Environmental Resources Management

300 Chastain Center Blvd.
Suite 375
Kennesaw, GA 30144
(770) 590-8383
(770) 590-9164 (fax)

January 25, 2010

Ms. Carolyn Daniels
Georgia Environmental Protection Division
Hazardous Sites Response Program
2 Martin Luther King Jr. Dr.
Suite 1462 East
Atlanta, Georgia 30334

Subject: **Voluntary Investigation and Remediation Plan**
BWAY Drum Site (HSI #10731)
1601 Valdosta Highway, Tax Parcel No. 063-026
Homerville, Clinch County, Georgia

Dear Ms. Daniels:

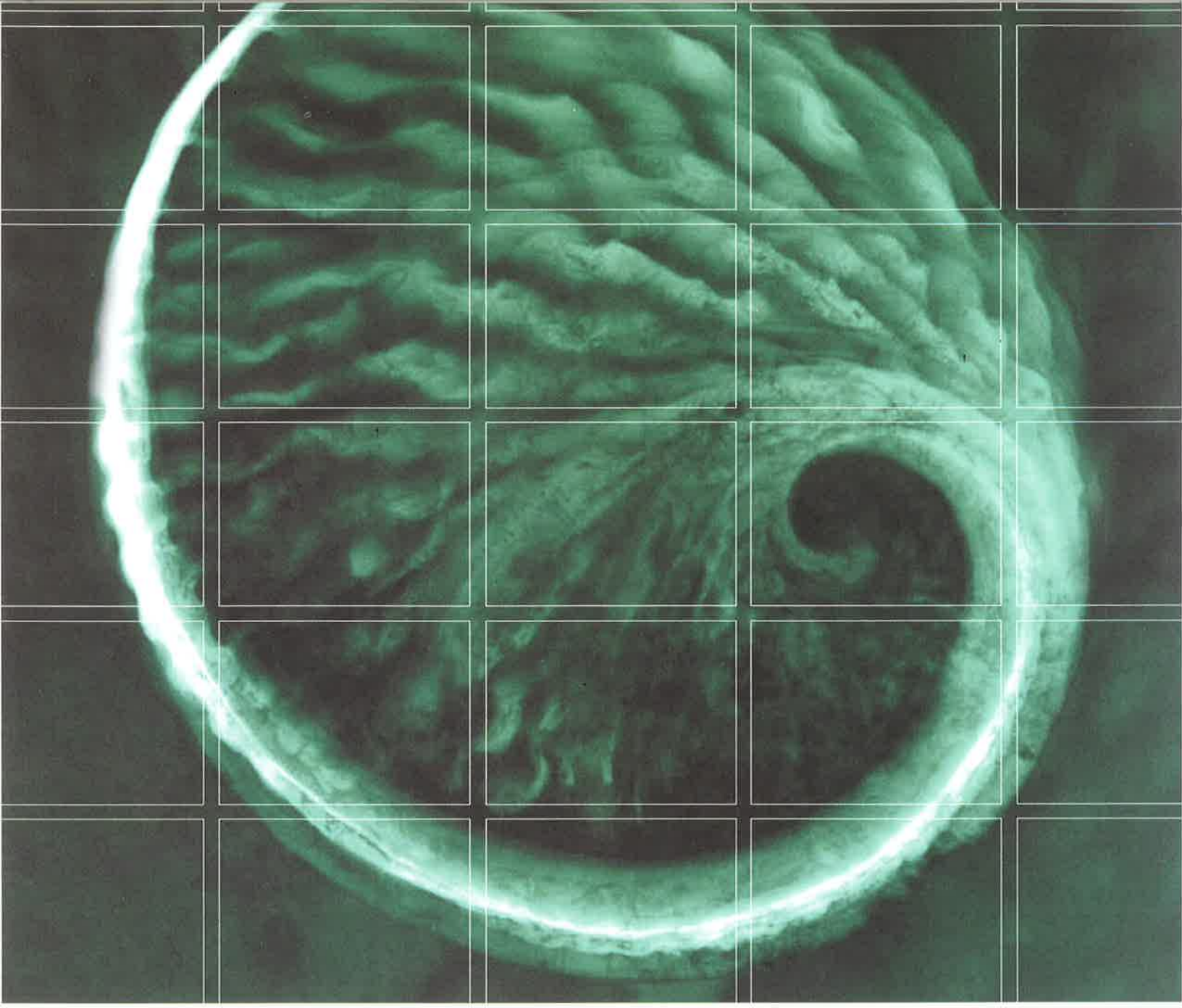
On Behalf of BWAY Corporation, Environmental Resources Management (ERM) is submitting the attached Voluntary Investigation and Remediation Plan (VIRP). One hard copy and two electronic copies are provided for your review. The purpose of this submittal is to address comments received from the EPD via email on December 22, 2010 and to gain acceptance of HSI Site # 10731 (specifically, Parcel 063-026) into Georgia's Voluntary Remediation Program. The attached VIRP is a revised version of the Voluntary Remediation Plan that was originally submitted to the EPD on April 14, 2010. Please contact me at 770-590-8383 if you have questions regarding this submittal.

Sincerely,

Shanna L. Thompson

Shanna L. Thompson, P.E.
Project Manager

Attachment
cc: Steve Diaz, BWAY – electronic copy / Mark Miller, Cornerstone – electronic copy



Voluntary Investigation and Remediation Plan
BWAY Drum Site
Homerville, Georgia
HSI Site No. 10731

January 25, 2011

www.erm.com

ERM

Delivering sustainable solutions in a more competitive world

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

This Voluntary Investigation and Remediation Plan is being submitted as a follow-up to the application for entry into the Voluntary Remediation Program (VRP) for the Former BWAY Drum Site located off of US-84 in Homerville, Georgia (HSI# 10731). A copy of the most recent version of the VRP Application Checklist is provided in Appendix A.

The Georgia Environmental Protection Division (EPD) responded to the initial February 15, 2010 VRP application via a letter dated February 26, 2010. Since that time ERM has submitted information to fulfill EPD's requests on the five occasions listed below.

- April 12, 2010 – Voluntary Remediation Plan submittal
- May 6, 2010 – Warranty deed submittal
- August 16, 2010 – Revised VRP Application submittal
- November 10, 2010 – Revised VRP Milestone Schedule and Soil Delineation Plan
- December 10, 2010 – Additional Response to EPD's 8/23/2010 Correspondence

This document has been revised to address comments received from the EPD via letter on August 23, 2010 and via email on December 22, 2010.

1.1 SITE DESCRIPTION AND HISTORY

The BWAY Drum Site (Site) is listed on Georgia's Hazardous Sites Inventory (HSI) as Site Number 10731. The Site is located on a wooded property across US-84 from the main plant (Tax Parcel ID 063-026). Specifically, the Site is situated northwest of the intersection of Charley Smith Road (also known as Woodlake Road) and Highway 84 (Figure 1-1). A map of the tax parcel boundaries is provided as Appendix B.

The history of Site discovery through submittal of the initial VRP Application is provided below.

- Dec. 7, 2001 - A utility contractor discovered drums on this undeveloped, wooded property
- Jan. 7, 2002 - BWAY notified EPD of the drum discovery
- Mar. 18, 2002 - EPD placed the Site on the HSI
- Aug. 2003 - Drums, drum remnants, waste materials, and soil were removed from this area. Compliance certification sampling for soils was performed.
- Feb. 2005 – The Compliance Status Report (CSR) for soils at this Site was accepted by GAEPD
- Jul. 28, 2005 - A Corrective Action Plan (CAP) was approved by the GAEPD
- 2007 – 2009 Ground water remediation pilot testing
- Feb. 15, 2010 – Submittal of the initial VRP Application and Fee

The Site addressed in this Voluntary Investigation and Remediation Plan is located adjacent to the BWAY Homerville plant, which 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 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.

As described in the 2005 CSR, analyses of soil samples collected in proximity to the drum disposal area demonstrated that the **soils are in compliance with the Type 1 Risk Reduction Standards (RRS); therefore, no additional corrective action with respect to soils at the Site is needed**.

Nine ground water monitoring wells are located in proximity to the drum disposal area: wells MW-5; MW-6; MW-23; ERM-MW-1 through ERM-MW-4; ERM-MW-7; and ERM-MW-8. The locations of these wells are shown in Figure 1-2. Ground water samples were collected from these wells regularly since 2004. ERM-MW-3 is currently the only monitoring well that has chemicals above HSRA Risk Reduction Standard (RRS).

Specifically, the only compound that consistently exceeds HSRA RRS is naphthalene, which has a RRS of 20 ug/L.

1.2 CONTAMINANTS OF CONCERN

Prior to 2003, both soil and ground water at this Site exhibited Contaminants of Concern (COCs) above background concentrations. However, soil and ground water sampling performed between 2003 and 2005 showed that the only COC remaining above HSRA RRS is naphthalene in ground water. Table 1-1 is a table of regulated substances detected at this Site and Table 1-2 is a table of Site delineation concentrations.

1.2.1 SOIL CONTAMINANTS OF CONCERN

Soil with contaminants of concern (COCs) above HSRA RRS were excavated, as documented in the CSR submittals. The confirmation samples collected indicated that soils remaining in place after the excavation are in compliance with Type 1 Risk Reduction Standards (RRS). The CSR was accepted by EPD in a letter dated February 16, 2005.

1.2.2 GROUND WATER CONTAMINANTS OF CONCERN

Ground water samples collected from this Site exhibited the following regulated VOCs between the Site discovery in 2001 and the Corrective Action Plan submittal in 2005: chloroethane, 1,1-dichloroethene, ethylbenzene, isopropylbenzene, methyl ethyl ketone, naphthalene, toluene, 1,1,1-trichloroethane, vinyl chloride, and xylenes.

