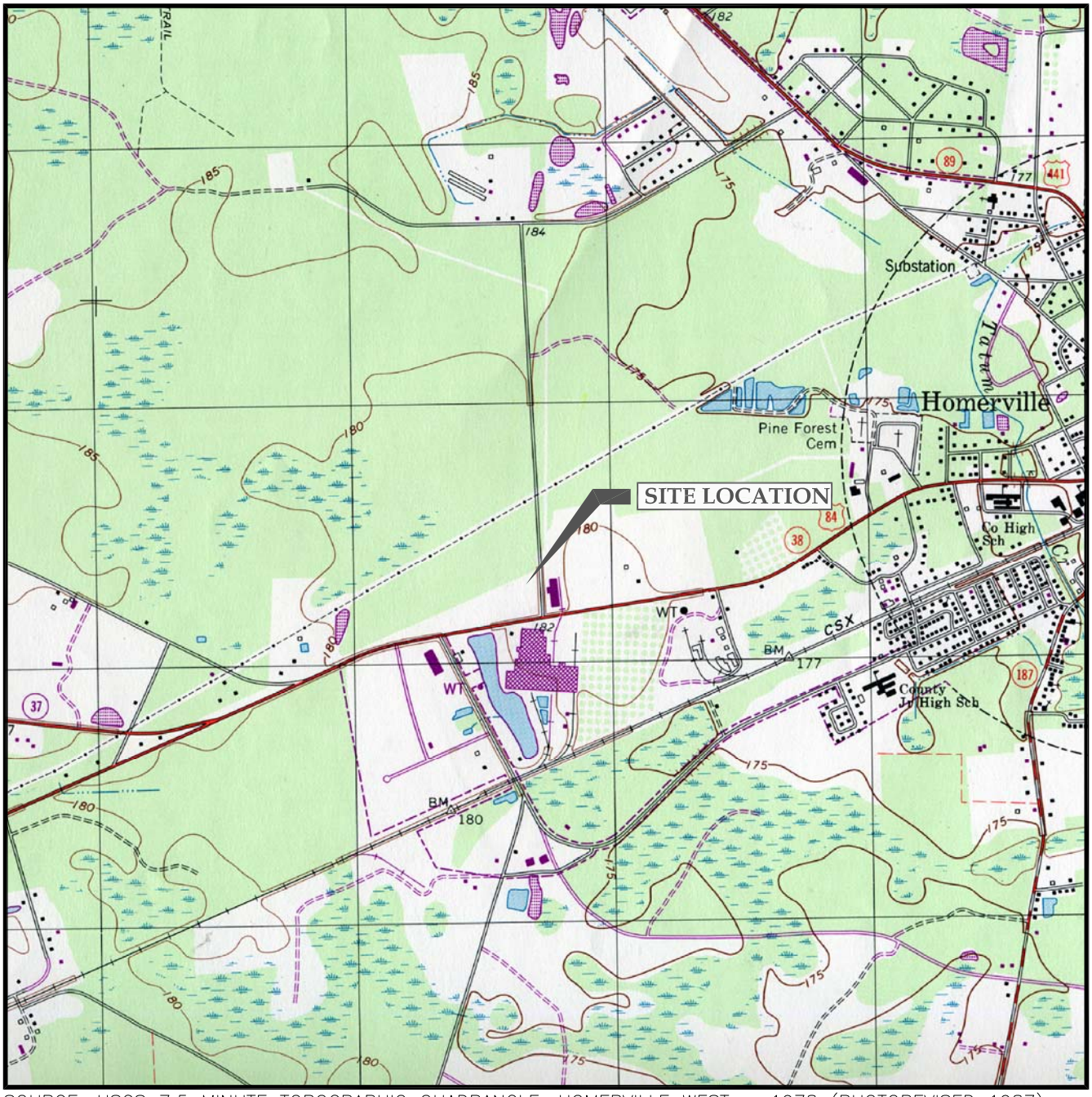
#	Input Parameter	Value	Units	Source of value used in model
1	Seepage Velocity	**26.4**	ft/year	Calculated from site-specific hydraulic conductivity and gradient; effective porosity was estimated
2	Hydraulic Conductivity	**0.0017**	cm/sec	Value estimated from slug tests (see June 2, 2008 Ground Water Evaluation Report)
3	Hydraulic Gradient	**0.003**	ft/ft	Average from three-point problem using March 2010 potentiometric surface elevations in ERM-MW-4, MW-5, and MW-23.
4	Effective Porosity	**0.2**	unitless	Typical value for medium sand from BIOCHLOR manual
5	Longitudinal Dispersivity	**50**	ft	Estimated from approximate scale of vinyl chloride plume (500 ft)
6	Transverse Dispersivity	**0.01**	ft	Estimated from dispersivity vs plume length relationships outlined in BIOChlor user's manual
7	Vertical Dispersivity	**1.0E-99**	unitless	BIOCHLOR default
8	Retardation Factor	**1.47**	unitless	Calculated from soil bulk density, partition coefficient, and fraction of organic carbon.
9	Soil Bulk Density	**1.6**	Kg/L	BIOCHLOR default
10	Fraction Organic Carbon	**0.002**	unitless	Risk Reduction Standard Calculation default
11	Partition Coefficient (Koc)	**30**	L/Kg	EPA Region IV Regional Screening Level Tables
12	1st Order Decay Coefficient	**0**	yr^{-1}	Biotransformation was assumed to be negligible in order to ensure the model's predictions are conservative.
13	Modeled Area Length	**2,000**	ft	Approximate distance to the hypothetical POE. (Note that distance varies for the plume extent modeling run)
14	Simulation Time	**varies**	yr	Simulation time is varied based on calibration and validation runs and time to reach the maximum plume extent.
15	Source Thickness in Sat. Zone	**12**	ft	Saturated thickness at ERM-MW-9
16	Source Zone Width	**20**	ft	Estimate source zone width at ERM-MW-9
17	Source Zone Concentration	**0.02**	mg/L	Set to the maximum concentration observed on-Site.
18	Source Zone Degradation Rate	**0.015**	yr^{-1}	Calculated as the "kpoint" value from vinyl chloride concentrations observed at ERM-MW-9 from November 2010 to October 2013.

*These values were not varied for the sensitivity analysis because they are not used directy by the model (i.e. they are used to calculate values that were varied) or the values were determined from site-specific data.

Figures

January 22, 2014
Project No. 0121022
BWAY Corporation

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE: HOMERVILLE WEST – 1978 (PHOTOREVISED 1987)

SCALE 1:24000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

CONTOUR INTERVAL 5 FEET

DOTTED LINES REPRESENT 5–FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

GEORGIA

QUADRANGLE LOCATION

N

REV SPV 11/13/13 121022Site.DWG

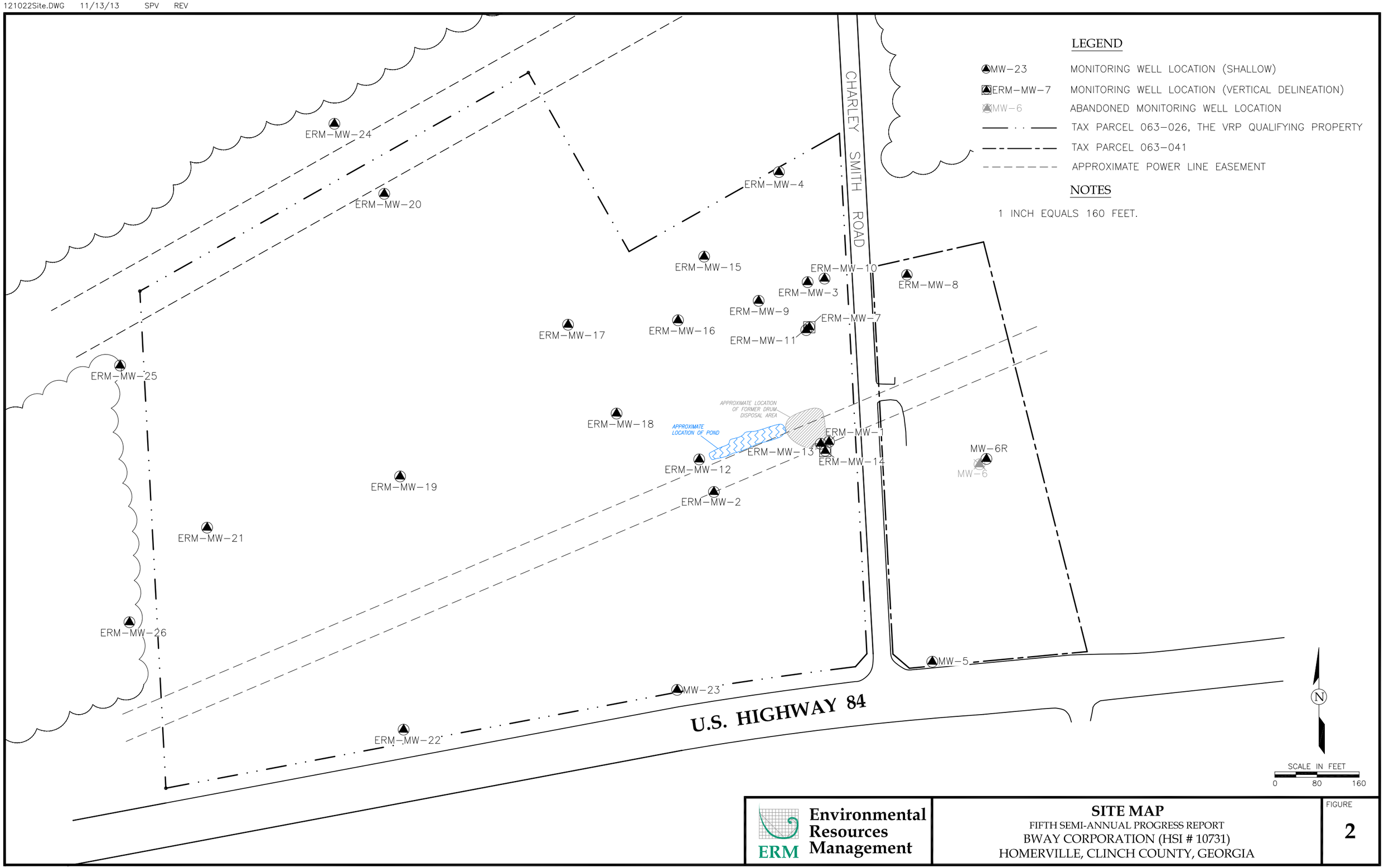
ERM **Environmental Resources Management**

SITE LOCATION

FIFTH SEMI-ANNUAL PROGRESS REPORT
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE
1

121022Site.DWG 11/13/13 SPV REV

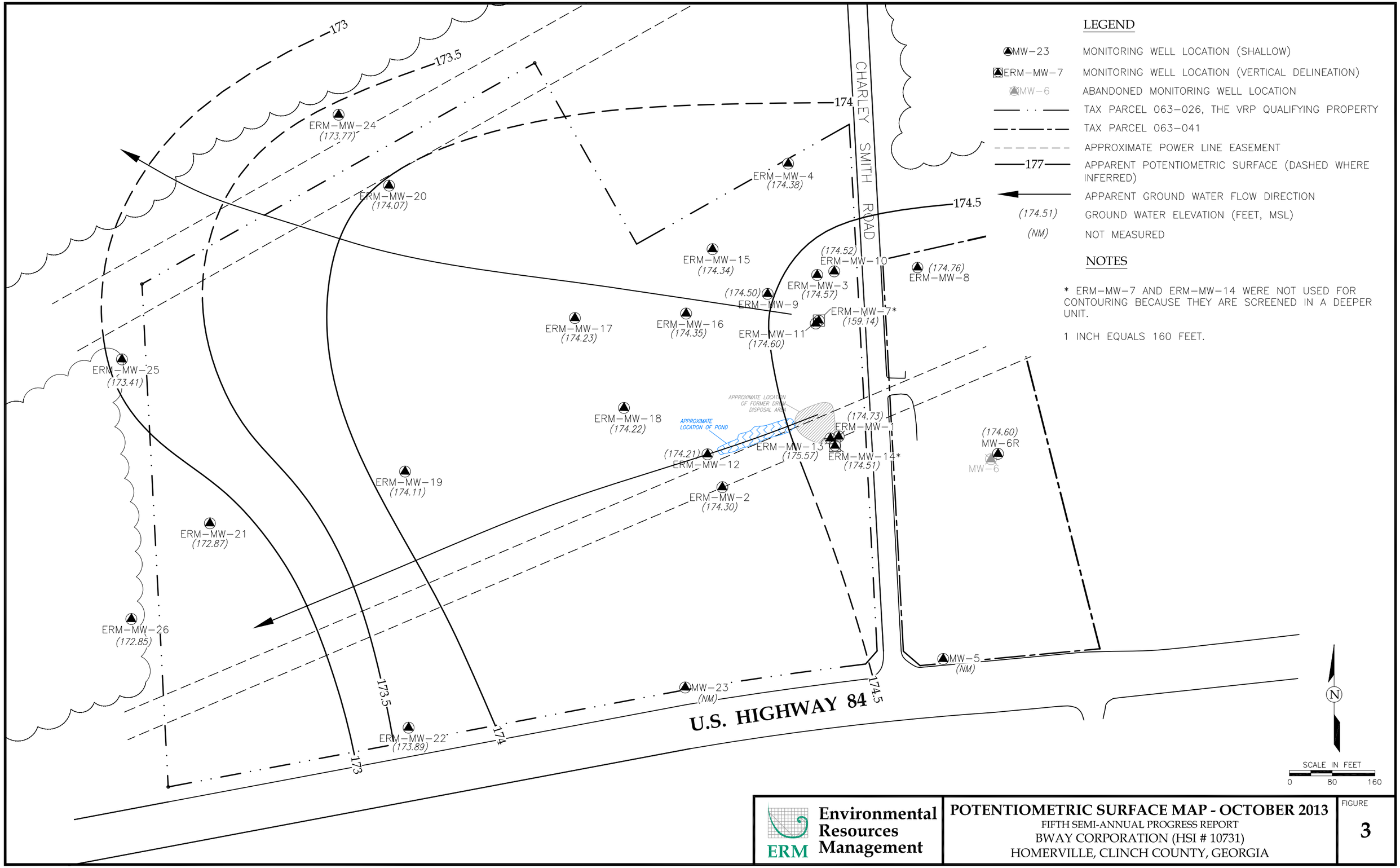


Environmental Resources Management

SITE MAP
FIFTH SEMI-ANNUAL PROGRESS REPORT
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE
2

121022Site.DWG 11/13/13 SPV REV 1/20/14



LEGEND

MW–23	MONITORING WELL LOCATION (SHALLOW)
ERM–MW–7	MONITORING WELL LOCATION (VERTICAL DELINEATION)
MW–6	ABANDONED MONITORING WELL LOCATION
	TAX PARCEL 063–026, THE VRP QUALIFYING PROPERTY
	TAX PARCEL 063–041
	APPROXIMATE POWER LINE EASEMENT
177	APPARENT POTENTIOMETRIC SURFACE (DASHED WHERE INFERRED)
	APPARENT GROUND WATER FLOW DIRECTION
(174.51)	GROUND WATER ELEVATION (FEET, MSL)
(NM)	NOT MEASURED

NOTES

* ERM–MW–7 AND ERM–MW–14 WERE NOT USED FOR CONTOURING BECAUSE THEY ARE SCREENED IN A DEEPER UNIT.