At the time the 2005 CAP was submitted (which had guided remediation since 2005):

- The concentrations of ethylbenzene, methyl ethyl ketone, toluene, 1,1,1-trichloroethane, vinyl chloride, xylenes, barium, cadmium, chromium, and lead in the ground water at the Site were in compliance with (i.e., less than) their respective Type 1 RRS.
- The concentrations of isopropylbenzene, chloroethane and 1,1-dichloroethene in the ground water are in compliance with the Type 2 RRS.

- The concentration of naphthalene at well ERM-MW-3 was greater than the Type 1, 2, 3, and 4 RRS.

Based on this comparison, the CAP concluded that corrective action for this Site is limited to naphthalene in ground water.

1.3 RECEPTORS AND WATER USAGE

Two figures have been prepared to illustrate the potential receptors in the area around this Site. Figure 1-3 is a Receptor Map that shows the surrounding tax parcels and describes the potential receptors within the area. The table on Figure 1-3 gives a parcel-by-parcel evaluation of the potential exposure pathways. Figure 1-4 is a Water Usage Map that shows the location of the following relevant features: Bateman's Pond on parcel 063-040, wooded swamps on parcel 049-001, and drinking water wells on parcel 063-039.

The list below is a summary of the exposure pathways and potential receptors that will be considered during the exposure assessment (i.e. this list is a summary of the evaluation given on Figure 1-3) .

- ***Ground Water Exposure Pathway.*** The ground water exposure pathway is to be considered on properties where the ground water plume exists (063-026) or on nearby properties where ground water is extracted for use (063-039).
    - Parcel 063-026: Current data shows that the ground water plume is limited to this parcel, which is the qualifying tax parcel.
        - Additional delineation data will be collected to confirm this is the case.
        - A Uniform Environmental Covenant for tax parcel 063-026 will be used to restrict ground water extraction.
        - Since an actual ground water drinking well does not exist in the direction downgradient of the ground water plume, the exposure assessment for this site will include a hypothetical drinking water well located 1000 feet downgradient from the ground water plume.

- Parcel 063-039: Ground water potentiometric surface maps and modeling will be used to assess potential exposure to the City of Homerville ground water wells on this tax parcel.

- ***Vapor Intrusion Exposure Pathway.*** The vapor intrusion exposure pathway is to be considered on properties where the ground water plume exists near a building occupied by humans. The following three neighboring properties include buildings occupied by humans: tax parcels 063-041, 063-040, and 063-025. As described below, the current ground water data indicates that the ground water plume does exist near buildings:

  - Parcel 063-041: Three wells on this parcel show chemicals of concern are below laboratory detection limits (MW-5, MW-6, and ERM-MW-8).

  - Parcel 063-040: Two wells between the ground water plume and this parcel show chemicals of concern are below laboratory detection limits (MW-5 and MW-23).

  - Parcel 063-025: One well between the ground water plume and this parcel shows chemicals of concern are below laboratory detection limits (ERM-MW-4).

  The vapor intrusion pathway will be assessed further when delineation is completed.

  If needed, the Uniform Environmental Covenant for tax parcel 063-026 will include the requirement for vapor intrusion assessment prior to design of future site structures.

- ***Surface Water Exposure Pathway.*** The surface water pathway should be considered for creeks, ponds, wetlands, etc. within 1000 feet of the ground water plume. The following three properties have potential surface water receptors: 063-026, 063-040, and 049-001, as described below.

  - Parcel 063-026: This is the qualifying tax parcel, which will have a Uniform Environmental Covenant discussing the ground water plume. This parcel has intermittent ditches and ponds that vary depending on rainfall.

  - Parcel 063-040: This parcel located south of the ground water plume. This parcel has a surface water feature, Bateman's

Pond, which is potentially within 1000 feet of the ground water plume.

- Parcel 049-001: This parcel is located west/northwest of the ground water plume. The topographic map for this parcel indicates the presence of wooded swamp areas. The locations of the swamp areas have not been confirmed in the field.

The exposure assessment will be completed when the delineation effort is completed, and this is discussed in detail in Section 4 of this document.

1.4 PREVIOUS REMEDIATION

Soil excavation and ground water remediation pilot tests have already been performed at this Site, as described below.

1.4.1 SOIL EXCAVATION AND CONFIRMATION SAMPLING

ERM conducted the excavation of drums, waste materials, and soil at the Site in July 2003; this remediation activity brought the soils at HSI #10731 into compliance with HSRA Type 1 RRS for soil. Compliance certification for soils has already been performed, as described in Section 1.3.

Approximately 1,422 tons of material that was classified as nonhazardous waste and 9.36 tons of material that was classified as a hazardous waste were removed from the Site. The waste materials included drums of dry paint, paint residue, drum remnants, and soil. The approximate boundaries of the excavated area are shown on Figure 1-2. The depth of the excavation ranged from 5-to-10 feet deep.

ERM collected confirmation samples that were sent to a laboratory for analysis of VOCs and metals of interest. These samples indicated that soils remaining in place after the excavation are in compliance with Type 1 Risk Reduction Standards (RRS). The excavated area was backfilled with approximately 2,208 tons of sandy soil. After backfilling, the area was graded, fertilized, seeded and mulched.

1.4.2 GROUND WATER REMEDIATION

Two methods of ground water remediation have been pilot tested at this Site, as described below.

High Vacuum Extraction. The purpose of using high vacuum extraction (HVE) is primarily to effect the physical removal of ground water and associated contaminants. The HVE event was successful in removing ground water quickly; however, it did not reduce concentrations of naphthalene at the pilot test monitoring point, ERM-MW-3.

Enhanced Bioremediation. The Site aquifer conditions are normally anaerobic as is evidenced by very low dissolved oxygen conditions. Naphthalene degrades under a number of anaerobic metabolic pathways, including sulfate reduction (Karthikeyan and Bhandari 2001). The pilot test hypothesis was that we could enhance biodegradation by injection of sulfate, which can act as an electron acceptor.

As described in previous reports to the EPD, the pilot injection conducted in late 2007 consisted of two separate events. Epsom Salt, $MgSO_4$, was used as the injectate. A total of approximately 10,000 gallons of solution were injected over eight injection points. Injection horizons were targeted throughout the shallow water table, at 11 ft, 16 ft, and 20 ft bgs.

The pilot test showed that in-situ injection can be performed in the Site geology; however, the radius of influence (ROI) is low. The main causes of the low ROI are (1) the low permeability of the silty sands and (2) the extremely low hydraulic gradient at this Site. The pilot test of this technology was not successful in reducing concentrations of naphthalene at the pilot test monitoring well, ERM-MW-3.

2.0 CLEANUP STANDARDS

2.1 SOIL CLEANUP STANDARDS

Cleanup standards for soil are not needed at this Site, since the Site soils were previously documented in the 2005 CSR as being in compliance with the Type 1 RRS.

2.2 GROUND WATER CLEANUP STANDARDS AT POINTS OF EXPOSURE

ERM calculated RRS for soil and ground water as part of the February 11, 2005 CSR. EPD proposed slight modifications to these RRS values in a correspondence dated February 16, 2005. ERM incorporated the EPD-proposed RRS into the 2005 CAP for the BWAY Drum Site. The HSRA RRS will continue to be used as cleanup standards for ground water at the point of exposure, as described in the definition below:

POTENTIAL POINT OF GROUND WATER EXPOSURE	*DIRECTION FROM PLUME*	*POINT OF DEMONSTRATION*
The hypothetical point of drinking water exposure located at a distance of 1000 feet downgradient from the delineated site contamination	*NORTH & WEST (i.e. downgradient direction)*	*ERM-MW-4* *Additional POD well to be installed west of ERM-MW-3*
The public water supply wells located south of U.S. Highway 84	*SOUTH*	*MW-23* *ERM-MW-2*

2.3 GROUND WATER CLEANUP STANDARDS WITHIN SOURCE AREA

The cleanup standards for the source (i.e. for ground water within the naphthalene plume boundary) will be calculated to be protective of the various potential points of ground water exposure described in Section 1.4. The entire plume will be held to the source cleanup standard. The source cleanup standards will likely be calculated using the BIOSCREEN model. BIOSCREEN is a screening model intended for the simulation of subsurface contaminant transport of dissolved hydrocarbons. It is based on the Domenico analytical solute transport model and has the ability to simulate advection, dispersion, adsorption, aerobic decay, and anaerobic reactions, which have been shown to be dominant biodegradation processes at many petroleum release sites. This model will likely be selected for use because it was developed by the USEPA through collaboration with others and is recognized by the USEPA as a "screening tool for remediation managers to identify sites where natural attenuation is most likely to be protective of human health and the environment" (BIOSCREEN users manual).

The primary objective of the modeling will be to determine site-specific source area concentrations of naphthalene protective of human health and the environment. ERM will use data from monitoring wells at the Site that have years of monitoring history, as well as several new wells that will be installed to assist with horizontal and vertical delineation. The modeling effort will include:

- Calibration runs based on points of exposure,
- Use of future simulation runs to determine if the points of exposure are impacted,
- Use of back-calculated runs for determining acceptable source concentrations, concentrations at PODs, etc.).

3.0 GROUND WATER DELINEATION & CURRENT STATUS

3.1 GROUND WATER ELEVATION MONITORING

A potentiometric surface map was created from data most recently collected from the Site monitoring wells using an electronic water level meter (Figure 3-1). Ground water movement at the Site is predominately toward the west/northwest. A summary of historical and current ground water level measurements is provided in Table 3-1.