1 INCH EQUALS 160 FEET.

Environmental Resources Management

POTENTIOMETRIC SURFACE MAP - OCTOBER 2013

FIFTH SEMI-ANNUAL PROGRESS REPORT
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE
3

121022Site.DWG 11/13/13 SPV REV 1/20/14

ERM-MW-16	µg/L
1,1-DCE	3.7
Vinyl Chloride	**7.1**

ERM-MW-15	µg/L
1,1-DCE	3.2

ERM-MW-9	µg/L
Chloroethane	**5.6**
1,1-DCE	3.8
Vinyl Chloride	**12**

ERM-MW-3	µg/L
Naphthalene	16

ERM-MW-20	µg/L
1,1-DCE	**31**

ERM-MW-17	µg/L
1,1-DCE	**22**
Vinyl Chloride	**8.9**

ERM-MW-18	µg/L
1,1-DCE	2.8

ERM-MW-19	µg/L
1,1-DCE	**47**

ERM-MW-21	µg/L
1,1-DCE	**30**

ERM-MW-26	µg/L
Toluene	2.2

ERM-MW-24
ERM-MW-20
ERM-MW-25
ERM-MW-17
ERM-MW-16
ERM-MW-15
ERM-MW-4 (NS)
ERM-MW-10 (NS)
ERM-MW-3
ERM-MW-8 (NS)
ERM-MW-9
ERM-MW-7 (NS)
ERM-MW-11 (NS)
ERM-MW-18
ERM-MW-19
ERM-MW-21
ERM-MW-26
ERM-MW-22 (NS)
APPROXIMATE LOCATION OF FORMER DRUM DISPOSAL AREA
APPROXIMATE LOCATION OF POND
ERM-MW-1 (NS)
ERM-MW-13 (NS)
ERM-MW-12 (NS)
ERM-MW-14 (NS)
ERM-MW-2 (NS)
MW-6R (NS)
MW-6
MW-5 (NS)
MW-23 (NS)
ARLEY SMITH ROAD
U.S. HIGHWAY 84

LEGEND

- MW-23 — MONITORING WELL LOCATION (SHALLOW)
- ERM-MW-7 — MONITORING WELL LOCATION (VERTICAL DELINEATION)
- MW-6 — ABANDONED MONITORING WELL LOCATION
- DELINEATION BOUNDARY
- TAX PARCEL 063-026, THE VRP QUALIFYING PROPERTY
- TAX PARCEL 063-041
- APPROXIMATE POWER LINE EASEMENT
- (NS) — NOT SAMPLED
- µg/L — MICROGRAMS PER LITER

NOTES

GREEN WELLS MEET DELINEATION CRITERIA FOR ALL CONSTITUENTS.

RED WELLS DO NOT MEET DELINEATION CRITERIA FOR AT LEAST ONE CONSTITUENT.

BOLD VALUE INDICATES CONCENTRATION EXCEEDS DELINEATION CRITERIA.

1 INCH EQUALS 160 FEET.

N

SCALE IN FEET
0 80 160

Environmental Resources Management

GROUND WATER DATA - OCTOBER 2013

FIFTH SEMI-ANNUAL PROGRESS REPORT
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE
4

Documentation of Work Performed by Professional Geologist

Appendix A

January 22, 2014
Project No. 0121022
BWAY Corporation

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

Appendix A
Documentation of Work Performed by the Professional Engineer/Geologist
BWAY Drum Site
Homerville, GA

Month	Number of Hours Invoiced by Adria Reimer, P.G.		Activities Performed by Adria Reimer, P.G. Since the Previous Submittal
Jun-13	0.0	hours	--
Jul-13	3	hours	Review Fourth Semi-Annual Report
Aug-13	1	hours	Review Fourth Semi-Annual Report
Sep-13	0	hour	--
Oct-13	0	hours	--
Nov-13	0	hours	--

Ground Water Sampling Logs

Appendix B

January 22, 2014
Project No. 0121022
BWAY Corporation

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

226486

CHAIN OF CUSTODY RECORD

ANALYTICAL SERVICES, INC.
ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
110 TECHNOLOGY PARKWAY NORCROSS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

PAGE: 1 OF 1

CLIENT NAME: [illegible]

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
[illegible]

REPORT TO: [illegible] CC:

REQUESTED COMPLETION DATE: PO #:

PROJECT NAME/STATE: BWA (Cartersville, GA)

PROJECT #: [illegible]

DATE	TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		ANALYSIS REQUESTED								LAB ID NUMBER
CONTAINER TYPE																
PRESERVATION																
10/8/13	1110	GW		X	FEM-MW-19	3	3									
[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]									

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, 4°
A - AMBER GLASS	2 - H2SO4, 4°
G - CLEAR GLASS	3 - HNO3, 4°
V - VOA VIAL	4 - NaOH, 4°
S - STERILE	5 - NaOH/ZnAc, 4°
O - OTHER	6 - Na2S2O3, 4°
	7 - 4°

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: [illegible] DATE/TIME: [illegible]

RECEIVED BY: DATE/TIME:

RECEIVED BY LAB: [illegible] DATE/TIME: 10/9/13 1040

pH: Labeled Preserved Ice: Yes or No

RELINQUISHED BY: [illegible] DATE/TIME: 10/12 1140

RELINQUISHED BY: DATE/TIME:

SAMPLE SHIPPED VIA: UPS FED-EX COURIER CLIENT OTHER:

Temperature: [illegible] Custody Seal: Intact Broken Missing Cooler #

FOR LAB USE ONLY

LAB #:

In-house location:

Entered Into LIMS:

Please use Black Ink to complete form.

226487

CHAIN OF CUSTODY RECORD

ASI ANALYTICAL SERVICES, INC.
ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
110 TECHNOLOGY PARKWAY NORCROSS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME:

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:

REPORT TO:

CC:

REQUESTED COMPLETION DATE:

PO #:

PROJECT NAME/STATE:

PROJECT #:

ANALYSIS REQUESTED

DATE	TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	CONTAINER TYPE	PRESERVATION	LAB ID NUMBER
10/14	1630	W		X	EFM-MW-2	3	V	1	
	1615				EFM-MW-5				
	1515				EFM-MW-21				
	1440				EFM-MW-24				
	1350				EFM-MW-16				
	1255				EFM-MW-22				
	1140				EFM-MW-15				
	1010				EFM-MW-3				
↓	0900				DUP-01				
10/20/15	0935				EFM-MW-19				
	1025				EFM-MW-14				
↓	1045	↓		↓	EFM-MW-9	↓	↓	↓	

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, 4°
A - AMBER GLASS	2 - H2SO4, 4°
G - CLEAR GLASS	3 - HNO3, 4°
V - VOA VIAL	4 - NaOH, 4°
S - STERILE	5 - NaOH/ZnAc, 4°
O - OTHER	6 - Na2S203, 4°
	7 - 4°

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY LAB:

DATE/TIME: 10/21/15 1040

SAMPLE SHIPPED VIA:
UPS FED-EX COURIER CLIENT OTHER:

pH: Labeled Preserved

Ice: Yes or No

Temperature:

Custody Seal: Intact Broken Missing

Cooler #

FOR LAB USE ONLY

LAB #:

In-house location:

Entered Into LIMS:

Please use Black Ink to complete form.

ERM

WATER LEVEL MEASUREMENT DATA SHEET

Client: Bway

Date: 10/28/2013

Site/Location: Homerville, GA

Sampler's Name: B MOTLEY / T. FISHER

Well I.D.	Date	Time	Depth to Water (Feet BTOC)	Total Depth (Feet BTOC)	Notes (Odor, dedicated pump present, note if lock/cap need replacment,etc.)
ERM-MW-1	10/28/13	1430	7.41		
ERM-MW-2			8.21		
ERM-MW-3			8.41		
ERM-MW-4			9.31		
MW-5			CNG		
MW-6R			5.31		
ERM-MW-7			7.52		
ERM-MW-8			7.94		
ERM-MW-9			8.42		
ERM-MW-10			8.33		
ERM-MW-11			8.15		
ERM-MW-12			7.55		
ERM-MW-13			6.64		
ERM-MW-14			7.36		
ERM-MW-15			7.46		
ERM-MW-16			8.34		
ERM-MW-17			8.61		
ERM-MW-18			8.69		
ERM-MW-19			6.70		
ERM-MW-20			7.45		
ERM-MW-21			5.53		
ERM-MW-22			5.74		
MW-23			CNG		FOUND WELL NOT LOCKED - WAS A LOCK ON IT
ERM-MW-24			6.45		
ERM-MW-25		↓	5.15		
ERM-MW-26	↓	1700	5.96		

GROUND WATER SAMPLING LOG SHEET

ERM

Client: BWAY | Project No.: 0121022 | Sampling Date: 10/29/2013

Site/Location: Homerville, GA | Sampler's Name: EVAN MIDDLETON

ERM-MW-20 | Pump Type/Model: GEOPUMP | Sample Collection Time: 1030

Well ID: MW-20 | Tubing Material: .17 x/4 YL-LDPE | Sample Purge Rate (L/min)[3]: .1L/MIN

Total Depth (ft)[1]: 22 (10-20) | Pump Intake Depth (ft): 15 | Sample ID: ERM-MW-20

Depth to Water (ft): 3.64 | Start/Stop Purge Time: 0935 / 1025 | QA/QC Collected? NO

Well Diameter (in): 2" | Purge Rate (L/min)[2]: .1L/MIN | QA/QC I.D. N/A

Well Volume (gal) = 0.041d²h: 2.46gal / 9.4 LITERS | Total Purge Volume (L): 4.5 LITERS | Laboratory Analyses: VOCs 8260

d = well diameter (inches) h = length of water column (feet)

Well Condition: GOOD | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0940	19.66	.064	1.49	5.25	90.4	14.2	.5	3.64	LOW FLOW/LOW VOLUME (2. 1L/MIN
0945	19.69	.063	1.91	5.26	92.4	13.9	1.0	3.64	
0950	19.71	.063	1.75	5.26	96.4	14.4	1.5	3.64	
1000	19.67	.062	1.60	5.27	100.3	15.2	2.0	3.64	
1005	19.55	.054	1.46	5.17	102.6	14.0	2.5	3.64	
1010	19.99	.052	1.31	5.04	106.3	9.41	3.0	3.69	
1015	20.16	.049	1.27	4.96	109.5	6.84	3.5	3.69	
1020	20.25	.049	1.16	4.94	117.5	4.30	4.0	3.69	
1025	20.23	.048	1.09	4.99	120.1	4.61	4.5	3.69	
1030	PARAMETERS	STABILIZED.	SAMPLES	COLLECTED.					
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: BWAY | Project No.: 0121022 | Sampling Date: 10/29/13

Site/Location: Homerville, GA | Sampler's Name: Thomas Fisher

Well ID: ERM-MW-25 | Pump Type/Model: Peristaltic/Geopump | Sample Collection Time: 1030

Total Depth (ft)[1]: 20 | Tubing Material: Tefton-lined | Sample Purge Rate (L/min)[3]: soda straw

Depth to Water (ft): 5.23 | Pump Intake Depth (ft): 18 | Sample ID: ERM-MW-25

Well Diameter (in): 2 | Start/Stop Purge Time: 950/1030 | QA/QC Collected? None

Well Volume (gal) = 0.041d²h: 2.4 | Purge Rate (~~L/min~~)[2]: 100 mL/min | QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): see below | Laboratory Analyses: 8260

Well Condition: New/Good | Sampling Method (check all that apply): [X] soda straw (VOCs) [ ] vacuum jug (SVOCs) [ ] pump head discharge (Inorganics including cyanide)

[ ] Bladder pump = pump discharge (all analytes) [ ] Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0	19.15	0.224	3.03	6.06	-4.1	>limit	0.5	5.28	-YSI-556/ La motte turbidity meter
5	19.49	0.172	3.00	5.54	25	52	1.0	5.29	- drained flow cell to 'clear' turb.
10	19.54	0.169	1.50	5.45	19	17	1.5	5.30	
15	19.68	0.168	1.51	5.40	13	11	2.0	5.31	
20	19.73	0.168	1.50	5.38	12	5.6	2.5	5.32	
25	19.79	0.167	1.41	5.37	11	5.4	3.0	5.31	
30	19.83	0.167	1.26	5.36	10	4.2	3.5	5.31	
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: BWAY | Project No.: 0121022 | Sampling Date: 10/29/13

Site/Location: Homerville, GA | Sampler's Name: Thomas Fisher

Well ID: ERM-MW-21 | Pump Type/Model: Peristaltic/Geopump | Sample Collection Time: 1215

Total Depth (ft)[1]: 22 | Tubing Material: Teflon-lined | Sample Purge Rate (L/min)[3]: Soda straw

Depth to Water (ft): 5.53 | Pump Intake Depth (ft): 20 | Sample ID: ERM-MW-21

Well Diameter (in): 2 | Start/Stop Purge Time: 1049/1215 | QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 2.7 | Purge Rate (L/min)[2]: 100 mL/min | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): see below | Laboratory Analyses: 8260

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0	20.65	0.101	3.83	5.35	58	78	0.5L	6.26	-YSI-556/ Lamotte turbidity meter
5	20.90	0.106	2.79	5.39	60	147	1.0L	6.36	-drained flow cell to reduce turb.
Vol-1	20.96	0.074	1.92	5.09	101	107	2.7g	7.95	-draw down more than 0.3ft
Vol-2	21.22	0.079	1.12	5.08	96	117	5.4g	8.53	purge 3 vols. then low flow.
Vol-3	21.15	0.079	0.80	5.03	91	124	8.1g	8.80	
100 mL/min 5	21.21	0.079	0.76	5.07	89	129	0.5L	8.40	
10	21.29	0.080	0.75	5.09	91	130	1.0L	8.12	
15	21.24	0.080	0.74	5.09	92	129	1.5L	8.03	
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: BWAY | Project No.: 0121022 | Sampling Date: 10/29/2013

Site/Location: Homerville, GA | Sampler's Name: B. MCGILTON

Well ID: ERM-MW-24 | Pump Type/Model: GEOPUMP PERISTALTIC | Sample Collection Time: 1300

Total Depth (ft)[1]: 22 (10-20) | Tubing Material: .17X1/4 LDPE-TL | Sample Purge Rate (L/min)[3]: .1 L/MIN

Depth to Water (ft): 6.52 | Pump Intake Depth (ft): 15 | Sample ID: ERM-MW-24

Well Diameter (in): 2" | Start/Stop Purge Time: 1050 / 1254 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 2.56AL / 9.6L | Purge Rate (L/min)[2]: .1L/MIN | QA/QC I.D. N/A

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 50L | Laboratory Analyses: VOCs 8260

Well Condition: GOOD | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1055	21.00	.036	2.68	5.45	133.9	OVR	.5	6.60	LOW FLOW/LOW VOLUME @.1L/MIN
1100	21.32	.1038	2.81	5.47	131.6	OVER	1.0	6.60	DARK BROWN SILTY WATER
1105	21.41	.1040	2.75	5.51	128.3	1899	1.5	6.61	
1110	21.44	.1041	2.64	5.52	130.4	2062	2.0	6.61	
1115	21.57	.1041	2.59	5.50	136.7	2139	2.5	6.62	
1120	21.74	.1039	2.60	5.47	141.4	2056	3.0	6.62	INCREASED PUMP RD .5L/MIN
1125	22.03	.1050	2.62	5.43	157.5	1894	5.5	6.62	PURGING 5 WELL VOLUMES DUE
									TO HIGH TURBIDITY
1134	22.16	.1054	2.54	5.41	160.4	1762	10.0L	6.62	1ST WELL VOLUME
1154	22.24	.1036	2.53	5.46	143.4	1749	20L	6.62	2ND WELL VOLUME
1214	22.31	.1046	2.55	5.49	74.3	1651	30L	6.63	3RD WELL VOLUME
1234	22.34	.1035	2.57	5.43	54.4	1706	40L	6.63	4TH WELL VOLUME
1254	22.46	.1032	2.43	5.40	46.2	1446	50L	6.63	5TH WELL VOLUME
1300	5 WELL VOLUMES PURGED, SAMPLES COLLECTED.								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: BWAY | Project No.: 0121022 | Sampling Date: 10/29/2013

Site/Location: Homerville, GA | Sampler's Name: R. MILLER

Well ID: ERM-MW-16 | Pump Type/Model: GEOPUMP PERISTALTIC | Sample Collection Time: 1350

Total Depth (ft)[1]: 20.56 to 20.7 | Tubing Material: 1/4 X 1/4 HDPE | Sample Purge Rate (L/min)[2]: .1 L/MIN

Depth to Water (ft): 8.75 | Pump Intake Depth (ft): 15 Feet | Sample ID: ERM-MW-16

Well Diameter (in): 2" | Start/Stop Purge Time: 1315 / 1345 | QA/QC Collected? YES

Well Volume (gal) = 0.041d²h: 1.90AL / 7.2 LITERS | Purge Rate (L/min)[2]: .1 L/MIN | QA/QC I.D. DUP-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.0 | Laboratory Analyses: VOCs 8260