3.2 GROUND WATER DELINEATION

Figures showing the current interpretation of ground water delineation are provided in plan view (Figure 3-2) and in cross section (Figures 3-3 and 3-4). The current naphthalene plume delineation is noted on these figures as a 10 ug/L isoconcentration boundary, since the laboratory reporting limit is most commonly 10 ug/L. As described in Section 4 of this Plan, additional ground water monitoring wells will be installed to complete the horizontal and vertical delineation. Another intent of the well installation is to achieve delineation within the boundaries of tax parcel 063-026 to demonstrate that this is the only tax parcel requiring a Uniform Environmental Covenant.

3.3 CURRENT GROUND WATER CONDITIONS

Ground water samples were most recently collected on March 15, 2010 using low flow procedures as requested in the April 9, 2007 correspondence from GAEPD. Samples were collected using a peristaltic pump with polyethylene tubing (specifically, the soda straw method). Low flow purging methods were used and parameters were monitored for stabilization. Sampling logs and laboratory data reports were previously provided to the EPD with the April 12, 2010 Voluntary Remediation Plan submittal. Ground water samples were placed into containers provided by the analytical laboratory. ERM personnel transferred the samples to Analytical Services, Inc. (ASI), located in Atlanta, Georgia. The analytical results for these events were used to

update the historical ground water quality data table for the Site. The updated data table is provided in Table 3-2.

The current conditions of naphthalene in ground water are shown are shown in plan view (Figure 3-5) and in cross section (Figures 3-6 and 3-7). The ground water concentrations from March 2010 are shown on each of these figures. ERM-MW-3 was the only well where naphthalene was detected, since the other wells exhibited concentrations below the laboratory reporting limit of 10 ug/L.

The ground water analysis will be adjusted to meet the requirements set forth in the August 23, 2010 letter from the EPD. Historically, the ground water analysis has been limited to naphthalene, with the exception of full EPA Method 8260 analysis at the downgradient well, ERM-MW-4. Future sampling events will include the list of all compounds detected in ground water in the past, as described in Section 1.3 and Table 1-2. In addition to the previously detected compounds, acetaldehyde will be analyzed in samples near previous magnesium sulfate pilot testing (specifically, ERM-MW-3 and ERM-MW-4).

3.4 QUALITY ASSURANCE/QUALITY CONTROL SAMPLING

Quality assurance/quality control (QA/QC) samples were routinely included in the ground water sampling discussed above. These include trip blanks and duplicate samples. Analytical reports for the QA/QC samples from the March 2010 sampling event were included with the April 12, 2010 submittal of a Voluntary Remediation Plan.

A summary of the duplicate sample results for naphthalene is provided in Table 3-3. The correlation between the naphthalene concentration in ERM-MW-3 and the duplicate samples has been acceptable. Table 3-3 also shows that the trip blanks were consistently below laboratory detection limits.

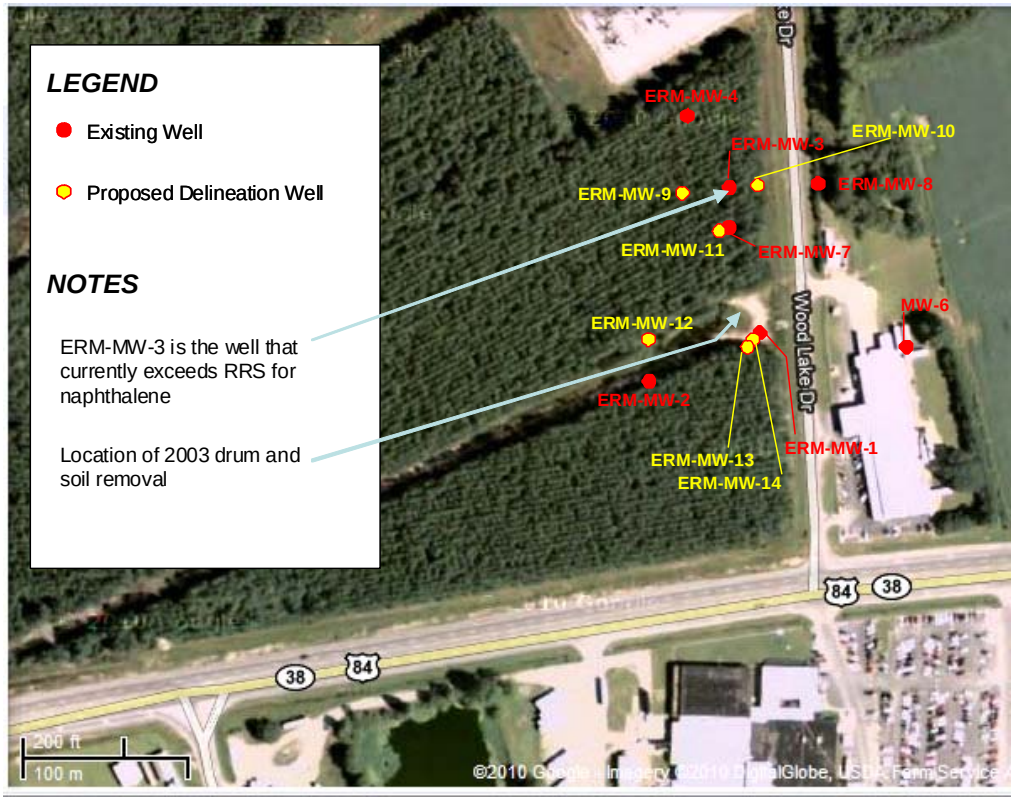
4.0 GROUND WATER INVESTIGATION AND REMEDIATION PLAN

This section presents the plan for future delineation, institutional control, and assessment activities to will be performed to move the qualifying property toward site closure. A milestone schedule of future activities is provided in Figure 4-1.

4.1 GROUND WATER DELINEATION

The first steps toward achieving horizontal delineation will be taken on Tax Parcel 063-026. The design of the new delineation wells will incorporate the need to (1) better understand the ground water flow pattern and to (2) fulfill requests for specific delineation objectives set in the EPD letter to BWAY dated August 23, 2010. A preliminary map of the six delineation well locations is shown below. We anticipate these wells will be installed and sampled before the end of 2010.

Preliminary Locations for Delineation Wells



The new delineation wells will be screened at varied depth intervals to fulfill requests in EPD's August 23, 2010 letter.

4.2 GROUND WATER MODELING TO ASSESS GROUND WATER EXPOSURE PATHWAYS

The model will be calibrated based on site conditions and validated with an appropriate number of groundwater sampling results over time in order to be valid for proposing site-specific ground water cleanup standards for the ground water plume. BWAY will attempt to perform the modeling per the requests in the August 23, 2010 letter which states, "At a minimum, EPD recommends the following model simulation runs must be conducted for all potential human and ecological receptor exposure pathways/POEs." Thus, the following model simulations will be run:

- ***Calibration Run.*** An initial calibration based on:
    - Drum excavation area as the source of ground water contamination,
    - The simulation time equal to the time elapsed between the estimated time of release and the calibration data. We will attempt to incorporate EPD's suggestion that the model begin with a release date around August 1984, and
    - An infinite source with a concentration equal to contaminant solubility in water (worst case condition) and maximum contaminant concentration detected at the source.
- ***Validation Runs***. Used to assess simulation time sensitivity based on the following criteria:
    - A minimum of two validation runs will be conducted once the model is calibrated.
    - The validation runs will have the same input values, with the exception of simulation time. BWAY will attempt to have the simulation times match the actual ground water sampling dates. If the predictions are not consistent, BWAY will consider the use of different modeling software.

- ***Projected Plume Extent Runs***. Used to assess maximum plume transport distance by:

    - Increasing the simulation time to determine the projected maximum extent of the ground water contaminant plume.

    - Assessing the maximum extent to determine if additional remedial efforts will be necessary based on established POEs for the ground water plume.

- ***Target Cleanup Concentration Run.*** Used to estimate maximum acceptable source concentrations for each completed exposure pathway that are protective of the POEs to demonstrate:

    - Impact of varied source concentrations,

    - Impact of varied simulation times, and

    - What concentration of ground water contaminants can be detected at each POD well and still protect the POE wells.

Future submittals containing the fate and transport modeling results will contain paper copies of data input and output worksheets for each model runs, per EPD's August 23, 2010 request.

4.3 ASSESSMENT OF VAPOR INTRUSION EXPOSURE PATHWAY

The vapor intrusion pathway will be considered for properties that have buildings within 1000 feet of the ground water plume. Specifically, the following three properties have potential vapor intrusion receptors:

- Parcel 063-041: Three wells on this parcel show chemicals of concern are below laboratory detection limits (MW-5, MW-6, and ERM-MW-8).

- Parcel 063-040: Two wells between the ground water plume and this parcel show chemicals of concern are below laboratory detection limits (MW-5 and MW-23).

- Parcel 063-025: One well between the ground water plume and this parcel shows chemicals of concern are below laboratory detection limits (ERM-MW-4).

As described above, the current ground water data indicates that the ground water plume does exist near buildings. However, a detailed assessment of this hypothesis will be performed and documented in future submittals. The assessment will be performed when the delineation effort is completed.

4.4 ASSESSMENT OF SURFACE WATER EXPOSURE PATHWAY

The surface water pathway should be considered for creeks, ponds, wetlands, etc. within 1000 feet of the ground water plume. Specifically, the following three properties have potential surface water receptors: 063-026, 063-040, and 049-001.