Well Condition: GOOD | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H₂O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1320	22.37	.070	3.37	5.16	100.3	80.6	.5	8.45	LOW FLOW/LOW VOLUME @ .1L/MIN
1325	22.10	.072	2.56	5.16	94.3	72.4	1.0	8.45	
1330	21.89	.072	1.86	5.16	87.4	27.4	1.5	8.45	
1335	21.67	.073	.54	5.16	70.3	5.63	2.0	8.45	
1340	21.64	.074	.52	5.16	64.0	4.97	2.5	8.45	
1345	21.63	.074	.51	5.16	62.1	4.74	3.0	8.45	
1350	PARAMETERS	STABILIZED,	SAMPLES	COLLECTED.					
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: BWAY | Project No.: 0121022 | Sampling Date: 10/29/13

Site/Location: Homerville, GA | Sampler's Name: Thomas Fisher

Well ID: ERM-MW-26 | Pump Type/Model: Peristaltic/Geopump | Sample Collection Time: 1355

Total Depth (ft)[1]: 20 | Tubing Material: Tefton lined | Sample Purge Rate (L/min)[3]: Soda Straw

Depth to Water (ft): 6.07 | Pump Intake Depth (ft): 18 | Sample ID: ERM-MW-26

Well Diameter (in): 2 | Start/Stop Purge Time: 1247/1355 | QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 2.2 | Purge Rate (L/min)[2]: 100 mL/min | QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): see below | Laboratory Analyses: 8260

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0	21.45	0.146	5.43	5.01	6.8	O.R.	0.5L	6.61	YSI-556 / Lamotte turbidity meter
1 vol	21.03	0.140	0.87	4.50	34	1915	2.2g	8.55	- well @ start - water very silty
2 vol	21.03	0.139	0.49	4.69	22	O.R.	4.4g	9.21	black color, may need to be
3 vol	21.17	0.141	0.35	4.76	9	O.R.	6.6g	9.43	developed again.
100mL/min 5	21.61	0.141	0.35	4.81	2.8	O.R	0.5L	9.07	- O.R. - over range
10	21.62	0.142	0.40	4.86	-0.5	O.R	1.0L	8.95	- draw down > 0.3 ft purge
15	21.38	0.142	0.39	4.85	-3.6	O.R	1.5L	8.84	3 vol @ 500mL/min
									- anaerobic odor.
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: BWAY | Project No.: 0121022 | Sampling Date: 10/29/2013

Site/Location: Homerville, GA | Sampler's Name: P. MOULTON

Well ID: ERM-MW-15 | Pump Type/Model: GEOPUMP PERISTALTIC | Sample Collection Time: 1440

Total Depth (ft)[1]: 19 (5-15) | Tubing Material: .17 X 1/4 TL-LDPE | Sample Purge Rate (L/min)[3]: .1 L/MIN

Depth to Water (ft): 7.95 | Pump Intake Depth (ft): 13 feet | Sample ID: ERM-MW-15

Well Diameter (in): 2" | Start/Stop Purge Time: 1405 / 1435 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 1.5644 / 6.4 LITERS | Purge Rate (L/min)[2]: .1 L/MIN | QA/QC I.D. N/A

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 30 | Laboratory Analyses: VOCs 8260

Well Condition: GOOD | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1410	21.72	.084	.81	5.08	75.4	6.26	.5	7.97	LOW FLOW/LOW VOLUME @ .1 L/MIN
1415	21.65	.083	.65	5.06	73.6	6.02	1.0	7.97	
1420	21.70	.076	.51	5.01	63.2	4.72	1.5	7.97	
1425	21.72	.072	.43	4.96	54.1	3.55	2.0	7.97	
1430	21.86	.072	.42	4.96	55.2	3.49	2.5	7.97	
1435	21.89	.071	.41	4.97	52.6	3.06	3.0	7.97	
1440	PARAMETERS STABILIZED, SAMPLES COLLECTED.								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: BWAY | Project No.: 0121022 | Sampling Date: 10/24/13

Site/Location: Homerville, GA | Sampler's Name: Thomas Fisher

Well ID: ERM-mw-3 | Pump Type/Model: Peristaltic / Geopump | Sample Collection Time: 1510

Total Depth (ft)[1]: 22 | Tubing Material: Teflon lined | Sample Purge Rate (L/min)[3]: Soda Straw

Depth to Water (ft): 8.43 | Pump Intake Depth (ft): 20 | Sample ID: ERM-mw-3

Well Diameter (in): 2 | Start/Stop Purge Time: 1430 / 1510 | QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 2.2 | Purge Rate (L/min)[2]: 100 mL/min | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): see below | Laboratory Analyses: 8260

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0	22.40	0.142	3.46	5.46	-45	6.3	0.5	8.44	
5	22.26	0.124	2.15	5.10	-16	5.8	1.0	8.44	
10	22.24	0.123	1.26	5.14	-27	5.7	1.5	8.44	
15	22.05	0.119	0.89	5.19	-37	5.4	2.0	8.44	
20	22.02	0.111	0.74	5.19	-38	5.2	2.5	8.44	
25	21.91	0.105	0.57	5.16	-32	5.5	3.0	8.44	
30	21.82	0.102	0.54	5.15	-29	5.4	3.5	8.44	
35	21.86	0.102	0.46	5.14	-24	5.6	4.0	8.44	
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: BWAY Project No.: 0121022 Sampling Date: 10/30/2013

Site/Location: Homerville, GA Sampler's Name: P. MILLER

Well ID: ERM-MW-19 Pump Type/Model: GEOPUMP PERISTALTIC Sample Collection Time: 0935

Total Depth (ft)[1]: 20.4 (9.6-19.6) Tubing Material: .17x1/4 TL-LDPE Sample Purge Rate (L/min)[3]: .1L/min

Depth to Water (ft): 7.05 Pump Intake Depth (ft): 14.6 Sample ID: ERM-MW-19

Well Diameter (in): 2" Start/Stop Purge Time: 0850 / 0930 QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 2.16GAL / 7.8L Purge Rate (L/min)[2]: .1L/min QA/QC I.D. N/A

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 4.0 Laboratory Analyses: VOCs 8260

Well Condition: GOOD Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0855	19.27	.045	5.07	4.87	100.6	4.74	.5	7.10	LOW FLOW/LOW VOLUME @ .1L/MIN
0900	19.26	.045	3.56	4.88	99.7	3.39	1.0	7.10	
0905	19.35	.045	1.62	5.46	95.2	3.10	1.5	7.10	
0910	19.39	.045	1.60	5.51	92.9	1.96	2.0	7.10	
0915	19.43	.045	1.25	4.95	96.3	2.74	2.5	7.10	
0920	19.04	.045	1.23	4.97	90.6	2.61	3.0	7.10	
0925	19.35	.046	1.25	4.96	92.4	2.30	3.5	7.10	
0930	19.09	.046	1.24	4.96	91.8	.96	4.0	7.10	
0935	PARAMETERS STABILIZED, SAMPLES COLLECTED,								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: BWAY | Project No.: 0121022 | Sampling Date: 10/30/2013

Site/Location: Homerville, GA | Sampler's Name: E. MOTLEY

Well ID: ERM-MW-14 | Pump Type/Model: GEO PUMP PERISTALTIC | Sample Collection Time: 1035

Total Depth (ft)[1]: ~~20.07~~ (9.7-19.7)20 | Tubing Material: .17x1/4 TL-LDPE | Sample Purge Rate (L/min)[3]: .1L/min

Depth to Water (ft): 9.83 | Pump Intake Depth (ft): 14.7 | Sample ID: ERM-MW-14

Well Diameter (in): 2" | Start/Stop Purge Time: 1000/1050 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 1.36AL/7.0LITERS | Purge Rate (L/min)[2]: .1L/MIN | QA/QC I.D. N/A

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 5.0 | Laboratory Analyses: VOCs 8260

Well Condition: GOOD | Sampling Method (check all that apply): ☑ Soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1005	20.30	.046	2.59	4.81	114.4	4.12	.5	8.91	LOW FLOW/LOW VOLUME @.1L/MIN
1010	20.32	.046	2.56	4.81	114.3	2.95	1.0	8.91	
1015	20.34	.046	2.54	4.80	115.4	2.31	1.5	8.91	
1020	20.34	.046	2.56	4.80	115.5	3.09	2.0	8.91	
1025	20.44	.046	2.34	4.80	112.9	3.16	2.5	8.91	
1030	20.51	.046	2.37	4.80	112.7	2.91	3.0	8.91	
1035	PARAMETERS STABILIZED, SAMPLES COLLECTED.								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: BWAY | Project No.: 0121022 | Sampling Date: 10/30/13

Site/Location: Homerville, GA | Sampler's Name: Thomas Fisher

Well ID: ERM-mw-9 | Pump Type/Model: Peristaltic/Geopump | Sample Collection Time: 1025

Total Depth (ft)[1]: 20.5 | Tubing Material: Teflon lined | Sample Purge Rate (L/min)[3]: soda straw

Depth to Water (ft): 8.51 | Pump Intake Depth (ft): 17 | Sample ID: ERM-mw-9

Well Diameter (in): 2 | Start/Stop Purge Time: 950/1025 | QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 1.9 | Purge Rate (L/min)[2]: 100 mL/min | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): see below | Laboratory Analyses: 8260

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0	19.51	0.294	5.79	5.46	73	70	0.5	8.53	YSI-556 / Lamotte turb. meter
5	19.95	0.285	1.64	5.44	63	23	1.0	8.53	
10	20.24	0.275	1.31	5.49	59	14	1.5	8.53	
15	20.36	0.271	1.04	5.51	56	10	2.0	8.53	
20	20.46	0.269	0.86	5.50	53	9	2.5	8.53	
25	20.51	0.266	0.81	5.49	52	8	3.0	8.53	
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
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(3) - Sampling rate to be 0.25 lpm or less.
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(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: BWAY Project No.: 0121022 Sampling Date: 10/30/13

Site/Location: Homerville, GA Sampler's Name: Thomas Fisher

Well ID: ERM-MW-17 Pump Type/Model: Peristaltic/Geopump Sample Collection Time: 1110

Total Depth (ft)[1]: 20 Tubing Material: Teflon lined Sample Purge Rate (L/min)[3]: Soda straw

Depth to Water (ft): 8.73 Pump Intake Depth (ft): 17 Sample ID: ERM-MW-17

Well Diameter (in): 2 Start/Stop Purge Time: 1040/1110 QA/QC Collected? -

Well Volume (gal) = 0.041d²h: 1.8 Purge Rate (L/min)[2]: 100mL/min QA/QC I.D. -

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): see below Laboratory Analyses: 8260

Well Condition: Good

Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0	20.54	0.067	2.96	4.89	178	9.1	0.5	8.78	- YSI-556 / Lamotte turbidity meter
5	20.59	0.065	1.31	4.84	183	8.8	1.0	8.79	- sunny mid 70's all week
10	20.67	0.064	1.09	4.79	183	8.3	1.5	8.80	
15	20.77	0.062	0.69	4.75	187	7.4	2.0	8.81	
20	20.89	0.062	0.68	4.73	188	6.8	2.5	8.81	
25	20.93	0.062	0.61	4.73	187	6.4	3.0	8.81	
30	20.95	0.062	0.59	4.74	186	5.9	3.5	8.82	
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

Ground Water Analytical Data Reports

Appendix C

January 22, 2014
Project No. 0121022
BWAY Corporation

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

ASI

ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

ERM
3200 Windy Hill Road, Suite 1500W
Atlanta, GA 30339

Attention: Ms. Amy Hickman

Report Number: AWJ0948
November 08, 2013
Project: BWAY/GA
Project #:Homerville GA/0121022

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

ASI

ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092
(770) 734-4200 FAX (770) 734-4201

ERM
3200 Windy Hill Road, Suite 1500W
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ERM-MW-20	AWJ0948-01	Ground Water	10/29/13 10:30	10/31/13 10:40
ERM-MW-25	AWJ0948-02	Ground Water	10/29/13 10:30	10/31/13 10:40
ERM-MW-21	AWJ0948-03	Ground Water	10/29/13 12:15	10/31/13 10:40
ERM-MW-24	AWJ0948-04	Ground Water	10/29/13 13:00	10/31/13 10:40
ERM-MW-16	AWJ0948-05	Ground Water	10/29/13 13:50	10/31/13 10:40
ERM-MW-26	AWJ0948-06	Ground Water	10/29/13 13:55	10/31/13 10:40
ERM-MW-15	AWJ0948-07	Ground Water	10/29/13 14:40	10/31/13 10:40
ERM-MW-3	AWJ0948-08	Ground Water	10/29/13 15:10	10/31/13 10:40
Dup-01	AWJ0948-09	Ground Water	10/29/13 00:00	10/31/13 10:40
ERM-MW-19	AWJ0948-10	Ground Water	10/30/13 09:35	10/31/13 10:40
ERM-MW-18	AWJ0948-11	Ground Water	10/30/13 10:35	10/31/13 10:40
ERM-MW-9	AWJ0948-12	Ground Water	10/30/13 10:25	10/31/13 10:40
ERM-MW-17	AWJ0948-13	Ground Water	10/30/13 11:10	10/31/13 10:40
Trip Blank	AWJ0948-14	Water	10/29/13 08:00	10/31/13 10:40

ASI

ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092
(770) 734-4200 FAX (770) 734-4201

ERM
3200 Windy Hill Road, Suite 1500W
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: ERM-MW-20
Date/Time Sampled: 10/29/2013 10:30:00AM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-01
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:08	3100815	GCN
1,1-Dichloroethene	31	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:08	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:08	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:08	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:08	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:08	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:08	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:08	3100815	GCN
Vinyl Chloride	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:08	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:08	3100815	GCN
Surrogate: Dibromofluoromethane	*113 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 15:08*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*119 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 15:08*	*3100815*	
Surrogate: Toluene-d8	*89 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 15:08*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*102 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 15:08*	*3100815*	

ASI

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ERM
3200 Windy Hill Road, Suite 1500W
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: ERM-MW-25
Date/Time Sampled: 10/29/2013 10:30:00AM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-02
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:39	3100815	GCN
1,1-Dichloroethene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:39	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:39	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:39	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:39	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:39	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:39	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:39	3100815	GCN
Vinyl Chloride	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:39	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 15:39	3100815	GCN
Surrogate: Dibromofluoromethane	*111 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 15:39*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*114 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 15:39*	*3100815*	
Surrogate: Toluene-d8	*91 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 15:39*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*102 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 15:39*	*3100815*	

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ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092
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ERM
3200 Windy Hill Road, Suite 1500W
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: ERM-MW-21
Date/Time Sampled: 10/29/2013 12:15:00PM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-03
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:10	3100815	GCN
1,1-Dichloroethene	30	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:10	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:10	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:10	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:10	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:10	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:10	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:10	3100815	GCN
Vinyl Chloride	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:10	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:10	3100815	GCN
Surrogate: Dibromofluoromethane	*112 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 16:10*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*115 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 16:10*	*3100815*	
Surrogate: Toluene-d8	*92 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 16:10*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*104 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 16:10*	*3100815*	

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Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: ERM-MW-24
Date/Time Sampled: 10/29/2013 1:00:00PM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-04
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:41	3100815	GCN
1,1-Dichloroethene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:41	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:41	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:41	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:41	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:41	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:41	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:41	3100815	GCN
Vinyl Chloride	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:41	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 16:41	3100815	GCN
Surrogate: Dibromofluoromethane	*115 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 16:41*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*118 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 16:41*	*3100815*	
Surrogate: Toluene-d8	*90 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 16:41*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*108 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 16:41*	*3100815*	

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Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: ERM-MW-16
Date/Time Sampled: 10/29/2013 1:50:00PM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-05
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:11	3100815	GCN
1,1-Dichloroethene	3.7	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:11	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:11	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:11	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:11	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:11	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:11	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:11	3100815	GCN
Vinyl Chloride	7.1	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:11	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:11	3100815	GCN
Surrogate: Dibromofluoromethane	*111 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 17:11*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*112 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 17:11*	*3100815*	
Surrogate: Toluene-d8	*90 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 17:11*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*105 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 17:11*	*3100815*	

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Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: ERM-MW-26
Date/Time Sampled: 10/29/2013 1:55:00PM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-06
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:42	3100815	GCN
1,1-Dichloroethene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:42	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:42	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:42	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:42	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:42	3100815	GCN
Toluene	2.2	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:42	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:42	3100815	GCN
Vinyl Chloride	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:42	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 17:42	3100815	GCN
Surrogate: Dibromofluoromethane	*112 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 17:42*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*113 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 17:42*	*3100815*	
Surrogate: Toluene-d8	*90 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 17:42*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*104 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 17:42*	*3100815*	

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Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: ERM-MW-15
Date/Time Sampled: 10/29/2013 2:40:00PM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-07
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:13	3100815	GCN
1,1-Dichloroethene	3.2	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:13	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:13	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:13	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:13	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:13	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:13	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:13	3100815	GCN
Vinyl Chloride	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:13	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:13	3100815	GCN
Surrogate: Dibromofluoromethane	*112 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 18:13*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*113 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 18:13*	*3100815*	
Surrogate: Toluene-d8	*91 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 18:13*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*104 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 18:13*	*3100815*	

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ERM
3200 Windy Hill Road, Suite 1500W
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: ERM-MW-3
Date/Time Sampled: 10/29/2013 3:10:00PM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-08
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:44	3100815	GCN
1,1-Dichloroethene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:44	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:44	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:44	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:44	3100815	GCN
Naphthalene	16	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:44	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:44	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:44	3100815	GCN
Vinyl Chloride	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:44	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 18:44	3100815	GCN
Surrogate: Dibromofluoromethane	*111 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 18:44*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*113 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 18:44*	*3100815*	
Surrogate: Toluene-d8	*91 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 18:44*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*104 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 18:44*	*3100815*	

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Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: Dup-01
Date/Time Sampled: 10/29/2013 12:00:00AM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-09
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:14	3100815	GCN
1,1-Dichloroethene	3.6	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:14	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:14	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:14	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:14	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:14	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:14	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:14	3100815	GCN
Vinyl Chloride	6.7	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:14	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:14	3100815	GCN
Surrogate: Dibromofluoromethane	*113 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 19:14*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*116 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 19:14*	*3100815*	
Surrogate: Toluene-d8	*89 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 19:14*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*103 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 19:14*	*3100815*	

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Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: ERM-MW-19
Date/Time Sampled: 10/30/2013 9:35:00AM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-10
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:45	3100815	GCN
1,1-Dichloroethene	47	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:45	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:45	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:45	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:45	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:45	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:45	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:45	3100815	GCN
Vinyl Chloride	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:45	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 19:45	3100815	GCN
Surrogate: Dibromofluoromethane	*111 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 19:45*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*115 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 19:45*	*3100815*	
Surrogate: Toluene-d8	*92 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 19:45*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*105 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 19:45*	*3100815*	

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ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092
(770) 734-4200 FAX (770) 734-4201

ERM
3200 Windy Hill Road, Suite 1500W
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: ERM-MW-18
Date/Time Sampled: 10/30/2013 10:35:00AM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-11
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:16	3100815	GCN
1,1-Dichloroethene	2.8	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:16	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:16	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:16	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:16	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:16	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:16	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:16	3100815	GCN
Vinyl Chloride	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:16	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:16	3100815	GCN
Surrogate: Dibromofluoromethane	*111 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 20:16*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*114 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 20:16*	*3100815*	
Surrogate: Toluene-d8	*91 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 20:16*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*103 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 20:16*	*3100815*	

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ERM
3200 Windy Hill Road, Suite 1500W
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: ERM-MW-9
Date/Time Sampled: 10/30/2013 10:25:00AM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-12
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	5.6	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:47	3100815	GCN
1,1-Dichloroethene	3.8	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:47	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:47	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:47	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:47	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:47	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:47	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:47	3100815	GCN
Vinyl Chloride	12	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:47	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 20:47	3100815	GCN
Surrogate: Dibromofluoromethane	*112 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 20:47*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*117 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 20:47*	*3100815*	
Surrogate: Toluene-d8	*89 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 20:47*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*102 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 20:47*	*3100815*	

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ERM
3200 Windy Hill Road, Suite 1500W
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: ERM-MW-17
Date/Time Sampled: 10/30/2013 11:10:00AM
Matrix: Ground Water

Project: BWAY/GA
Lab Number ID: AWJ0948-13
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 21:17	3100815	GCN
1,1-Dichloroethene	22	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 21:17	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 21:17	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 21:17	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 21:17	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 21:17	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 21:17	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 21:17	3100815	GCN
Vinyl Chloride	8.9	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 21:17	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 21:17	3100815	GCN
Surrogate: Dibromofluoromethane	*112 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 21:17*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*114 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 21:17*	*3100815*	
Surrogate: Toluene-d8	*91 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 21:17*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*101 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 21:17*	*3100815*	

ANALYTICAL SERVICES, INC.

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ERM
3200 Windy Hill Road, Suite 1500W
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948
Client ID: Trip Blank
Date/Time Sampled: 10/29/2013 8:00:00AM
Matrix: Water

Project: BWAY/GA
Lab Number ID: AWJ0948-14
Date/Time Received: 10/31/2013 10:40:00AM

Analyte	Result	RL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
Volatile Organic Compounds by EPA 8260										
Chloroethane	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 14:37	3100815	GCN
1,1-Dichloroethene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 14:37	3100815	GCN
Ethylbenzene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 14:37	3100815	GCN
Isopropylbenzene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 14:37	3100815	GCN
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 14:37	3100815	GCN
Naphthalene	ND	10	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 14:37	3100815	GCN
Toluene	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 14:37	3100815	GCN
1,1,1-Trichloroethane	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 14:37	3100815	GCN
Vinyl Chloride	ND	2.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 14:37	3100815	GCN
Xylenes, total	ND	5.0	ug/L	EPA 8260B		1	10/31/13 13:00	10/31/13 14:37	3100815	GCN
Surrogate: Dibromofluoromethane	*110 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 14:37*	*3100815*	
Surrogate: 1,2-Dichloroethane-d4	*115 %*	*78-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 14:37*	*3100815*	
Surrogate: Toluene-d8	*88 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 14:37*	*3100815*	
Surrogate: 4-Bromofluorobenzene	*102 %*	*80-120*		*EPA 8260B*			*10/31/13 13:00*	*10/31/13 14:37*	*3100815*	

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ERM
3200 Windy Hill Road, Suite 1500W
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 3100815 - EPA 5030B										
Blank (3100815-BLK1)					Prepared & Analyzed: 10/31/13					
Chloroethane	ND	5.0	ug/L							
1,1-Dichloroethene	ND	2.0	ug/L							
Ethylbenzene	ND	2.0	ug/L							
Isopropylbenzene	ND	10	ug/L							
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L							
Naphthalene	ND	10	ug/L							
Toluene	ND	2.0	ug/L							
1,1,1-Trichloroethane	ND	2.0	ug/L							
Vinyl Chloride	ND	2.0	ug/L							
Xylenes, total	ND	5.0	ug/L							
Surrogate: Dibromofluoromethane	*55*		*ug/L*	*50.000*		*110*	*80-120*			
Surrogate: 1,2-Dichloroethane-d4	*57*		*ug/L*	*50.000*		*113*	*78-120*			
Surrogate: Toluene-d8	*45*		*ug/L*	*50.000*		*90*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*52*		*ug/L*	*50.000*		*104*	*80-120*			
Blank (3100815-BLK2)					Prepared & Analyzed: 11/01/13					
Chloroethane	ND	5.0	ug/L							
1,1-Dichloroethene	ND	2.0	ug/L							
Ethylbenzene	ND	2.0	ug/L							
Isopropylbenzene	ND	10	ug/L							
Methyl Ethyl Ketone (2-Butanone)	ND	100	ug/L							
Naphthalene	ND	10	ug/L							
Toluene	ND	2.0	ug/L							
1,1,1-Trichloroethane	ND	2.0	ug/L							
Vinyl Chloride	ND	2.0	ug/L							
Xylenes, total	ND	5.0	ug/L							
Surrogate: Dibromofluoromethane	*52*		*ug/L*	*50.000*		*105*	*80-120*			
Surrogate: 1,2-Dichloroethane-d4	*55*		*ug/L*	*50.000*		*110*	*78-120*			
Surrogate: Toluene-d8	*47*		*ug/L*	*50.000*		*93*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*52*		*ug/L*	*50.000*		*104*	*80-120*			

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ERM
3200 Windy Hill Road, Suite 1500W
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Report No.: AWJ0948

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 3100815 - EPA 5030B										
LCS (3100815-BS1)					Prepared & Analyzed: 10/31/13					
Benzene	40		ug/L	50.000		81	67-134			
Chlorobenzene	40		ug/L	50.000		80	69-122			
1,1-Dichloroethene	44		ug/L	50.000		88	58-142			
Toluene	40		ug/L	50.000		81	68-127			
Trichloroethene	42		ug/L	50.000		84	72-132			
Surrogate: Dibromofluoromethane	*54*		*ug/L*	*50.000*		*108*	*80-120*			
Surrogate: 1,2-Dichloroethane-d4	*53*		*ug/L*	*50.000*		*106*	*78-120*			
Surrogate: Toluene-d8	*46*		*ug/L*	*50.000*		*91*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*53*		*ug/L*	*50.000*		*106*	*80-120*			
Matrix Spike (3100815-MS1)	**Source: AWJ0948-10**				Prepared & Analyzed: 10/31/13					
Benzene	51		ug/L	50.000	ND	102	67-134			
Chlorobenzene	48		ug/L	50.000	1.1	94	69-122			
1,1-Dichloroethene	100		ug/L	50.000	47	111	58-142			
Toluene	50		ug/L	50.000	ND	101	68-127			
Trichloroethene	51		ug/L	50.000	0.2	101	72-132			
Surrogate: Dibromofluoromethane	*54*		*ug/L*	*50.000*		*108*	*80-120*			
Surrogate: 1,2-Dichloroethane-d4	*58*		*ug/L*	*50.000*		*116*	*78-120*			
Surrogate: Toluene-d8	*44*		*ug/L*	*50.000*		*89*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*51*		*ug/L*	*50.000*		*101*	*80-120*			
Matrix Spike Dup (3100815-MSD1)	**Source: AWJ0948-10**				Prepared & Analyzed: 10/31/13					
Benzene	54		ug/L	50.000	ND	109	67-134	7	9	
Chlorobenzene	51		ug/L	50.000	1.1	100	69-122	7	13	
1,1-Dichloroethene	110		ug/L	50.000	47	117	58-142	3	9	
Toluene	54		ug/L	50.000	ND	107	68-127	6	9	
Trichloroethene	54		ug/L	50.000	0.2	107	72-132	6	11	
Surrogate: Dibromofluoromethane	*54*		*ug/L*	*50.000*		*108*	*80-120*			
Surrogate: 1,2-Dichloroethane-d4	*58*		*ug/L*	*50.000*		*115*	*78-120*			
Surrogate: Toluene-d8	*45*		*ug/L*	*50.000*		*89*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*52*		*ug/L*	*50.000*		*105*	*80-120*			

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Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013

Laboratory Certifications

Code	Description	Number	Expires
LA	Louisiana	02069	06/30/2014
NC	North Carolina	381	12/31/2013
NELAC	FL DOH (Non-Pot. Water, Solids) Eff:: 07/01/2013	E87315	06/30/2014
SC	South Carolina	98011001	06/30/2014
TX	Texas	T104704397-08-TX	03/31/2014
VA	Virginia	1340	12/14/2013

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Attention: Ms. Amy Hickman

November 08, 2013

Legend

Definition of Laboratory Terms

ND - None Detected at the Reporting Limit
TIC - Tentatively Identified Compound
CFU - Colony Forming Units
SOP - Method run per ASI Standard Operating Procedure
RL - Reporting Limit
DF - Dilution Factor
***** - Analyte not included in the NELAC list of certified analytes.

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. ASI is not NELAC certified for diphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

Note: Unless otherwise noted, all results are reported on an as received basis.

ANALYTICAL SERVICES, INC.

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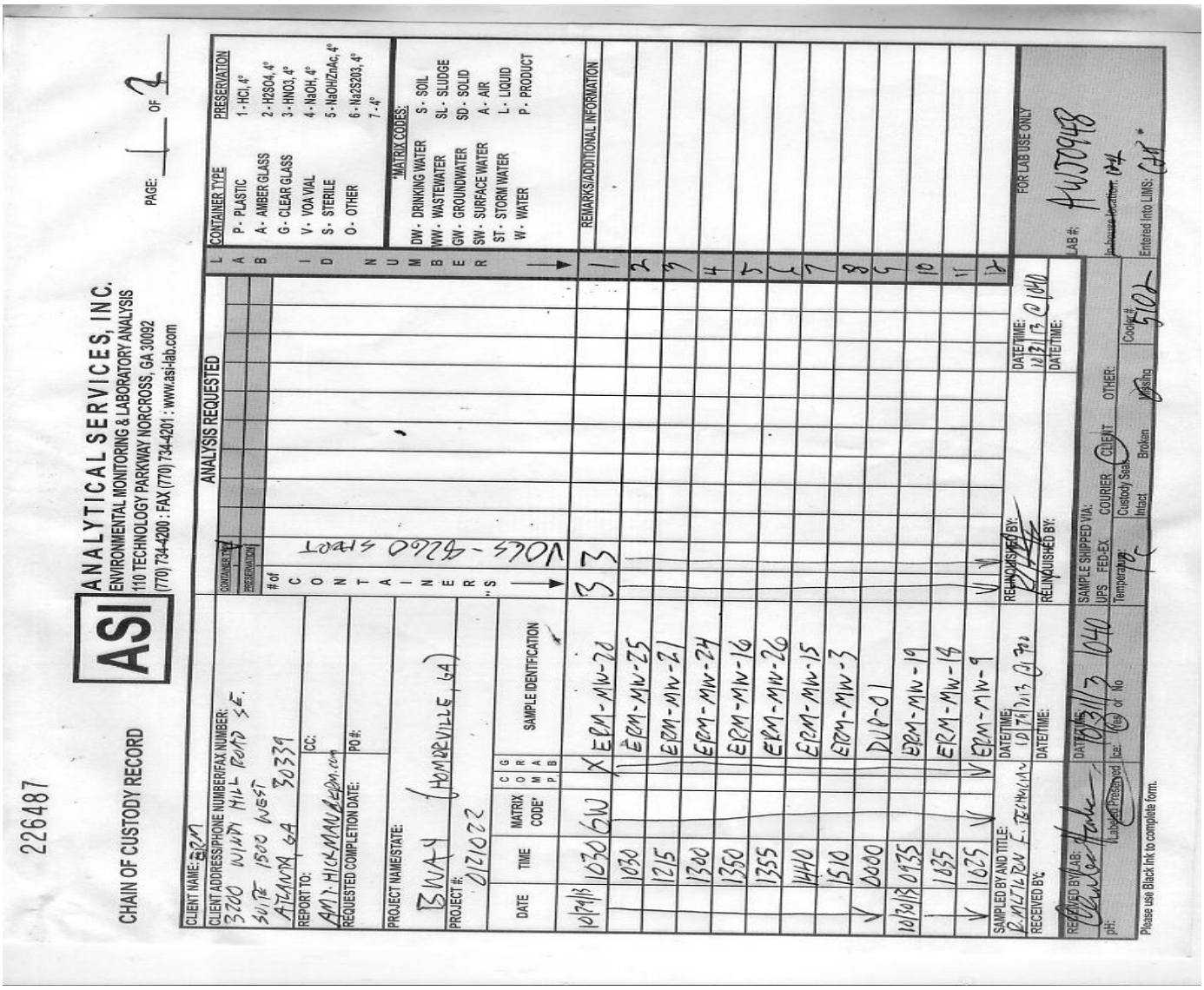
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013