- Parcel 063-026: This is the qualifying tax parcel, which will have a Uniform Environmental Covenant discussing the ground water plume. This parcel has intermittent ditches and ponds that vary depending on rainfall.

- Parcel 063-040: This parcel located south of the ground water plume. This parcel has a surface water feature, Bateman's Pond, which is potentially within 1000 feet of the ground water plume.

- Parcel 049-001: This parcel is located west/northwest of the ground water plume. The topographic map for this parcel indicates the presence of wooded swamp areas. The locations of the swamp areas have not been confirmed in the field.

The surface water exposure assessment will be performed when the delineation effort is completed.

4.5 INSTITUTIONAL CONTROLS

BWAY intends to implement institutional controls restricting the future uses of the properties relying on controls for the purpose of certifying compliance with site-specific cleanup standards. The covenant will conform to O.C.G.A. 44-16-1.

4.6 COMPLIANCE STATUS REPORT

After delineation and assessment activities are completed, BWAY will submit a CSR to the GA EPD certifying compliance with the VRP cleanup standards for ground water. The CSR will be prepared in accordance with Section 12-8-107(e) of the VRP Act.

Following EPD's concurrence with the CSR certifying compliance, monitoring wells installed for investigation of the Drum Site will be abandoned. However, the following monitoring wells will be left in place to serve as POD wells (ERM-MW-4, ERM-MW-8, MW-5, and MW-23).

4.7 COST ESTIMATE

The estimated cost of the remaining activities is estimated to include:

- Installation of Additional Delineation Wells ($60,000),
- Ground Water Modeling and Exposure Pathway Analysis ($15,000),
- Additional Ground Water Sampling ($22,000),
- Preparation of two Semi-Annual Reports ($8,000),
- Preparation of a Compliance Status Report ($10,000) and
- Monitoring well abandonment ($5,000).

This is an estimated total of $120,000 to perform investigation, fate and transport modeling, and documentation activities in an effort to have the site removed from the Hazardous Sites Inventory via the Voluntary Remediation Program. This method of site closure will require the use of Institutional Controls on tax parcel 063-026.

If EPD requires annual sampling of POD wells for a certain time period following de-listing of the site, that sampling and annual reporting effort is estimated to be on the order of $10,000 per year.

5.0 REFERENCES

Aamand J et al; J Contam Hydrology 4: 299-312 (1989)

Anderson and Loveley, Enviro. Sci. Technol., 34, 2261-2266 (2000)

Herbes SE, Schwall LR; Appl Environ Microbiol 35: 306-16 (1978)

Heitkamp MA et al; Appl Environ Microbiol 53: 129-36 (1987)

Karthikeyan and Bhandari . Anaerobic Biotransformation of Aromatic and Polycyclic Aromatic Hydrocarbons in Soil Microcosms: A Review, , Journal of Hazardous Substance Research 3:1-19 (2001)

Lee RF; 1977 Oil Spill Conf; Amer Petrol Inst pp. 611-6 (1977)

Thomas JM et al; Environ Toxicol Chem 6: 607-14 (1987)

Van der Linden AC; Dev Biodegrade Hydrocarbons 1: 165-200 (1978)

6.0 *PE CERTIFICATION AND SUPPORTING DOCUMENTS*

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

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

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

A summary and description of the hours invoiced by the Professional Engineer since the previous submittal to EPD is provided in Appendix C.

Shanna Thompson, PE031306 — Printed Name and GA PE/PG Number

1/25/2011 — Date

Shanna Thompson — Signature and Stamp

Tables

Table 1-1
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

Historically, the only compound that exceeded HSRA RRS in ground water was naphthalene, thus only naphthalene was addressed in previous HSRA CAPs

Table 1-2
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 3-1
Ground Water Elevation Data

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

Date	Well ID	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
8/17/2005	MW-5	179.49	2.64	176.85
	MW-6	183.05	5.84	177.21
	MW-23	182.34	6.51	175.83
	ERM-MW-1	182.14	4.9	177.24
	ERM-MW-2	182.51	5.71	176.80
	ERM-MW-3	182.98	6.00	176.98
	ERM-MW-4	183.69	7.04	176.65
	ERM-MW-7	182.66	NM	-
11/4/2005	MW-5	179.49	5.88	173.61
	MW-6	183.05	9.43	173.62
	MW-23	182.34	9.09	173.25
	ERM-MW-1	182.14	8.51	173.63
	ERM-MW-2	182.51	9.37	173.14
	ERM-MW-3	182.98	9.51	173.47
	ERM-MW-4	183.69	10.46	173.23
	ERM-MW-7	182.66	NM	-
8/31/2006	MW-5	179.49	NM	-
	MW-6	183.05	11.71	171.34
	MW-23	182.34	10.18	172.16
	ERM-MW-1	182.14	10.71	171.43
	ERM-MW-2	182.51	11.11	171.40
	ERM-MW-3	182.98	12.09	170.89
	ERM-MW-4	183.69	13.05	170.64
	ERM-MW-7	182.66	24.94	157.72
2/26/2007	MW-5	179.49	4.26	175.23
	MW-6	183.05	7.54	175.51
	MW-23	182.34	7.50	174.84
	ERM-MW-1	182.14	6.64	175.50
	ERM-MW-2	182.51	7.59	174.92
	ERM-MW-3	182.98	7.51	175.47
	ERM-MW-4	183.69	8.42	175.27
	ERM-MW-7	182.66	24.74	157.92
6/14/2007	MW-5	179.49	6.92	172.57
	MW-6	183.05	10.36	172.69
	MW-23	182.34	10.16	172.18
	ERM-MW-1	182.14	9.57	172.57
	ERM-MW-2	182.51	10.52	171.99
	ERM-MW-3	182.98	10.62	172.36
	ERM-MW-4	183.69	11.78	171.91
	ERM-MW-7	182.66	26.51	156.15
	ERM-MW-8	UNK	10.92	-
9/17/2007	MW-5	179.49	NM	-
	MW-6	183.05	9.86	173.19
	MW-23	182.34	9.24	173.10
	ERM-MW-1	182.14	9.86	172.28
	ERM-MW-2	182.51	9.66	172.85
	ERM-MW-3	182.98	9.98	173.00
	ERM-MW-4	183.69	10.75	172.94
	ERM-MW-7	182.66	25.6	157.06
	ERM-MW-8	UNK	9.24	-
12/17/2007	MW-5	179.49	NM	-
	MW-6	183.05	9.81	173.24
	MW-23	182.34	9.19	173.15
	ERM-MW-1	182.14	8.92	173.22
	ERM-MW-2	182.51	9.70	172.81
	ERM-MW-3	182.98	9.93	173.05
	ERM-MW-4	183.69	10.69	173.00
	ERM-MW-7	182.66	25.26	157.40
	ERM-MW-8	182.41	9.07	173.34
3/3/2008	MW-5	179.49	3.17	176.32
	MW-6	183.05	6.40	176.65
	MW-23	182.34	6.90	175.44
	ERM-MW-1	182.14	5.50	176.64
	ERM-MW-2	182.51	6.35	176.16
	ERM-MW-3	182.98	6.50	176.48
	ERM-MW-4	183.69	7.40	176.29
	ERM-MW-7	182.66	NM	-
	ERM-MW-8	182.41	5.78	176.63

Table 3-1
Ground Water Elevation Data

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

Date	Well ID	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
9/29/2008	MW-5	179.49	5.47	174.02
	MW-6	183.05	8.86	174.19
	MW-23	182.34	8.78	173.56
	ERM-MW-1	182.14	8.02	174.12
	ERM-MW-2	182.51	9.02	173.49
	ERM-MW-3	182.98	9.06	173.92
	ERM-MW-4	183.69	10.07	173.62
	ERM-MW-7	182.66	25.99	156.67
	ERM-MW-8	182.41	8.27	174.14
12/9/2008	MW-5	179.49	4.01	175.48
	MW-6	183.05	7.23	175.82
	MW-23	182.34	7.59	174.75
	ERM-MW-1	182.14	6.39	175.75
	ERM-MW-2	182.51	7.37	175.14
	ERM-MW-3	182.98	7.25	175.73
	ERM-MW-4	183.69	8.19	175.50
	ERM-MW-7	182.66	24.86	157.80
	ERM-MW-8	182.41	6.52	175.89
3/11/2009	MW-5	179.49	3.69	175.80
	MW-6	183.05	6.91	176.14
	MW-23	182.34	7.34	175.00
	ERM-MW-1	182.14	6.08	176.06
	ERM-MW-2	182.51	7.04	175.47
	ERM-MW-3	182.98	6.99	175.99
	ERM-MW-4	183.69	7.96	175.73
	ERM-MW-7	182.66	24.28	158.38
	ERM-MW-8	182.41	6.27	176.14
6/30/2009	MW-5	179.49	4.92	174.57
	MW-6	183.05	8.87	174.18
	MW-23	182.34	6.07	176.27
	ERM-MW-1	182.14	7.93	174.21
	ERM-MW-2	182.51	6.01	176.50
	ERM-MW-3	182.98	9.08	173.90
	ERM-MW-4	183.69	10.12	173.57
	ERM-MW-7	182.66	25.07	157.59
	ERM-MW-8	182.41	7.76	174.65
9/28/2009	MW-5	179.49	6.42	173.07
	MW-6	183.05	10.03	173.02
	MW-23	182.34	9.26	173.08
	ERM-MW-1	182.14	8.95	173.19
	ERM-MW-2	182.51	9.62	172.89
	ERM-MW-3	182.98	9.91	173.07
	ERM-MW-4	183.69	10.64	173.05
	ERM-MW-7	182.66	24.48	158.18
	ERM-MW-8	182.41	8.26	174.15
12/9/2009	MW-5	179.49	NR	NR
	MW-6	183.05	NR	NR
	MW-23	182.34	NR	NR
	ERM-MW-1	182.14	NR	NR
	ERM-MW-2	182.51	NR	NR
	ERM-MW-3	182.98	7.85	175.13
	ERM-MW-4	183.69	8.70	174.99
	ERM-MW-7	182.66	NR	NR
	ERM-MW-8	182.41	NR	NR
3/15/2010	MW-5	179.49	2.55	176.94
	MW-6	183.05	Damaged	Damaged
	MW-23	182.34	6.46	175.88
	ERM-MW-1	182.14	4.86	177.28
	ERM-MW-2	182.51	5.73	176.78
	ERM-MW-3	182.98	6.02	176.96
	ERM-MW-4	183.69	7.10	176.59
	ERM-MW-7	182.66	23.15	159.51
	ERM-MW-8	182.41	5.41	177.00

Note: NM = Not Measured. MW-5 was blocked by a vehicle. ERM-MW-7 was not installed.
Note: UNK= Elevation Unknown at time of update.