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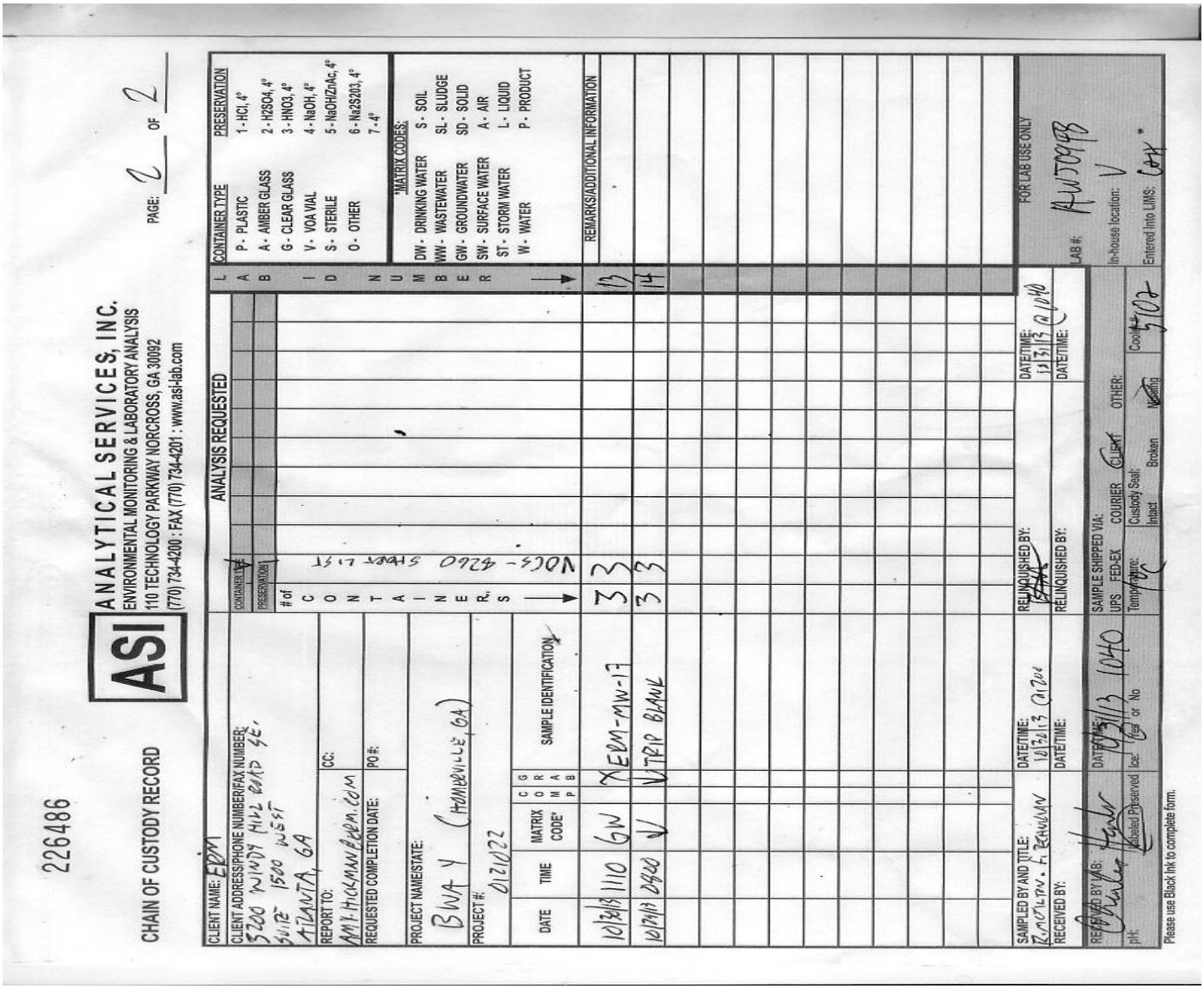
ERM
3200 Windy Hill Road, Suite 1500W
Atlanta GA, 30339
Attention: Ms. Amy Hickman

November 08, 2013



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 11/8/2013 11:37:25AM**

Attn: Ms. Amy Hickman

Client: ERM
Project: BWAY/GA
Date Received: 10/31/13 10:40

Work Order: AWJ0948
Logged In By: Charles Hawks

OBSERVATIONS

#Samples: 14 **#Containers:** 42

Minimum Temp(C): 1.0 **Maximum Temp(C):** 1.0 **Custody Seal(s) Used:** No

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	NO
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Electronic BIOCHLOR Modeling Files (on Compact Disc)

Appendix D

January 22, 2014
Project No. 0121022
BWAY Corporation

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

BIOCHLOR Input Parameter Calculations

Appendix E

January 22, 2014
Project No. 0121022
BWAY Corporation

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

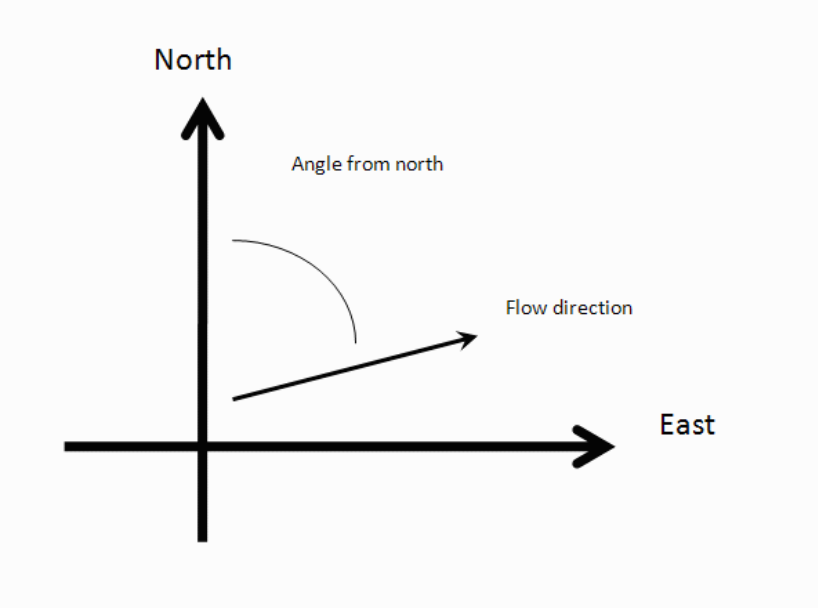
Gradient Calculation from fitting a plane to as many as thirty points

$a\ x_1 + b\ y_1 + c = h_1$
$a\ x_2 + b\ y_2 + c = h_2$
$a\ x_3 + b\ y_3 + c = h_3$
. . .
$a\ x_{30} + b\ y_{30} + c = h_{30}$

where (x_i, y_i) are the coordinates of the well and
h_i is the head

$i = 1,2,3, \ldots , 30$
The coefficients a, b, and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Example Data Set 1 | Example Data Set 2 | Calculate | Clear
Save Data | Recall Data | Go Back

Site Name: BWay
Date: March 2010 | Current Date
Calculation basis: Head
Coordinates: ft

I.D.		x-coordinate	y-coordinate	head ft
1)	ERM-MW-4	465821.5302	376396.6592	176.59
2)	MW-23	465628.7366	375416.0628	175.88
3)	ERM-MW-1	465916.2478	375885.8679	177.28
4)				
5)				
6)				
7)				
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9)				
10)				
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15)				
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29)
30)

Results

Number of Points Used in Calculation	3
Max. Difference Between Head Values	0.4267
Gradient Magnitude (i)	0.005442
Flow direction as degrees from North (positive y axis)	273.6
Coefficient of Determination (R^2)	1.00

WCMS

Last updated on Thursday, January 10, 2013

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

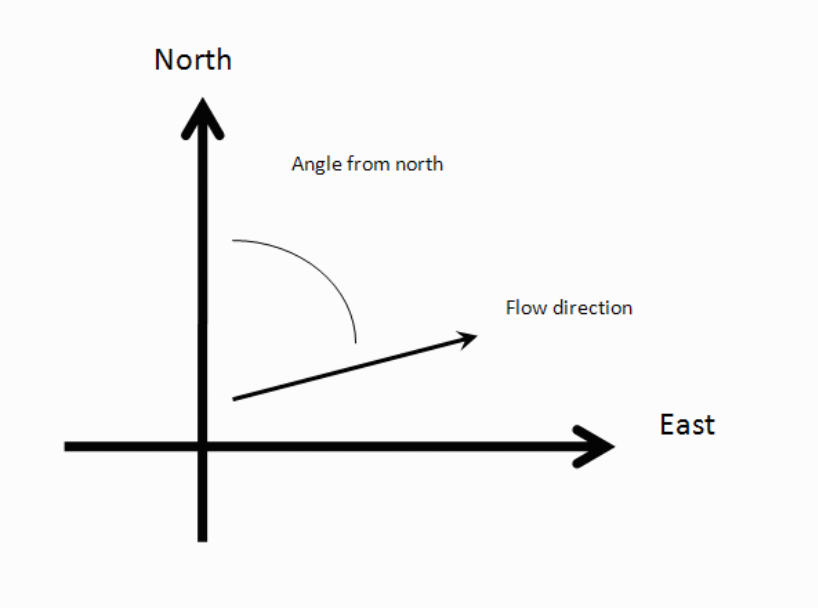
Gradient Calculation from fitting a plane to as many as thirty points

$a\ x_1 + b\ y_1 + c = h_1$
$a\ x_2 + b\ y_2 + c = h_2$
$a\ x_3 + b\ y_3 + c = h_3$
. . .
$a\ x_{30} + b\ y_{30} + c = h_{30}$

where (x_i, y_i) are the coordinates of the well and
h_i is the head

$i = 1,2,3, \ldots , 30$
The coefficients a, b, and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Example Data Set 1 | Example Data Set 2 | Calculate | Clear
Save Data | Recall Data | Go Back
Site Name: BWay
Date: May 2011 | Current Date
Calculation basis: Head
Coordinates: ft

I.D.		x-coordinate	y-coordinate	head ft
1)	ERM-MW-4	465821.5302	376396.6592	173.38
2)	MW-23	465628.7366	375416.0628	173.34
3)	ERM-MW-1	465916.2478	375885.8679	173.95
4)				
5)				
6)				
7)				
8)				
9)				
10)				
11)				
12)				
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16)				
17)				

18)
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26)
27)
28)
29)
30)

Results

Number of Points Used in Calculation	3
Max. Difference Between Head Values	0.1859
Gradient Magnitude (i)	0.003078
Flow direction as degrees from North (positive y axis)	280.4
Coefficient of Determination (R^2)	1.00

WCMS

Last updated on Thursday, January 10, 2013

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

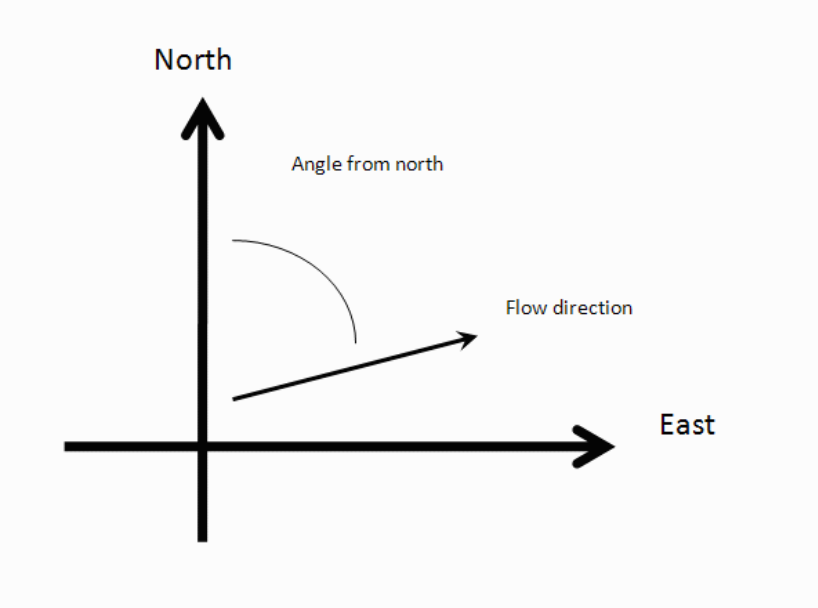
Gradient Calculation from fitting a plane to as many as thirty points

$a x_1 + b y_1 + c = h_1$
$a x_2 + b y_2 + c = h_2$
$a x_3 + b y_3 + c = h_3$
. . .
$a x_{30} + b y_{30} + c = h_{30}$

where (x_i, y_i) are the coordinates of the well and
h_i is the head

i = 1,2,3, ... , 30
The coefficients a, b, and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Example Data Set 1 | Example Data Set 2 | Calculate | Clear
Save Data | Recall Data | Go Back

Site Name: BWay
Date: May 2012 | Current Date
Calculation basis: Head
Coordinates: ft

I.D.		x-coordinate	y-coordinate	head ft
1)	ERM-MW-1	465916.2478	375885.8679	174.91
2)	ERM-MW-20	465074.1848	376355.4541	173.60
3)	ERM-MW-21	464738.6958	375723.2921	172.58
4)				
5)				
6)				
7)				
8)				
9)				
10)				
11)				
12)				
13)				
14)				
15)				
16)				
17)				

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30)

Results

Number of Points Used in Calculation	3
Max. Difference Between Head Values	0.7102
Gradient Magnitude (i)	0.001990
Flow direction as degrees from North (positive y axis)	252.2
Coefficient of Determination (R^2)	1.00

WCMS

Last updated on Thursday, January 10, 2013

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

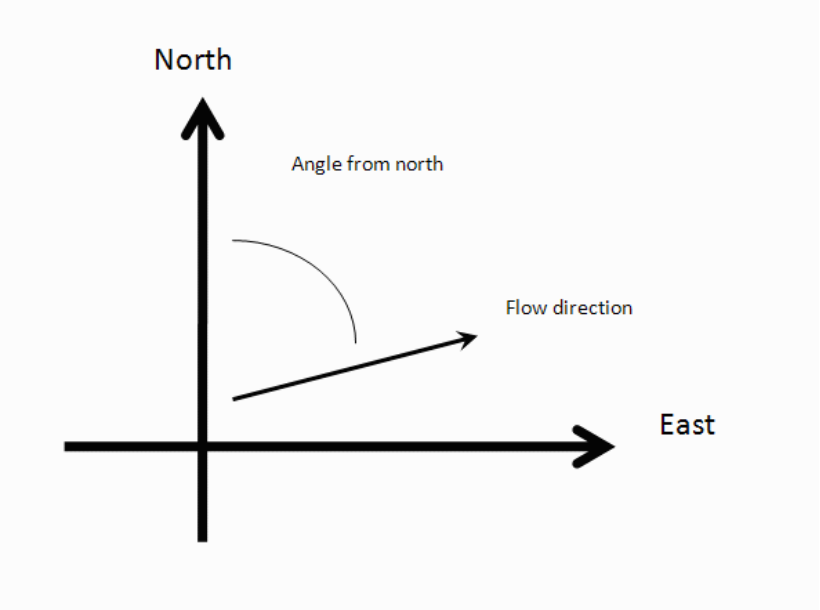
Gradient Calculation from fitting a plane to as many as thirty points

$a\,x_1 + b\,y_1 + c = h_1$
$a\,x_2 + b\,y_2 + c = h_2$
$a\,x_3 + b\,y_3 + c = h_3$
. . .
$a\,x_{30} + b\,y_{30} + c = h_{30}$

where (x_i, y_i) are the coordinates of the well and
h_i is the head

$i = 1,2,3, \ldots , 30$
The coefficients a, b, and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Example Data Set 1 | Example Data Set 2 | Calculate | Clear
Save Data | Recall Data | Go Back
Site Name: BWay
Date: October 2013 | Current Date
Calculation basis: Head
Coordinates: ft

I.D.		x-coordinate	y-coordinate	head ft
1)	ERM-MW-1	465916.2478	375885.8679	174.73
2)	ERM-MW-20	465074.1848	376355.4541	174.07
3)	ERM-MW-21	464738.6958	375723.2921	172.87
4)				
5)				
6)				
7)				
8)				
9)				
10)				
11)				
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Results