Table 3-2
Ground Water VOC Monitoring Data

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

Well ID	VOCs Detected[1]	Concentration (µg/L)																			
		Sep-03	Dec-04	Jan-05	Aug-05	Nov-05	Feb-06	Aug-06	Feb-07	Jun-07	Sep-07	Dec-07	Mar-08	Apr-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10
MW-5	None	NS	< 10.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**Naphthalene <10**
MW-6	None	NS	< 10.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS/Well Damaged**
MW-23	1,1-dichloroethene	< 5.	8	8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**Naphthalene <10**
ERM-MW-1	Chloroethane	< 5.	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**Naphthalene <10**
	Ethylbenzene	44	< 5.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	Toluene	65	< 5.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	1,1,1-trichloroethane	9	< 5.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	Xylenes, total	250	< 5.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
ERM-MW-2	None	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**Naphthalene <10**
ERM-MW-3	1,1-dichloroethene	9	8	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS**
	Ethylbenzene	110	120	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS**
	Isopropylbenzene	25	26J	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS**
	Naphthalene	24	34	NS	69	48	66	65	85	NS	52	< 10.	57	93	52	64	56	65	96	34	**80**
	Toluene	9	6	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS**
	Vinyl chloride	2	< 2.	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS**
	Xylenes, total	220	220	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS**
ERM-MW-4	1,1-dichloroethene	NS	6	5	5	NS	< 5.	< 5.	< 5.	NS	< 2.	< 2.	< 5.	< 5.	< 5.	< 5.	< 2.	< 2.	< 2.	< 2.	**Naphthalene <10**
	Ethylbenzene	NS	5	5	< 5.	NS	5	< 5.	< 5.	NS	< 2.	< 2.	< 5.	< 5.	< 5.	< 5.	< 2.	< 2.	< 2.	< 2.	
	Xylenes	NS	NS	< 5.	< 5.	NS	5	< 5.	< 5.	NS	< 5.	< 5.	< 10.	< 5.	< 5.	< 5.	< 5.	< 5.	< 5.	< 5.	
ERM-MW-7	1,1-dichloroethene	NS	NS	NS	NS	NS	6	< 5.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**Naphthalene <10**
ERM-MW-8	Naphthalene	NS	NS	NS	NS	NS	NS	NS	NS	< 10.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**Naphthalene <10**

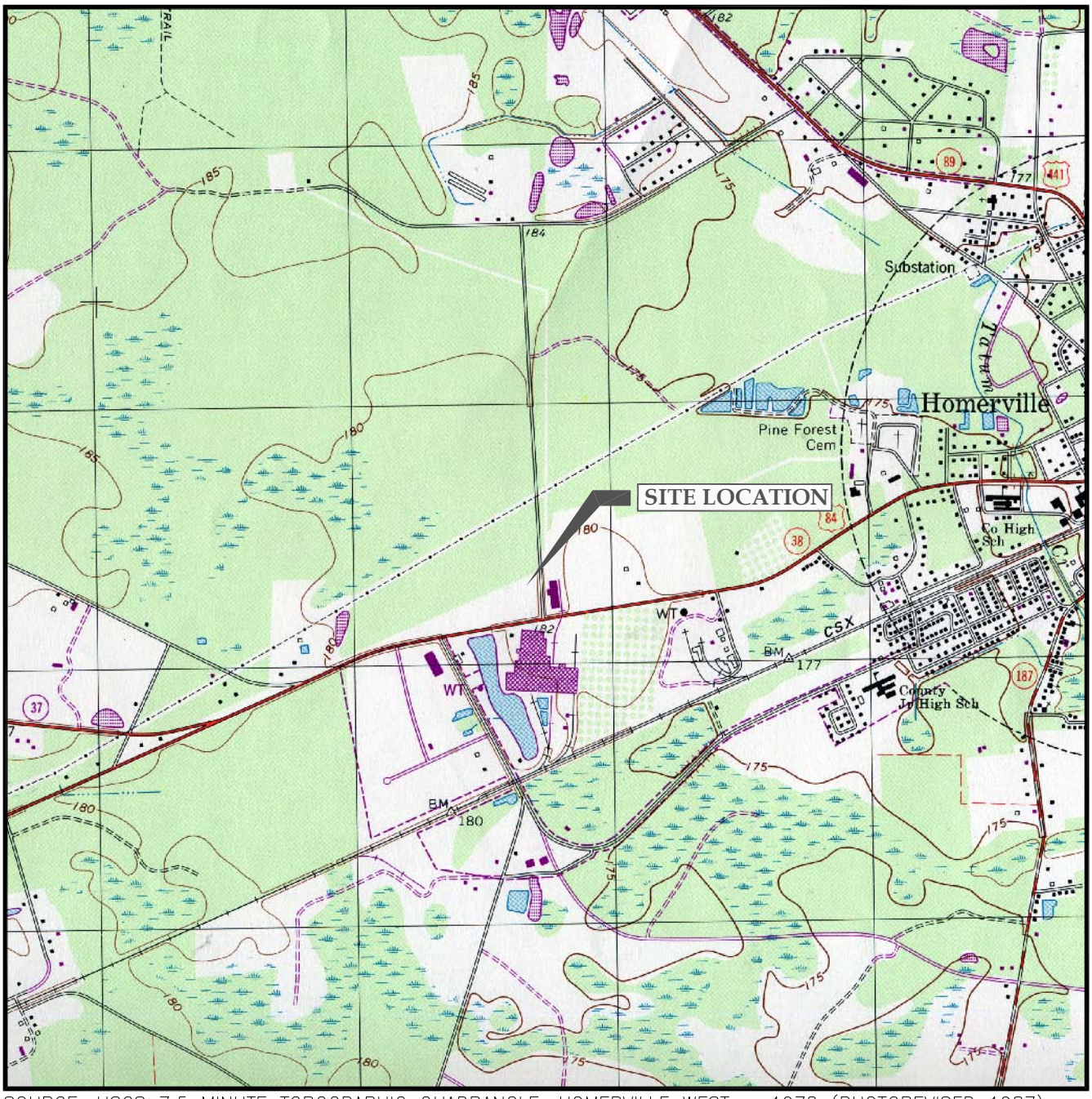
Notes:
1. Only VOCs that have been detected in ground water at the site are listed. Naphthalene results are shown for all wells
2. NS = Not Sampled.
3. J = Estimated value.
4. NA = Not Analyzed.

Table 3-3
Ground Water Monitoring QA/QC Data

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

Date	Trip Blank Naphthalene Concentration (ug/L)	ERM-MW-3 Naphthalene Concentration (ug/L)	Duplicate Sample Naphthalene Concentration (ug/L)	Percent Difference Between ERM-MW-3 and Its Duplicate
Mar-08	< 5	57	57	0%
Apr-08	< 10	93	86	-8%
Sep-08	< 10	52	53	2%
Dec-08	< 10	64	64	0%
Mar-09	NS	56	49	-13%
Jun-09	< 10	65	67	3%
Sept-09	< 10	96	99	3%
Dec-09	< 10	34	36	6%
Mar-10	< 10	80	74	-8%

Figures



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 10 FEET

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

GEORGIA

QUADRANGLE LOCATION

N

25124Site.DWG 3/25/10 SPV REV 3/29/10

ERM **Environmental Resources Management**

SITE LOCATION

VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE
1-1

LEGEND

MW-23 MONITORING WELL LOCATION (SHALLOW)

ERM-MW-7 MONITORING WELL LOCATION (DEEP)

APPROXIMATE PROPERTY LINE

APPROXIMATE POWER LINE EASEMENT

ERM-MW-4

ERM-MW-3

ERM-MW-8

ERM-MW-7

FORMER DRUM DISPOSAL AREA

ERM-MW-1

MW-6

CHARLEY SMITH ROAD

ERM-MW-2

POWER EASEMENT

MW-5

MW-23

U.S. HIGHWAY 84

N

SCALE IN FEET

0 50 100 200

25124Site.DWG 3/29/10 SPV REV

Environmental Resources Management

ERM

MONITORING WELL LOCATION MAP

VOLUNTARY REMEDIATION PLAN

BWAY CORPORATION (HSI # 10731)

HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE

1-2

TYPE *	PARCEL ID**	PROPERTY OWNER	POTENTIAL RECEPTORS ON PROPERTY?
A	049-001 ***	RAYONIER FOREST RESOURCES LP	NO HUMAN RECEPTORS ON THIS PROPERTY. POTENTIAL IMPACT TO SURFACE WATER BODIES (WETLANDS) WILL BE ASSESSED AS PART OF PARTICIPATION IN THE VOLUNTARY REMEDIAITON PROGRAM. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE HORIZONTAL DELINEATION IS COMPLETE.
C	063-025 ***	UNLISTED ON TAX MAP – SITE VISIT INDICATES IT IS A POWER SUBSTATION	POTENTIAL VAPOR INTRUSION RECEPTOR IN THE FORM OF OCCASIONAL EMPLOYEES. GROUND WATER SAMPLES FROM THE WELL NEAR THIS PROPERTY BOUNDARY (ERM-MW-4) SHOW THE CHEMICALS OF CONCERN ARE CONSISTENTLY BELOW LABORATORY DETECTION LIMITS. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE HORIZONTAL DELINEATION IS COMPLETE. ERM-MW-4 WILL SERVE AS A POD WELL BETWEEN THE DRUM SITE AND THIS PROPERTY.
A	063-042	COGDELL BERRY FARM LLC	NO / UPGRADIENT
G	063-044	CLINCH COUNTY DEVELOPMENT AUTHORITY	NO / UPGRADIENT
G	063-043	CLINCH COUNTY DEVELOPMENT AUTHORITY	NO / UPGRADIENT
C	063-041	BROCKWAY STANDARD	POTENTIAL VAPOR INTRUSION RECEPTOR IN THE FORM OF FULL-TIME EMPLOYEES. HOWEVER, GROUND WATER SAMPLES FROM THE THREE WELLS ON THIS PROPERTY (MW-5, MW-6, AND MW-8) SHOW THE CHEMICALS OF CONCERN ARE CONSISTENTLY BELOW LABORATORY DETECTION LIMITS. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE HORIZONTAL DELINEATION IS COMPLETE. ERM-MW-8 WILL SERVE AS A POD WELL BETWEEN THE DRUM SITE AND THIS BUILDING.
A	063-061	COGDELL BERRY FARMS LLC	NO / UPGRADIENT
C	063-040	BROCKWAY STANDARD	POTENTIAL SURFACE WATER RECEPTOR IN THE FORM OF BATEMAN'S POND. GROUND WATER SURFACE MAPS AND MODELING WILL BE PERFORMED TO ASSESS THIS POTENTIAL RECEPTOR. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE DELINEATION IS COMPLETE. POTENTIAL VAPOR INTRUSION RECEPTOR IN THE FORM OF FULL-TIME EMPLOYEES. THE RISK TO THIS POTENTIAL RECEPTOR WILL BE ASSESSED. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE HORIZONTAL DELINEATION IS COMPLETE. HOWEVER, GROUND WATER SAMPLES FROM WELLS BETWEEN THE DRUM REMOVAL AREA AND THIS PROPERTY SHOW THE CHEMICALS OF CONCERN ARE CONSISTENTLY BELOW LABORATORY DETECTION LIMITS. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE DELINEATION IS COMPLETE. MW-23 AND MW-5 WILL SERVE AS POD WELLS BETWEEN THE DRUM SITE AND THIS PROPERTY.
G	063-039	CITY OF HOMERVILLE	POTENTIAL GROUND WATER RECEPTOR IN THE FORM OF PUBLIC WATER SUPPLY WELLS. GROUND WATER SURFACE MAPS AND MODELING WILL BE PERFORMED TO ASSESS THIS POTENTIAL RECEPTOR. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE DELINEATIN IS COMPLETE. MW-23 WILL SERVE AS A POD WELL BETWEEN THE DRUM SITE AND THIS PROPERTY.
G	063-038A	CLINCH DEVELOPMENT AUTH	NO / SIDEGRADIENT
C	063-038	BASSFORD PACKING CO	NO / SIDEGRADIENT
G	063-037	CLINCH DEVELOPMENT AUTH	NO / SIDEGRADIENT
C	063-033	LEE J DONALD	NO / SIDEGRADIENT
C	063 -026	BROCKWAY STANDARD	NO HUMAN RECEPTORS ON THIS PROPERTY, WHICH IS THE VRP QUALIFYNG PROPERTY. PRIOR TO REMOVAL FROM THE HSI, AN ENVIRONMENTAL COVENANT WILL BE PLACED ON THE PROPERTY TO NOTE THAT (1) GROUND WATER CANNOT BE EXTRACTED FROM TAX PARCEL 063-026 AND (2) VAPOR INTRUSION SHOULD BE FULLY ASSESSED IF PLANS FOR CONSTRUCTION ON TAX PARCEL 063-026 ARISE IN THE FUTURE. AN ADDITIONAL POD WELL WILL BE INSTALLED ON THIS PROPERTY TO THE WEST OF THE GROUND WATER PLUME, AND ERM-MW-4 WILL BE USED AS A POD WELL TO THE NORTHWEST OF THE GROUND WATER PLUME. POTENTIAL IMPACT TO SURFACE WATER BODIES WILL BE ASSESSED AS PART OF PARTICIPATION IN THE VOLUNTARY REMEDIAITON PROGRAM.

* A – Agricultural C – Commercial G – Government U - Undeveloped

** Properties are listed in this table in a clockwise manner, starting from the left corner of the image

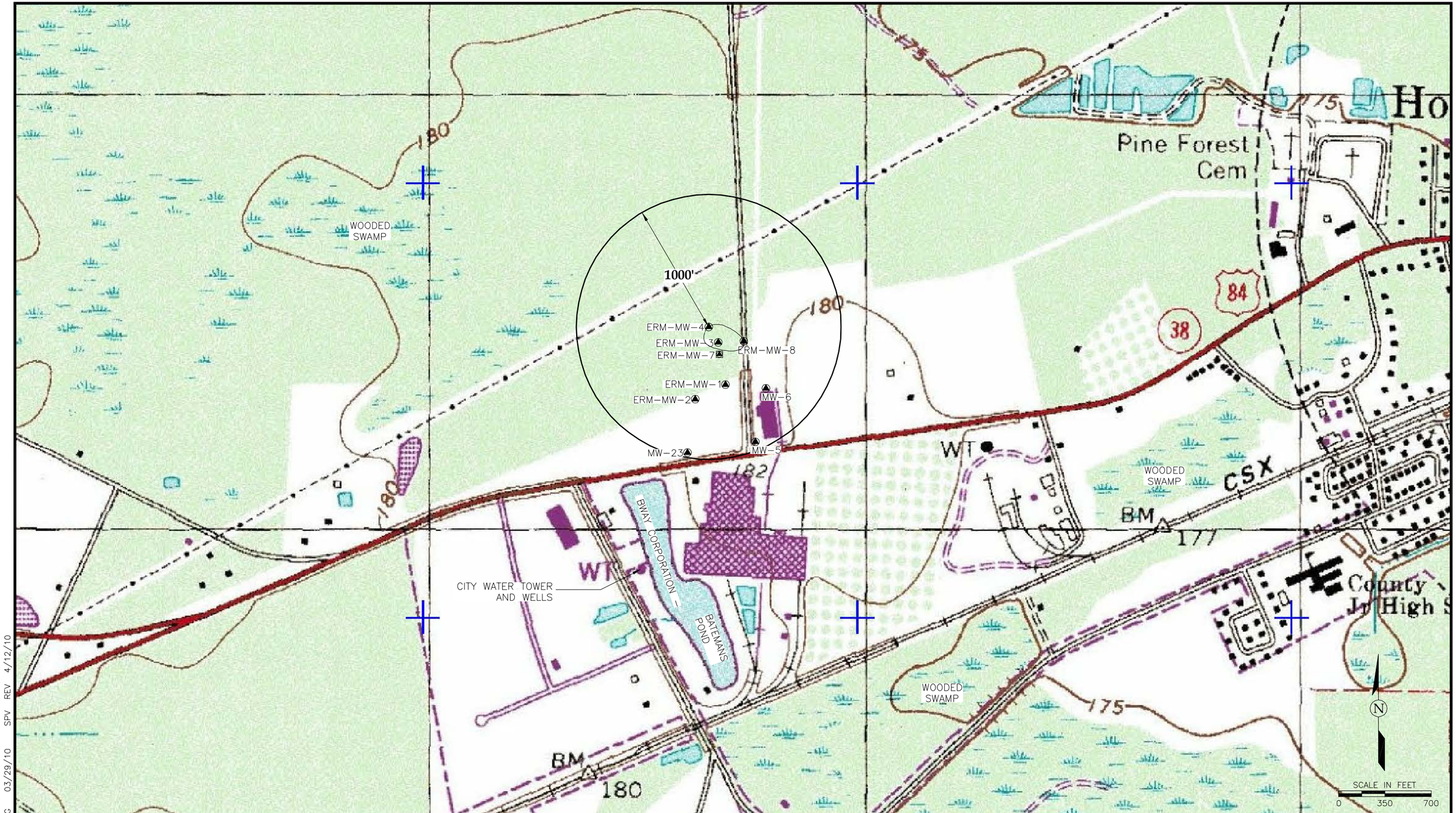
*** This property is in the downgradient direction of the ground water plume within 1000' of the delineated edge