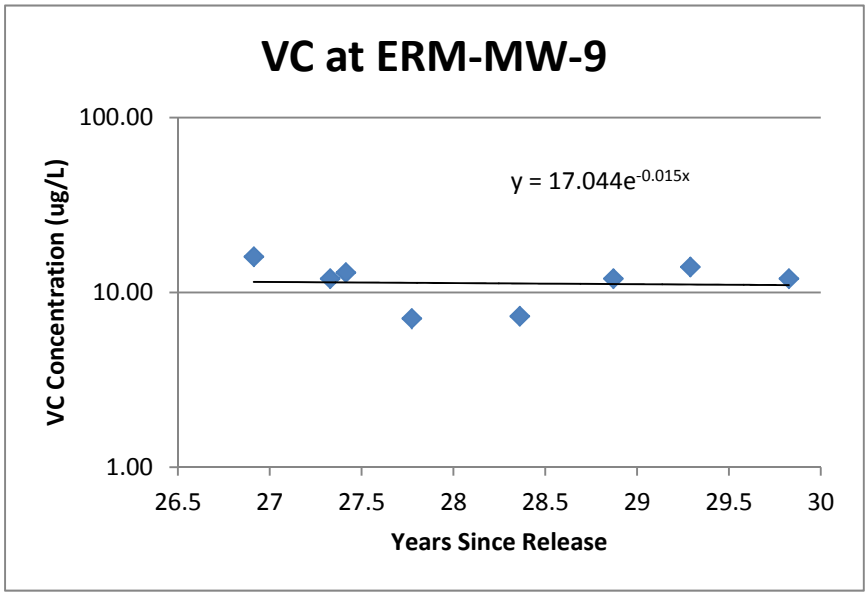
Number of Points Used in Calculation	3
Max. Difference Between Head Values	0.5669
Gradient Magnitude (i)	0.001825
Flow direction as degrees from North (positive y axis)	231.2
Coefficient of Determination (R^2)	1.00

WCMS

Last updated on Thursday, January 10, 2013

Degradation Rate Calclulation

Sampling Date	Years since 1/1/1984 (estimated date of release)	ERM-MW-9 VC
Nov-10	26.91307324	16.00
May-11	27.32922656	12.00
Jun-11	27.41409993	13.00
Oct-11	27.77275838	7.10
May-12	28.3613963	7.30
Nov-12	28.87063655	12.00
Apr-13	29.28952772	14.00
Oct-13	29.82614648	12.00



BIOCHLOR Modeling Screenshots

Appendix F

January 22, 2014
Project No. 0121022
BWAY Corporation

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

BWAY
Parcel 063-026
Calibration

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 ← 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

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	26.4	(ft/yr)
or			
Hydraulic Conductivity	K	1.7E-03	(cm/sec)
Hydraulic Gradient	i	0.003	(ft/ft)
Effective Porosity	n	0.2	(-)

2. DISPERSION

Alpha x*	50	(ft)
(Alpha y) / (Alpha x)*	0.01	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)	
FractionOrganicCarbon, foc	2.0E-3	(-)	
Partition Coefficient	Koc		
PCE	0	(L/kg)	1.00 (-)
TCE	0	(L/kg)	1.00 (-)
DCE	0	(L/kg)	1.00 (-)
VC	30	(L/kg)	1.47 (-)
ETH	0	(L/kg)	1.00 (-)

Common R (used in model)* = 1.47

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.000		0.79
TCE → DCE	0.000		0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	29	(yr)
Modeled Area Width*	100	(ft)
Modeled Area Length*	2000	(ft)
Zone 1 Length*	2000	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

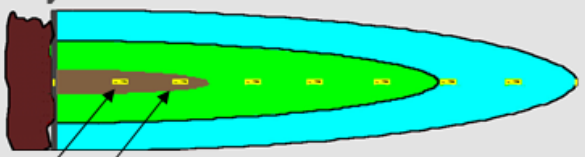
Source Options

Source Thickness in Sat. Zone* 12 (ft)

Width* (ft) Y1: 20

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.015
TCE		0.015
DCE		0.015
VC	.02	0.015
ETH		0.015

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)										
TCE Conc. (mg/L)										
DCE Conc. (mg/L)										
VC Conc. (mg/L)	0.012	0.006	0.015	0.002						
ETH Conc. (mg/L)										
Distance from Source (ft)	0	160	320	720						
Date Data Collected										

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste | Unprotect

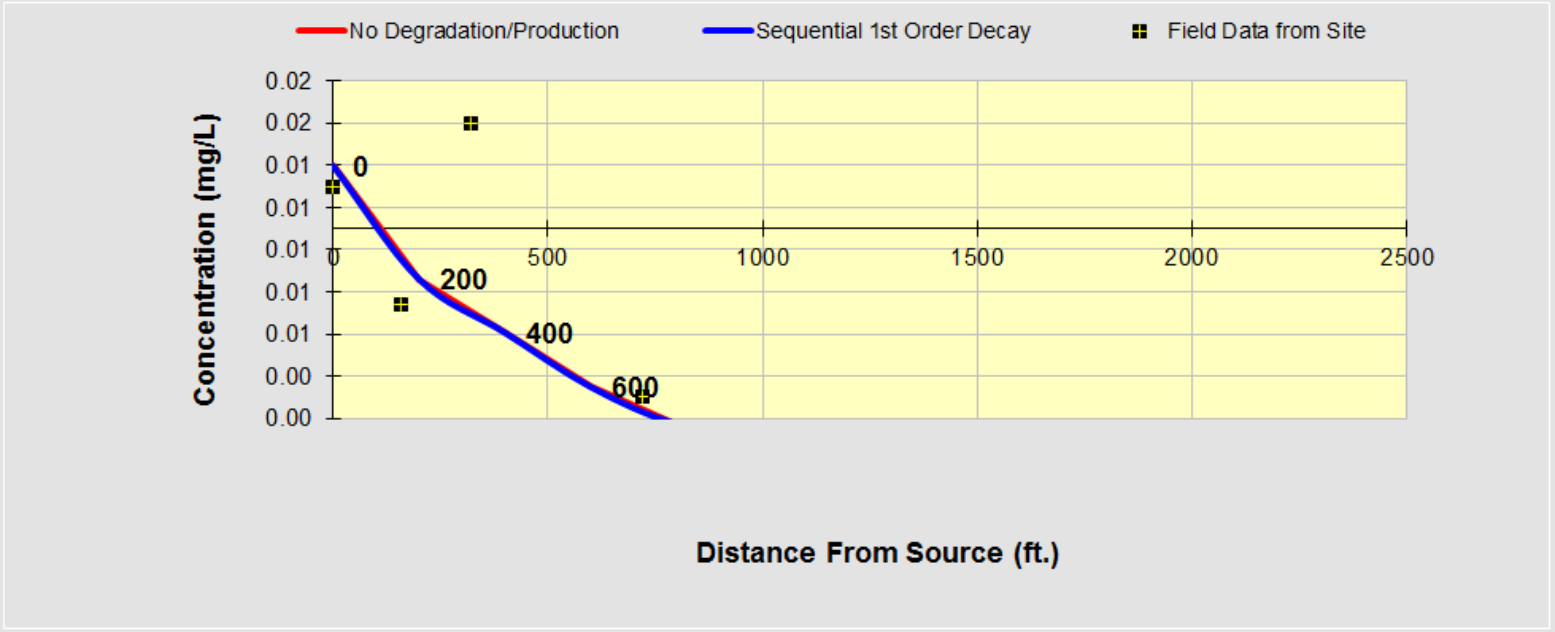
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	200	400	600	800	1000	1200	1400	1600	1800	2000
No Degradation	0.0130	0.0076	0.0051	0.0025	0.0007	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
Biotransformation	0.0130	0.0076	0.0051	0.0025	0.0007	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000

Monitoring Well Locations (ft)

	0	160	320	720						
Field Data from Site	0.012	0.006	0.015	0.002						



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

28.9 Years

Log ⟺ Linear

Unprotect Sheet

Return to Input

To All

To Array

ENVIRONMENTAL RESOURCES MANAGEMENT

NOVEMBER 2012 BIOCHLOR CALIBRATION OUTPUT SCREEN
HSI #10731
BWAY CORPORATION
HOMERVILLE, CLINCH COUNTY, GEORGIA

Appendix

F-2

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

BWAY
Parcel 063-026
Validation Run 1

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or 0.02 → 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

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	26.4	(ft/yr)
or			
Hydraulic Conductivity	K	1.7E-03	(cm/sec)
Hydraulic Gradient	i	0.003	(ft/ft)
Effective Porosity	n	0.2	(-)

2. DISPERSION

Alpha x*	50	(ft)
(Alpha y) / (Alpha x)*	0.01	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		2.0E-3	(-)	
Partition Coefficient	Koc			
PCE	0	(L/kg)	1.00	(-)
TCE	0	(L/kg)	1.00	(-)
DCE	0	(L/kg)	1.00	(-)
VC	30	(L/kg)	1.47	(-)
ETH	0	(L/kg)	1.00	(-)
Common R (used in model)* =			**1.47**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.000		0.79
TCE → DCE	0.000		0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	29	(yr)	
Modeled Area Width*	100	(ft)	W
Modeled Area Length*	2000	(ft)	L
Zone 1 Length*	2000	(ft)	
Zone 2 Length*	0	(ft)	Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

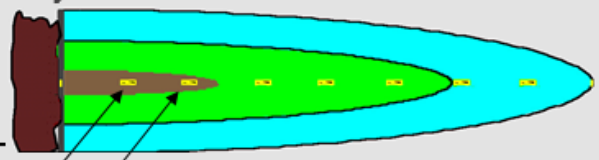
Source Options

Source Thickness in Sat. Zone* 12 (ft)

Width* (ft) Y1: 20

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.015
TCE		0.015
DCE		0.015
VC	.02	0.015
ETH		0.015

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)										
TCE Conc. (mg/L)										
DCE Conc. (mg/L)										
VC Conc. (mg/L)	0.014	0.007	0.013	0.004						
ETH Conc. (mg/L)										
Distance from Source (ft)	0	160	320	720						
Date Data Collected										

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste | Unprotect

ENVIRONMENTAL RESOURCES MANAGEMENT

APRIL 2013 BIOCHLOR CALIBRATION INPUT SCREEN
HSI #10731
BWAY CORPORATION
HOMERVILLE, CLINCH COUNTY, GEORGIA

Appendix
F-3

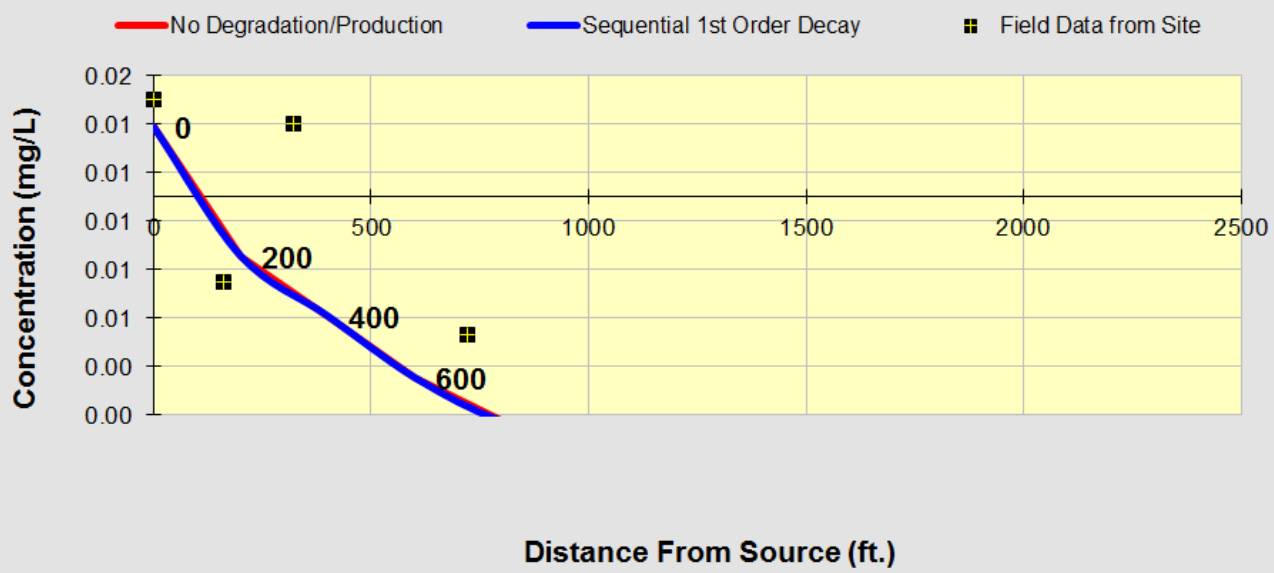
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	200	400	600	800	1000	1200	1400	1600	1800	2000
No Degradation	0.0129	0.0076	0.0051	0.0026	0.0008	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
Biotransformation	0.0129	0.0076	0.0051	0.0026	0.0008	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000

Monitoring Well Locations (ft)

		0	160	320	720						
Field Data from Site		0.014	0.007	0.013	0.004						



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

29.3 Years

Log ⟺ Linear

Unprotect Sheet

Return to Input

To All

To Array

ENVIRONMENTAL RESOURCES MANAGEMENT

APRIL 2013 BIOCHLOR CALIBRATION OUTPUT SCREEN
HSI #10731
BWAY CORPORATION
HOMERVILLE, CLINCH COUNTY, GEORGIA

Appendix

F-4

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

BWAY
Parcel 063-026
Validation Run 2

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	26.4	(ft/yr)
or			
Hydraulic Conductivity	K	1.7E-03	(cm/sec)
Hydraulic Gradient	i	0.003	(ft/ft)
Effective Porosity	n	0.2	(-)

2. DISPERSION

Alpha x*	50	(ft)
(Alpha y) / (Alpha x)*	0.01	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		2.0E-3	(-)	
Partition Coefficient	Koc			
PCE	0	(L/kg)	1.00	(-)
TCE	0	(L/kg)	1.00	(-)
DCE	0	(L/kg)	1.00	(-)
VC	30	(L/kg)	1.47	(-)
ETH	0	(L/kg)	1.00	(-)
Common R (used in model)* =			**1.47**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.000		0.79
TCE → DCE	0.000		0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	30	(yr)
Modeled Area Width*	100	(ft)
Modeled Area Length*	2000	(ft)
Zone 1 Length*	2000	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

Source Options

Source Thickness in Sat. Zone* 12 (ft)

Width* (ft) Y1: 20

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.015
TCE		0.015
DCE		0.015
VC	.02	0.015
ETH		0.015

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)										
TCE Conc. (mg/L)										
DCE Conc. (mg/L)										
VC Conc. (mg/L)		0.012	0.007	0.0089	0.002					
ETH Conc. (mg/L)										
Distance from Source (ft)		0	160	320	720					
Date Data Collected										

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste | Unprotect

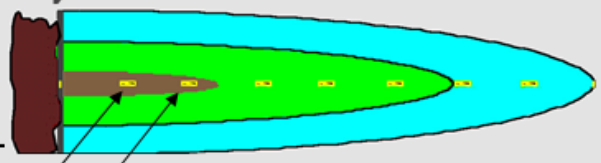
Data Input Instructions:

115 → 1. Enter value directly....or
↑ or
0.02 → 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

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

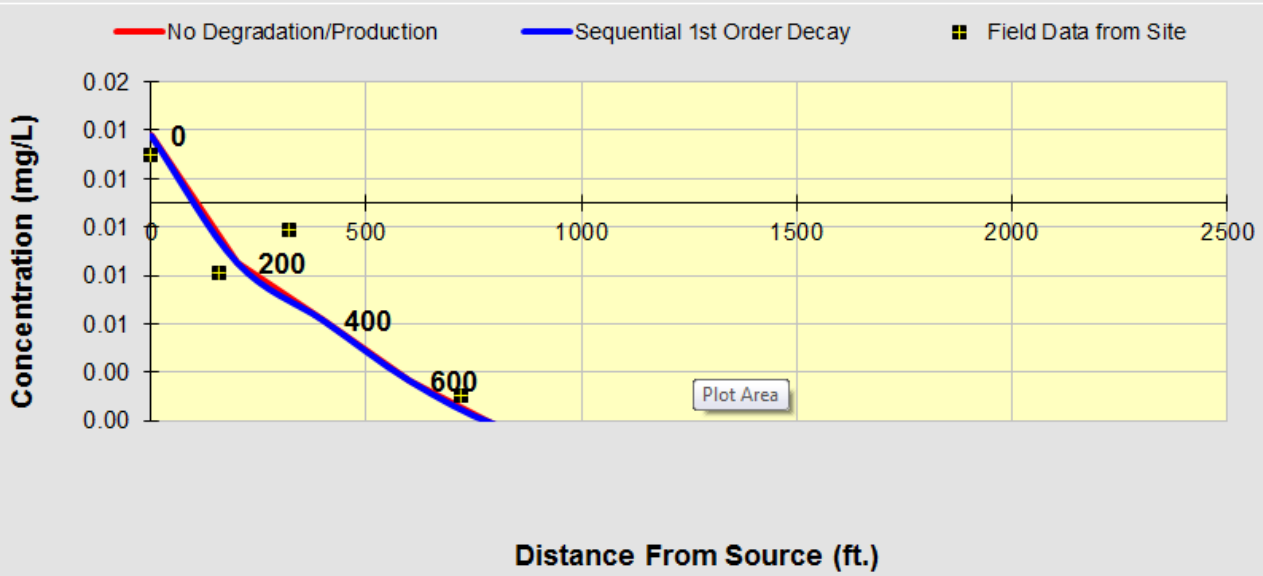
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	200	400	600	800	1000	1200	1400	1600	1800	2000
No Degradation	0.0128	0.0075	0.0051	0.0027	0.0008	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
Biotransformation	0.0128	0.0075	0.0051	0.0027	0.0008	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000