Environmental Resources Management

RECEPTOR MAP
VOLUNTARY REMEDIATION PLAN - REVISION 1
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE
1-3

121022Site.DWG 1/14/11 SPV REV



NOTES

STANDARD USGS TOPOGRAPHIC MAP LEGEND APPLIES

ERM Environmental Resources Management

WATER USAGE MAP

VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE
1-4

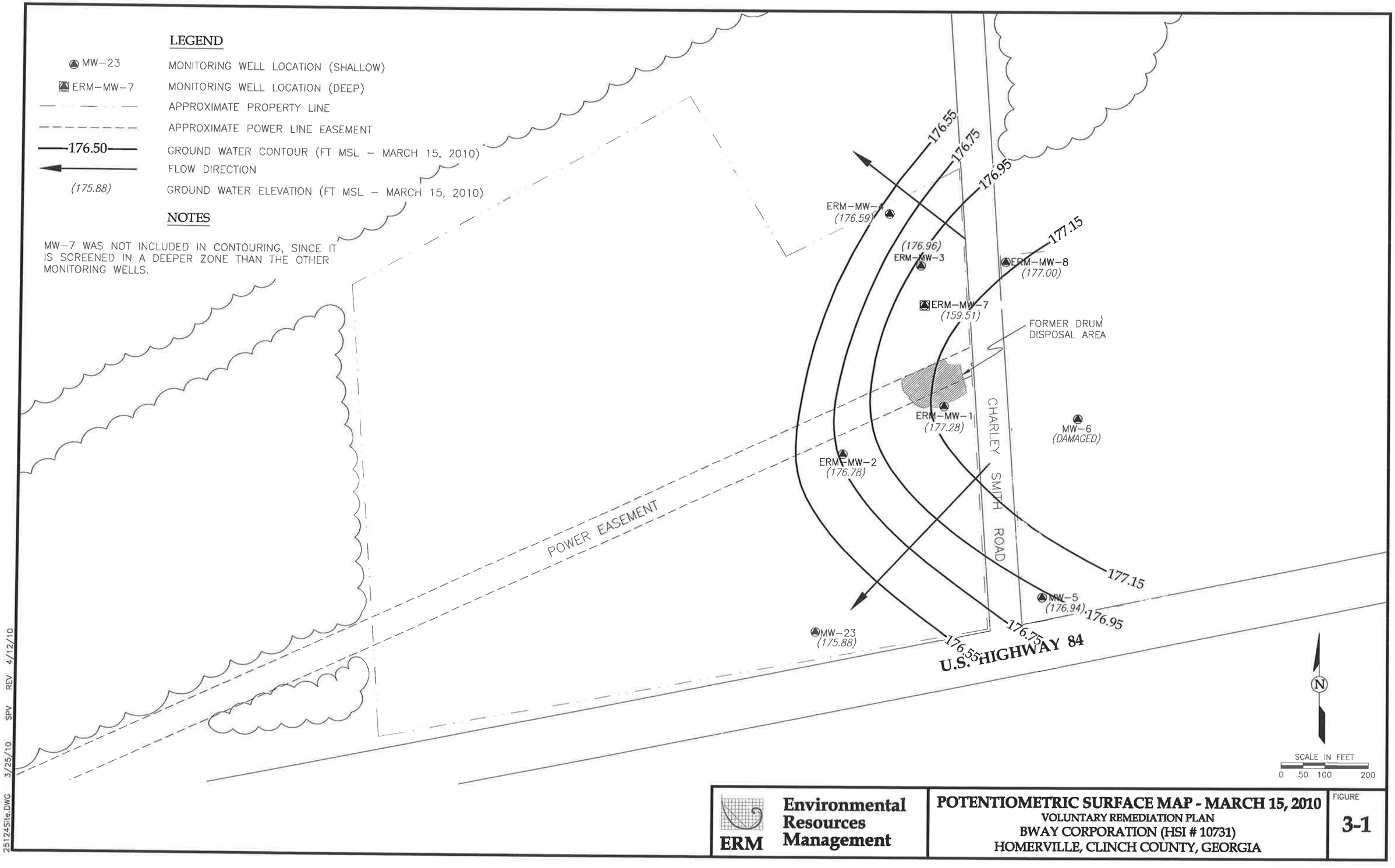
25124SiteF1-4.DWG 03/29/10 SPV REV 4/12/10

LEGEND

- MW-23 — MONITORING WELL LOCATION (SHALLOW)
- ERM-MW-7 — MONITORING WELL LOCATION (DEEP)
- APPROXIMATE PROPERTY LINE
- APPROXIMATE POWER LINE EASEMENT
- 176.50 — GROUND WATER CONTOUR (FT MSL – MARCH 15, 2010)
- FLOW DIRECTION
- (175.88) — GROUND WATER ELEVATION (FT MSL – MARCH 15, 2010)

NOTES

MW-7 WAS NOT INCLUDED IN CONTOURING, SINCE IT IS SCREENED IN A DEEPER ZONE THAN THE OTHER MONITORING WELLS.



25124Site.DWG 3/25/10 SPV REV 4/12/10

ERM Environmental Resources Management	POTENTIOMETRIC SURFACE MAP - MARCH 15, 2010 VOLUNTARY REMEDIATION PLAN BWAY CORPORATION (HSI # 10731) HOMERVILLE, CLINCH COUNTY, GEORGIA	FIGURE 3-1

LEGEND

- MW-23 — MONITORING WELL LOCATION (SHALLOW – SAMPLED 3/15/10)
- ERM-MW-7 — MONITORING WELL LOCATION (DEEP – SAMPLED 3/15/10)
- APPROXIMATE PROPERTY LINE
- APPROXIMATE POWER LINE EASEMENT
- GP-1W — GROUND WATER SAMPLING LOCATION (4/25/06)
- (19) — NAPHTHALENE CONCENTRATION – µg/L
- A A' — CROSS SECTION LINE
- GROUND WATER DELINEATION

ERM-MW-4 (<10)
ERM-MW-3 (80)
GP-9N (54)
GP-10N (140)
B (<10) GP-1W
GP-3W (<10)
ERM-MW-3
GP-12E (110)
B' ERM-MW-8 (<10)
GP-2W (<10)
GP-4W (19)
GP-11E (67)
GP-5S (<10)
ERM-MW-7 (<10)
GP-6S (<10)
FORMER DRUM DISPOSAL AREA
GP-7S (<10)
GP-8S (<10)
ERM-MW-1 (<10)
CHARLEY SMITH ROAD
MW-6 (DAMAGED)
ERM-MW-2 (<10)
POWER EASEMENT
A
MW-23 (<10)
MW-5 (<10)
U.S. HIGHWAY 84
N
SCALE IN FEET
0 75 150

25124Site.DWG 3/29/10 SPV REV 4/12/10

ERM Environmental Resources Management	SITE DELINEATION MAP WITH CROSS-SECTION LOCATIONS VOLUNTARY REMEDIATION PLAN BWAY CORPORATION (HSI # 10731) HOMERVILLE, CLINCH COUNTY, GEORGIA	FIGURE 3-2

LEGEND

WELL SCREEN (SAMPLED MARCH 2010)

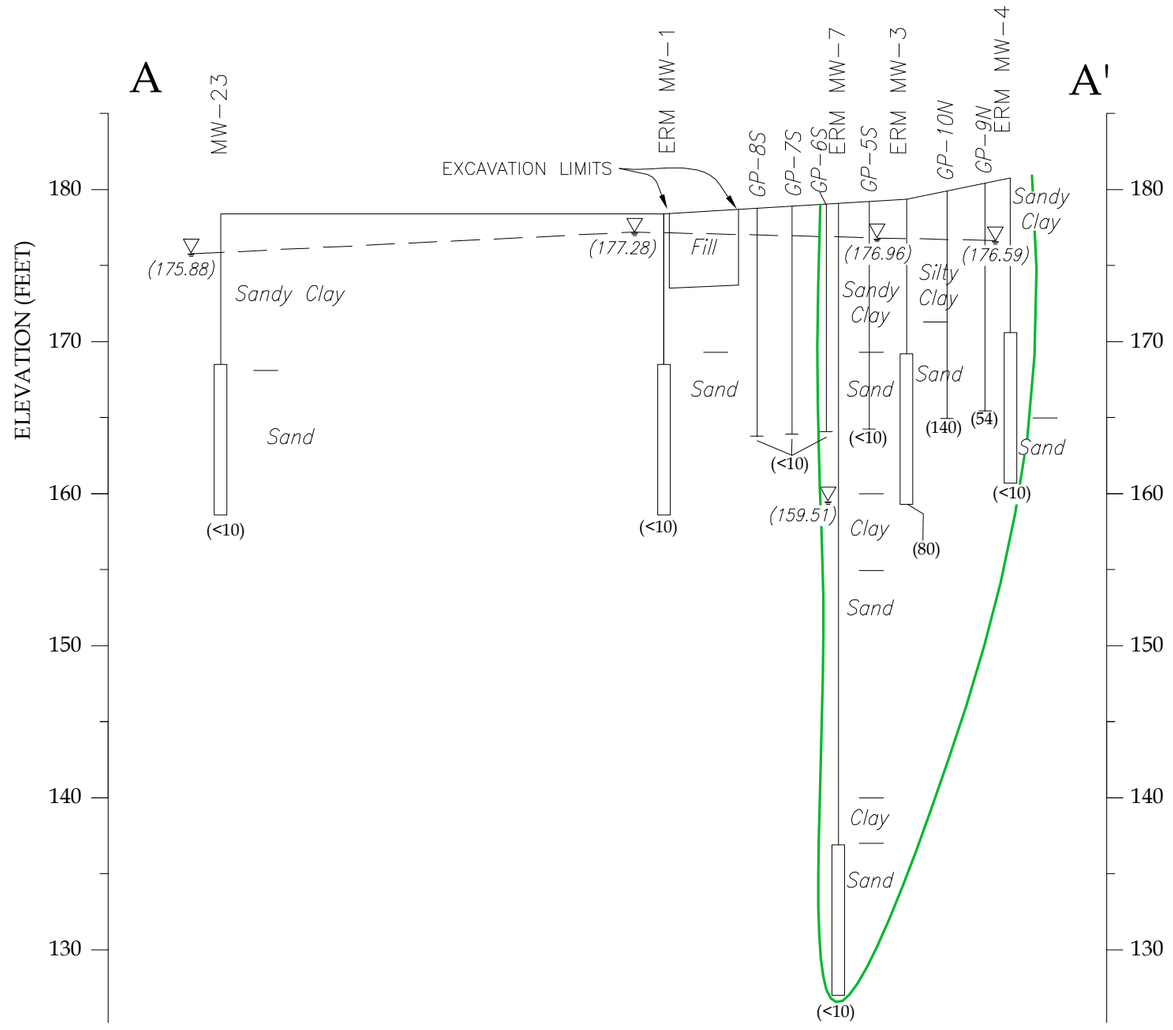
GROUND WATER SAMPLE FROM GEOPROBE BORING (SAMPLED APRIL 2006)