Monitoring Well Locations (ft)

		0	160	320	720						
Field Data from Site		0.012	0.007	0.009	0.002						



See PCE | See TCE | See DCE | See VC | See ETH

Time: 29.8 Years

Log ⟺ Linear

Prepare Animation | Unprotect Sheet | Return to Input | To All | To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

BWAY
Parcel 063-026
Prediction Run

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or 2. Calculate by filling in gray
0.02 cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION C

Seepage Velocity*	Vs	26.4	(ft/yr)
or			
Hydraulic Conductivity	K	1.7E-03	(cm/sec)
Hydraulic Gradient	i	0.003	(ft/ft)
Effective Porosity	n	0.2	(-)

2. DISPERSION

Alpha x*	50	(ft)
(Alpha y) / (Alpha x)*	0.01	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION C

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)	
FractionOrganicCarbon, foc	2.0E-3	(-)	
Partition Coefficient	Koc		
PCE	0	(L/kg)	1.00 (-)
TCE	0	(L/kg)	1.00 (-)
DCE	0	(L/kg)	1.00 (-)
VC	30	(L/kg)	1.47 (-)
ETH	0	(L/kg)	1.00 (-)

Common R (used in model)* = 1.47

4. BIOTRANSFORMATION -1st Order Decay Coefficient' C

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.000		0.79
TCE → DCE	0.000		0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL C

Simulation Time*	300	(yr)
Modeled Area Width*	100	(ft)
Modeled Area Length*	4000	(ft)
Zone 1 Length*	4000	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

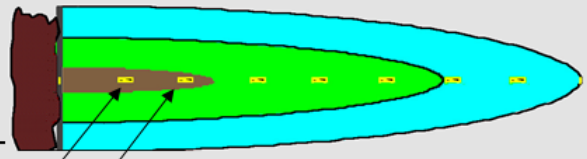
Source Options

Source Thickness in Sat. Zone* 12 (ft)

Y1
Width* (ft) 20

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.015
TCE		0.015
DCE		0.015
VC	.02	0.015
ETH		0.015

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)											
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | *Help* | Restore | RESET | *SEE OUTPUT* | Paste | Unprotect

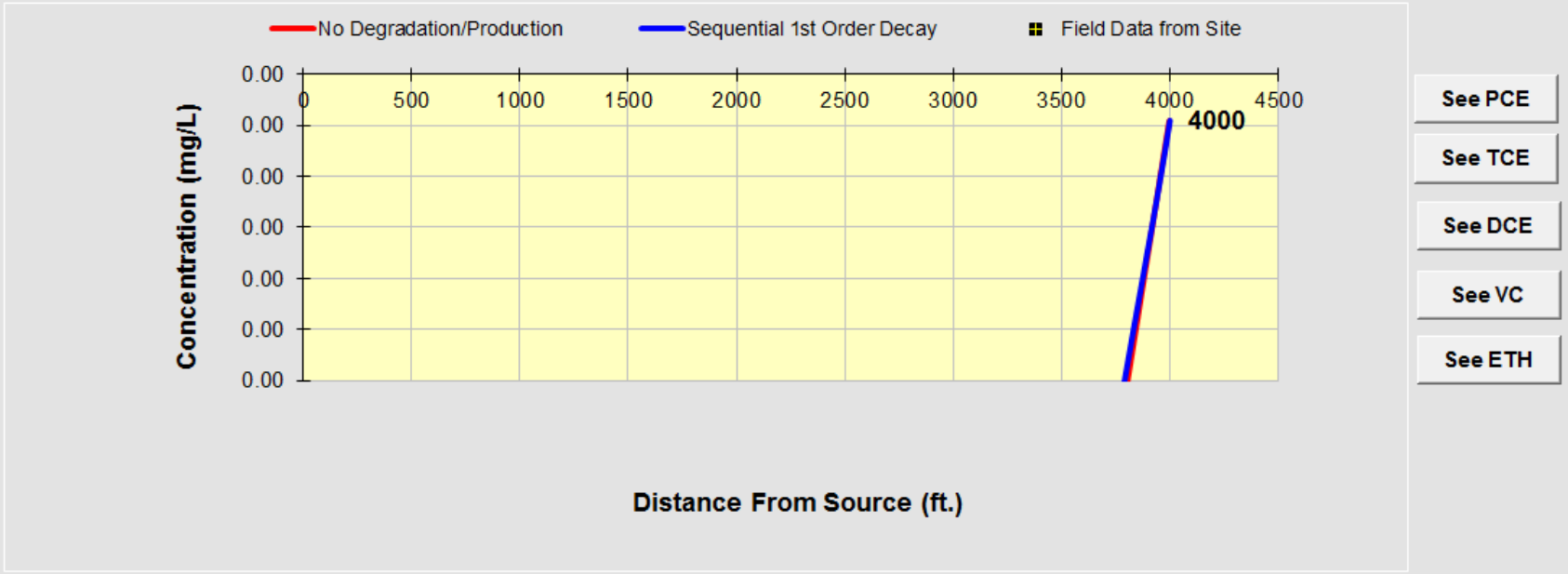
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	400	800	1200	1600	2000	2400	2800	3200	3600	4000
No Degradation	0.0003	0.0002	0.0002	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0009	0.0011
Biotransformation	0.0003	0.0002	0.0002	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0009	0.0011

Monitoring Well Locations (ft)

Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Replay

Next

Prev

Time:

270.0 Years

Log ⟺ Linear

Unprotect Sheet

Return to Input

To All

To Array

ENVIRONMENTAL RESOURCES MANAGEMENT

BIOCHLOR PROJECTED PLUME EXTENT OUPUT SCREEN
HSI #10731
BWAY CORPORATION
HOMERVILLE, CLINCH COUNTY, GEORGIA

Appendix

F-8

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

BWAY
Parcel 063-026
Site Specific Cleanup Standard

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or 2. Calculate by filling in gray
0.02 cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes (●) Ethanes ( )

1. ADVECTION

Seepage Velocity*	Vs	26.4	(ft/yr)
or			
Hydraulic Conductivity	K	1.7E-03	(cm/sec)
Hydraulic Gradient	i	0.003	(ft/ft)
Effective Porosity	n	0.2	(-)

2. DISPERSION

Alpha x*	50	(ft)
(Alpha y) / (Alpha x)*	0.01	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)
Fraction Organic Carbon, foc		2.0E-3	(-)
Partition Coefficient	Koc		
PCE	0	1.00	(-)
TCE	0	1.00	(-)
DCE	0	1.00	(-)
VC	30	1.47	(-)
ETH	0	1.00	(-)
Common R (used in model)* =		**1.47**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient'

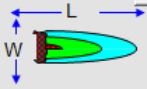
	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.000		0.79
TCE → DCE	0.000		0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	250	(yr)
Modeled Area Width*	100	(ft)
Modeled Area Length*	2000	(ft)
Zone 1 Length*	2000	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1



6. SOURCE DATA TYPE: Decaying / Single Planar

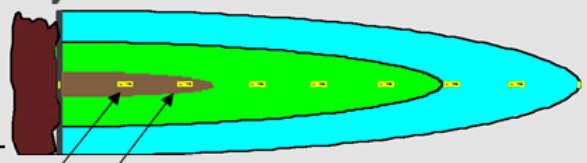
Source Options

Source Thickness in Sat. Zone* 12 (ft)

Width* (ft) Y1: 20

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.015
TCE		0.015
DCE		0.015
VC	.017	0.015
ETH		0.015

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)											
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste | Unprotect

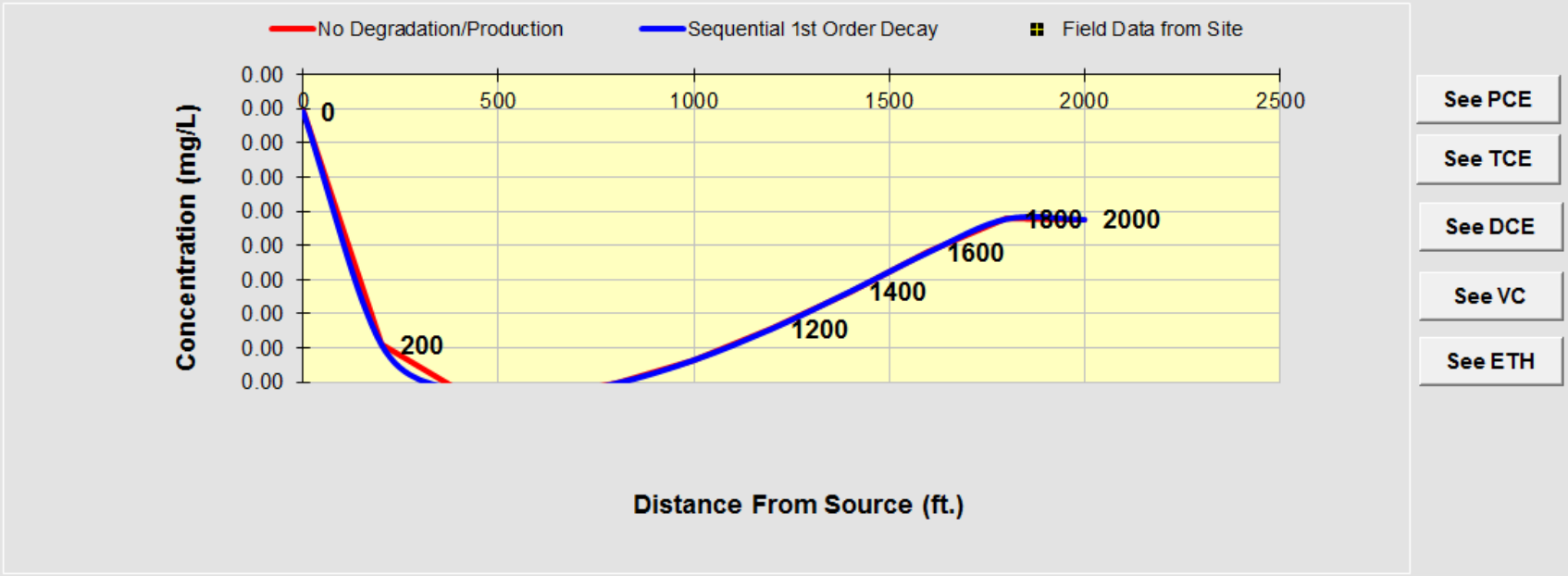
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	200	400	600	800	1000	1200	1400	1600	1800	2000
No Degradation	0.0018	0.0011	0.0010	0.0010	0.0010	0.0011	0.0012	0.0013	0.0014	0.0015	0.0015
Biotransformation	0.0018	0.0011	0.0010	0.0010	0.0010	0.0011	0.0012	0.0013	0.0014	0.0015	0.0015

Monitoring Well Locations (ft)

Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Replay

Next

Prev

Time:

150.0 Years

Log ⟺ Linear

Unprotect Sheet

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

BWAY
Parcel 063-026
Site Specific Cleanup Standard

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or 0.02 → 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

TYPE OF CHLORINATED SOLVENT: Ethenes (●) Ethanes ( )

1. ADVECTION

Seepage Velocity*	Vs	26.4	(ft/yr)
or			
Hydraulic Conductivity	K	1.7E-03	(cm/sec)
Hydraulic Gradient	i	0.003	(ft/ft)
Effective Porosity	n	0.2	(-)

2. DISPERSION

Alpha x*	50	(ft)
(Alpha y) / (Alpha x)*	0.01	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	2.0E-3	(-)		
Partition Coefficient	Koc			
PCE	0	(L/kg)	1.00	(-)
TCE	0	(L/kg)	1.00	(-)
DCE	0	(L/kg)	1.00	(-)
VC	30	(L/kg)	1.47	(-)
ETH	0	(L/kg)	1.00	(-)
Common R (used in model)* =			**1.47**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient'

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.000		0.79
TCE → DCE	0.000		0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	250	(yr)	L
Modeled Area Width*	100	(ft)	W
Modeled Area Length*	2000	(ft)	
Zone 1 Length*	2000	(ft)	
Zone 2 Length*	0	(ft)	Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

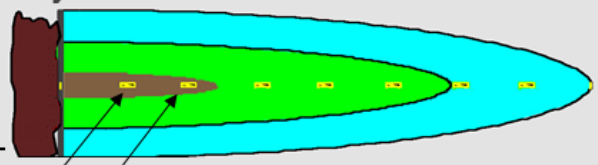
Source Options

Source Thickness in Sat. Zone* 12 (ft)

Y1
Width* (ft) 20

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.015
TCE		0.015
DCE		0.015
VC	.02	0.015
ETH		0.015

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

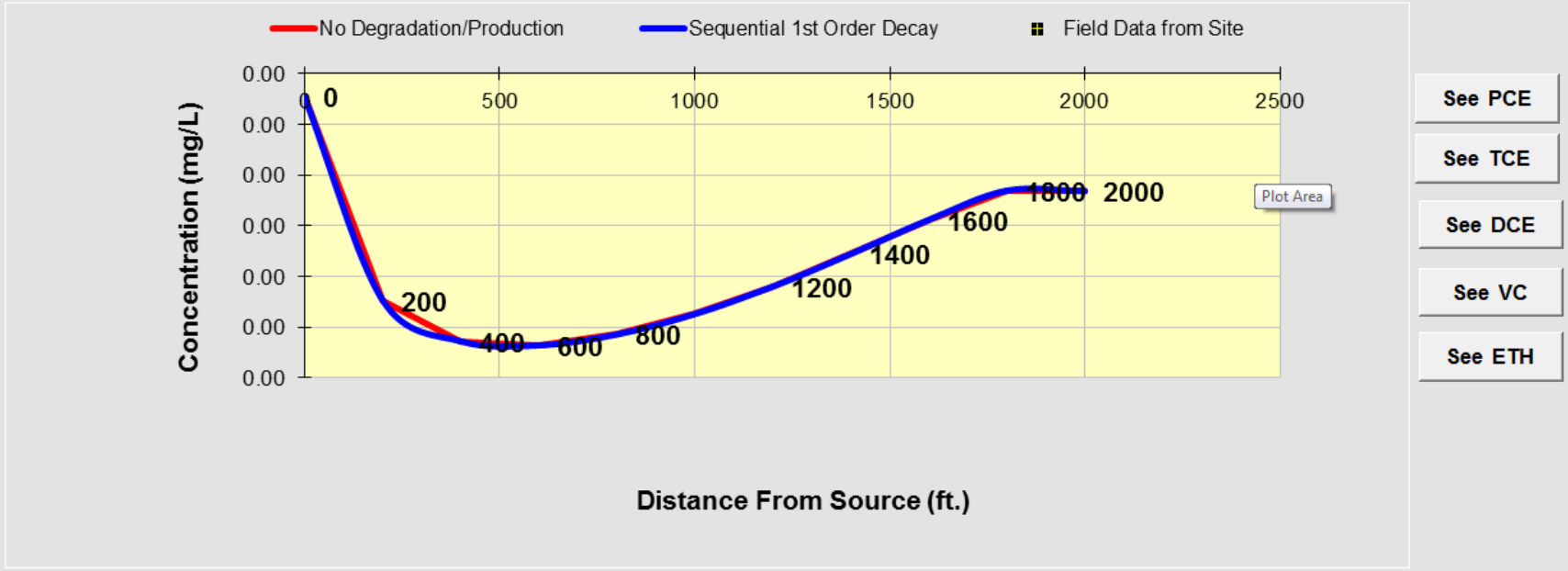
PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)											
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste | Unprotect

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

VC	Distance from Source (ft)										
	0	200	400	600	800	1000	1200	1400	1600	1800	2000
No Degradation	0.0021	0.0013	0.0011	0.0011	0.0012	0.0013	0.0014	0.0015	0.0016	0.0017	0.0017
Biotransformation	0.0021	0.0013	0.0011	0.0011	0.0012	0.0013	0.0014	0.0015	0.0016	0.0017	0.0017
	Monitoring Well Locations (ft)										
Field Data from Site											



See PCE
See TCE
See DCE
See VC
See ETH

Replay
Next
Prev
Time:
150.0 Years
Log ⟺ Linear
Unprotect Sheet
Return to Input
To All
To Array

ENVIRONMENTAL RESOURCES MANAGEMENT	BIOCHLOR TRIAL RUN WITH 20 µg/L IN SOURCE AREA OUTPUT SCREEN HSI #10731 BWAY CORPORATION HOMERVILLE, CLINCH COUNTY, GEORGIA	Appendix F-12

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

BWAY
Parcel 063-026
Site Specific Cleanup Standard

Data Input Instructions:

115 → 1. Enter value directly....or
↑ or
0.02 → 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

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	26.4	(ft/yr)
or			
Hydraulic Conductivity	K	1.7E-03	(cm/sec)
Hydraulic Gradient	i	0.003	(ft/ft)
Effective Porosity	n	0.2	(-)

2. DISPERSION

Alpha x*	50	(ft)
(Alpha y) / (Alpha x)*	0.01	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		2.0E-3	(-)	
Partition Coefficient	Koc			
PCE	0	(L/kg)	1.00	(-)
TCE	0	(L/kg)	1.00	(-)
DCE	0	(L/kg)	1.00	(-)
VC	30	(L/kg)	1.47	(-)
ETH	0	(L/kg)	1.00	(-)
Common R (used in model)* =			**1.47**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient'

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.000		0.79
TCE → DCE	0.000		0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45
Zone 2	**λ (1/yr)**	**half-life (yrs)**	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	250	(yr)
Modeled Area Width*	100	(ft)
Modeled Area Length*	2000	(ft)
Zone 1 Length*	2000	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

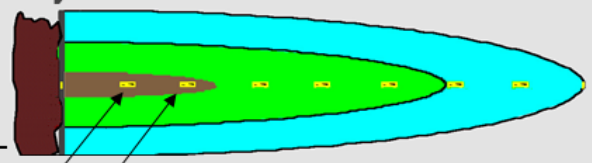
Source Options

Source Thickness in Sat. Zone* 12 (ft)

Y1
Width* (ft) 20

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.015
TCE		0.015
DCE		0.015
VC	.025	0.015
ETH		0.015

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)											
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste | Unprotect

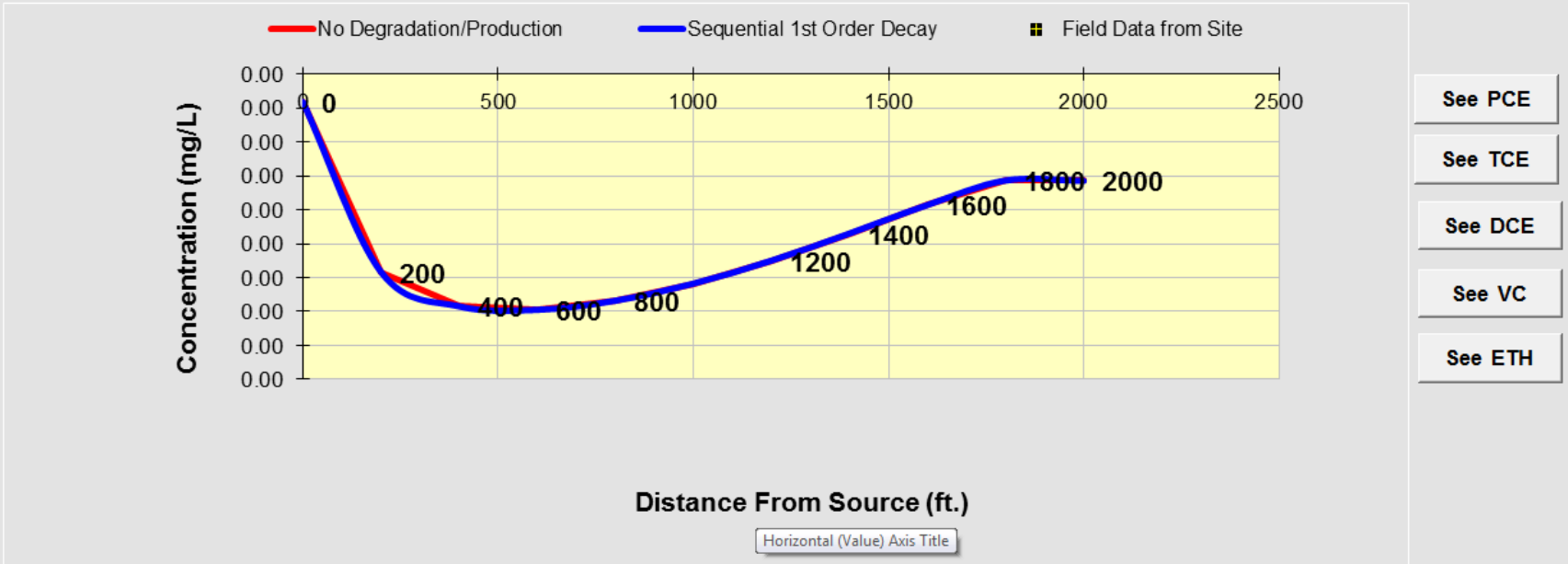
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	200	400	600	800	1000	1200	1400	1600	1800	2000
No Degradation	0.0026	0.0016	0.0014	0.0014	0.0015	0.0016	0.0017	0.0019	0.0020	0.0022	0.0022
Biotransformation	0.0026	0.0016	0.0014	0.0014	0.0015	0.0016	0.0017	0.0019	0.0020	0.0022	0.0022

Monitoring Well Locations (ft)

Field Data from Site											



See PCE | See TCE | See DCE | See VC | See ETH

Replay | Next | Prev

Time: 150.0 Years

Log ⟺ Linear

Unprotect Sheet | Return to Input | To All | To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

BWAY
Parcel 063-026
Site Specific Cleanup Standard

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or 2. Calculate by filling in gray
0.02 cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	26.4	(ft/yr)
or			
Hydraulic Conductivity	K	1.7E-03	(cm/sec)
Hydraulic Gradient	i	0.003	(ft/ft)
Effective Porosity	n	0.2	(-)

2. DISPERSION

Alpha x*	50	(ft)
(Alpha y) / (Alpha x)*	0.01	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
Fraction Organic Carbon, foc		2.0E-3	(-)	
Partition Coefficient	Koc			
PCE	0	(L/kg)	1.00	(-)
TCE	0	(L/kg)	1.00	(-)
DCE	0	(L/kg)	1.00	(-)
VC	30	(L/kg)	1.47	(-)
ETH	0	(L/kg)	1.00	(-)
Common R (used in model)* =			**1.47**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient'

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.000		0.79
TCE → DCE	0.000		0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	250	(yr)
Modeled Area Width*	100	(ft)
Modeled Area Length*	2000	(ft)
Zone 1 Length*	2000	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying
Single Planar

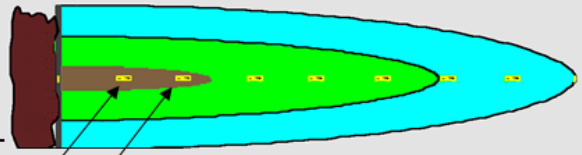
Source Options

Source Thickness in Sat. Zone* 12 (ft)

Width* (ft) Y1: 20

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.015
TCE		0.015
DCE		0.015
VC	.023	0.015
ETH		0.015

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

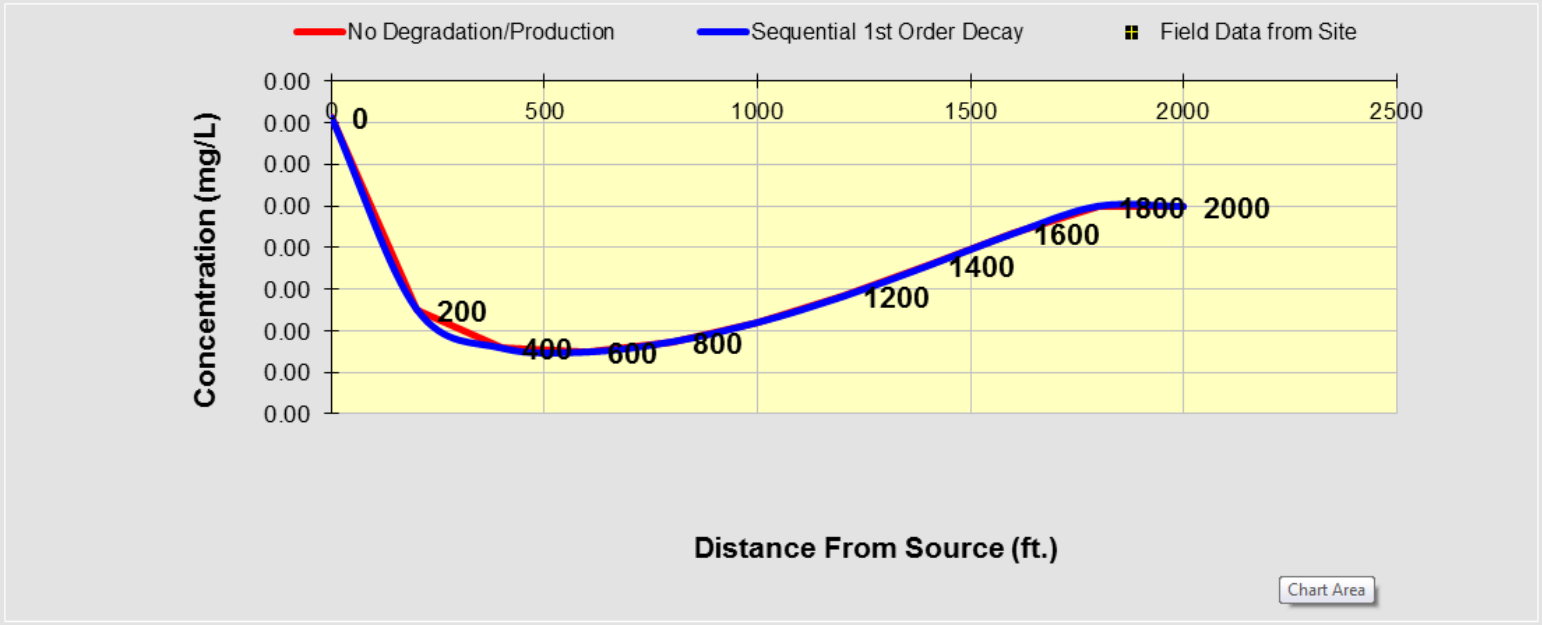
PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)											
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste | Unprotect

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

VC	Distance from Source (ft) 0	200	400	600	800	1000	1200	1400	1600	1800	2000
No Degradation	0.0024	0.0015	0.0013	0.0013	0.0013	0.0014	0.0016	0.0017	0.0019	0.0020	0.0020
Biotransformation	0.0024	0.0015	0.0013	0.0013	0.0013	0.0014	0.0016	0.0017	0.0019	0.0020	0.0020
	Monitoring Well Locations (ft)										
Field Data from Site											



See PCE
See TCE
See DCE
See VC
See ETH

Replay
Next
Prev

Time:
150.0 Years
Log ⟺ Linear

Unprotect Sheet
Return to Input
To All
To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

BWAY
Parcel 063-026
Site Specific Cleanup Standard

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or 2. Calculate by filling in gray
0.02 cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	26.4	(ft/yr)
or			
Hydraulic Conductivity	K	1.7E-03	(cm/sec)
Hydraulic Gradient	i	0.003	(ft/ft)
Effective Porosity	n	0.2	(-)

2. DISPERSION

Alpha x*	50	(ft)
(Alpha y) / (Alpha x)*	0.01	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
Fraction Organic Carbon, foc		2.0E-3	(-)	
Partition Coefficient	Koc			
PCE	0	(L/kg)	1.00	(-)
TCE	0	(L/kg)	1.00	(-)
DCE	0	(L/kg)	1.00	(-)
VC	30	(L/kg)	1.47	(-)
ETH	0	(L/kg)	1.00	(-)
Common R (used in model)* =			**1.47**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient'

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.000		0.79
TCE → DCE	0.000		0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	250	(yr)
Modeled Area Width*	100	(ft)
Modeled Area Length*	2000	(ft)
Zone 1 Length*	2000	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying
Single Planar

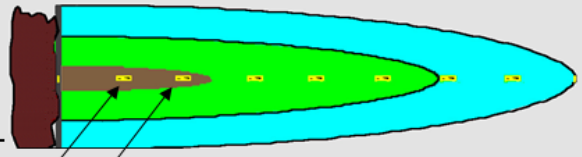
Source Options

Source Thickness in Sat. Zone* 12 (ft)

Width* (ft) Y1: 20

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.015
TCE		0.015
DCE		0.015
VC	.023	0.015
ETH		0.015

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

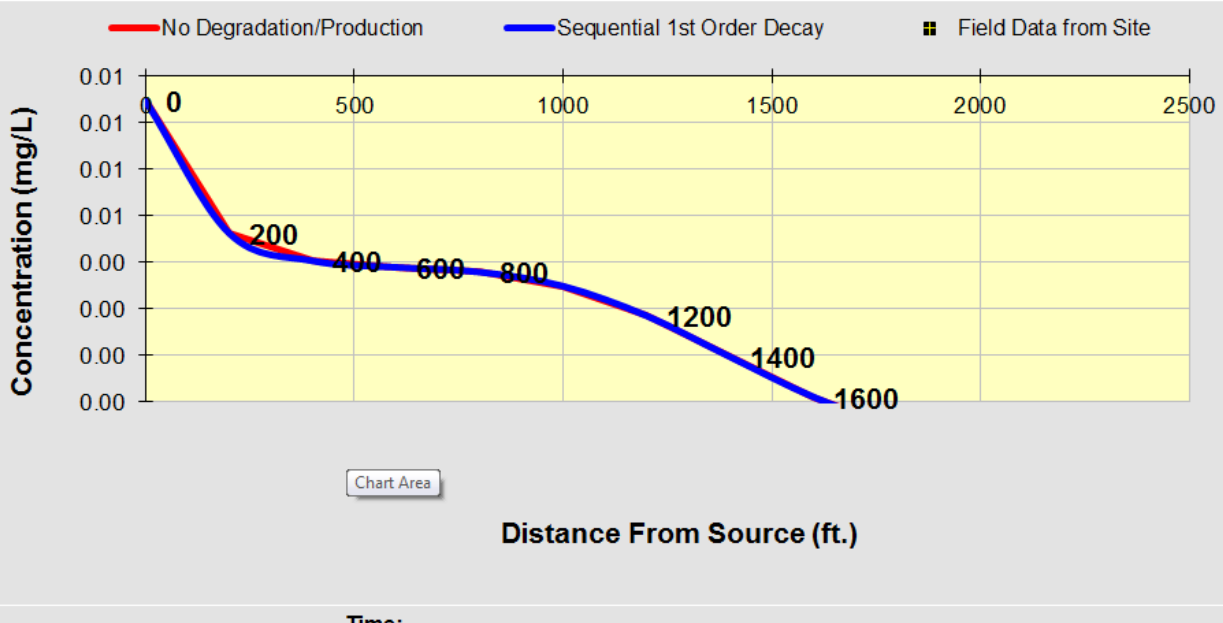
PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)											
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste | Unprotect

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

VC	Distance from Source (ft)										
	0	200	400	600	800	1000	1200	1400	1600	1800	2000
No Degradation	0.0075	0.0046	0.0040	0.0039	0.0038	0.0035	0.0029	0.0020	0.0011	0.0005	0.0001
Biotransformation	0.0075	0.0046	0.0040	0.0039	0.0038	0.0035	0.0029	0.0020	0.0011	0.0005	0.0001
	Monitoring Well Locations (ft)										
Field Data from Site											



See PCE | See TCE | See DCE | See VC | See ETH

Replay | Next | Prev

Time: 75.0 Years

Log ⟺ Linear

Unprotect Sheet | Return to Input | To All | To Array