(175.88) WATER TABLE (MARCH 15, 2010)

GROUND WATER ELEVATION (FT MSL – MARCH 15, 2010)

(<10) NAPHTHALENE CONCENTRATION – µg/L

GROUND WATER DELINEATION



SCALE IN FEET
X: 1" = 200'
Y: 1" = 10'
VE = 20

10 5 2.5 0 50 100 200

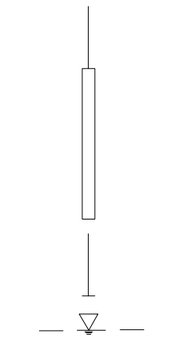
ERM Environmental Resources Management

CROSS-SECTION A-A' (DELINEATION)
VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE 3-3

25124Site.DWG 3/30/10 SPV REV 4/12/10

LEGEND



WELL SCREEN (SAMPLED MARCH 2010)

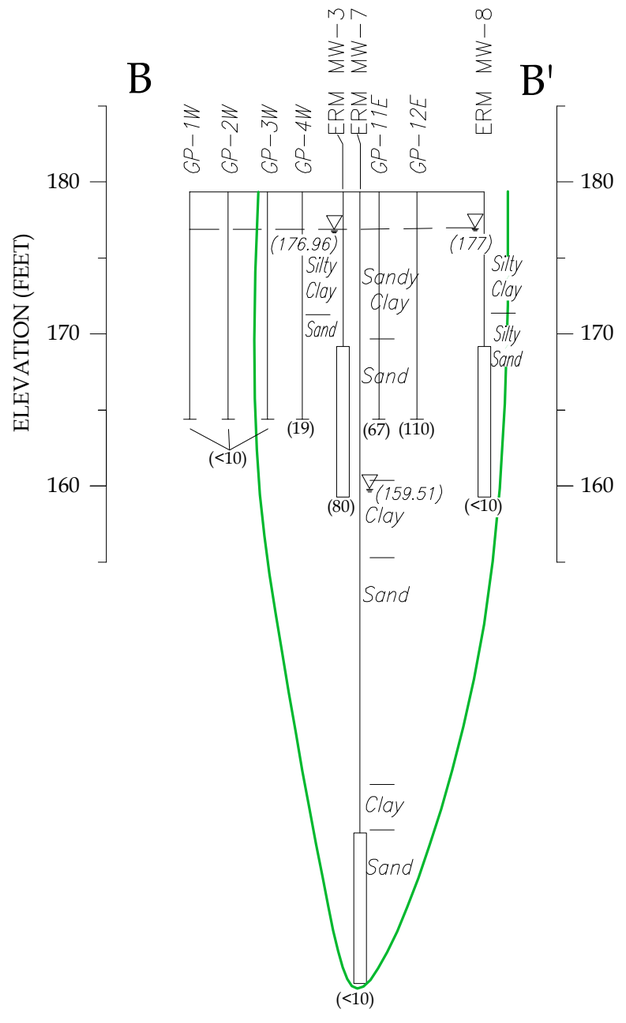
GROUND WATER SAMPLE FROM GEOPROBE BORING (SAMPLED APRIL 2006)

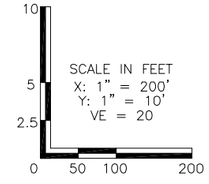
WATER TABLE (MARCH 15, 2010)

(176.78) GROUND WATER ELEVATION (FT MSL – MARCH 15, 2010)

(<10) NAPHTHALENE CONCENTRATION – µg/L

GROUND WATER DELINEATION





Environmental Resources Management	**CROSS-SECTION B-B' (DELINEATION)** VOLUNTARY REMEDIATION PLAN BWAY CORPORATION (HSI # 10731) HOMERVILLE, CLINCH COUNTY, GEORGIA	FIGURE **3-4**

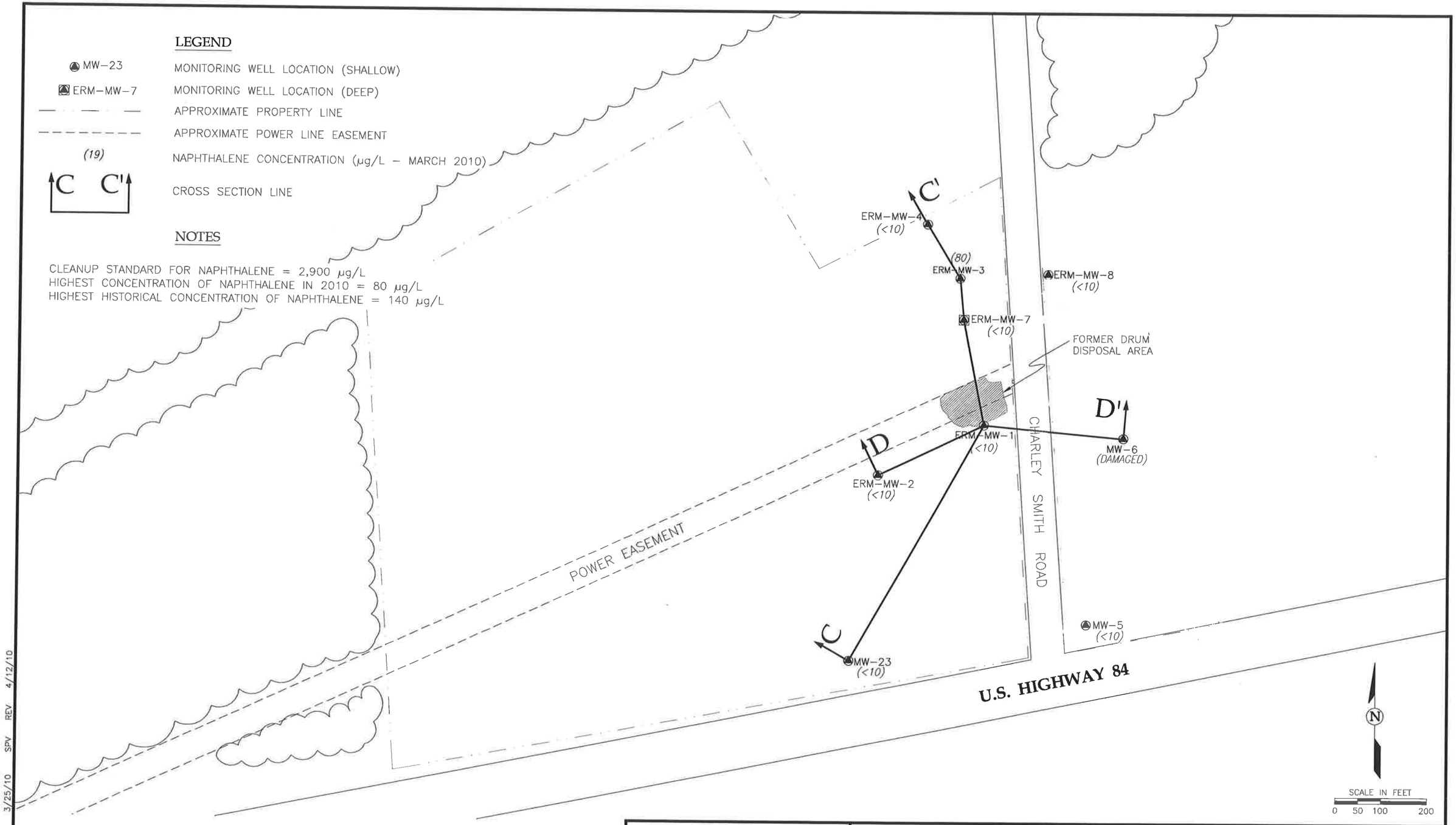
25124Site.DWG 3/30/10 SPV REV 4/12/10

LEGEND

- MW-23 — MONITORING WELL LOCATION (SHALLOW)
- ERM-MW-7 — MONITORING WELL LOCATION (DEEP)
- APPROXIMATE PROPERTY LINE
- APPROXIMATE POWER LINE EASEMENT
- (19) — NAPHTHALENE CONCENTRATION (µg/L – MARCH 2010)
- C C' — CROSS SECTION LINE

NOTES

CLEANUP STANDARD FOR NAPHTHALENE = 2,900 µg/L
HIGHEST CONCENTRATION OF NAPHTHALENE IN 2010 = 80 µg/L
HIGHEST HISTORICAL CONCENTRATION OF NAPHTHALENE = 140 µg/L



25124Site.DWG 3/25/10 SPV REV 4/12/10

Environmental Resources Management

CURRENT GROUND WATER CONCENTRATIONS WITH CROSS-SECTION LOCATIONS
VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE 3-5

LEGEND

WELL SCREEN

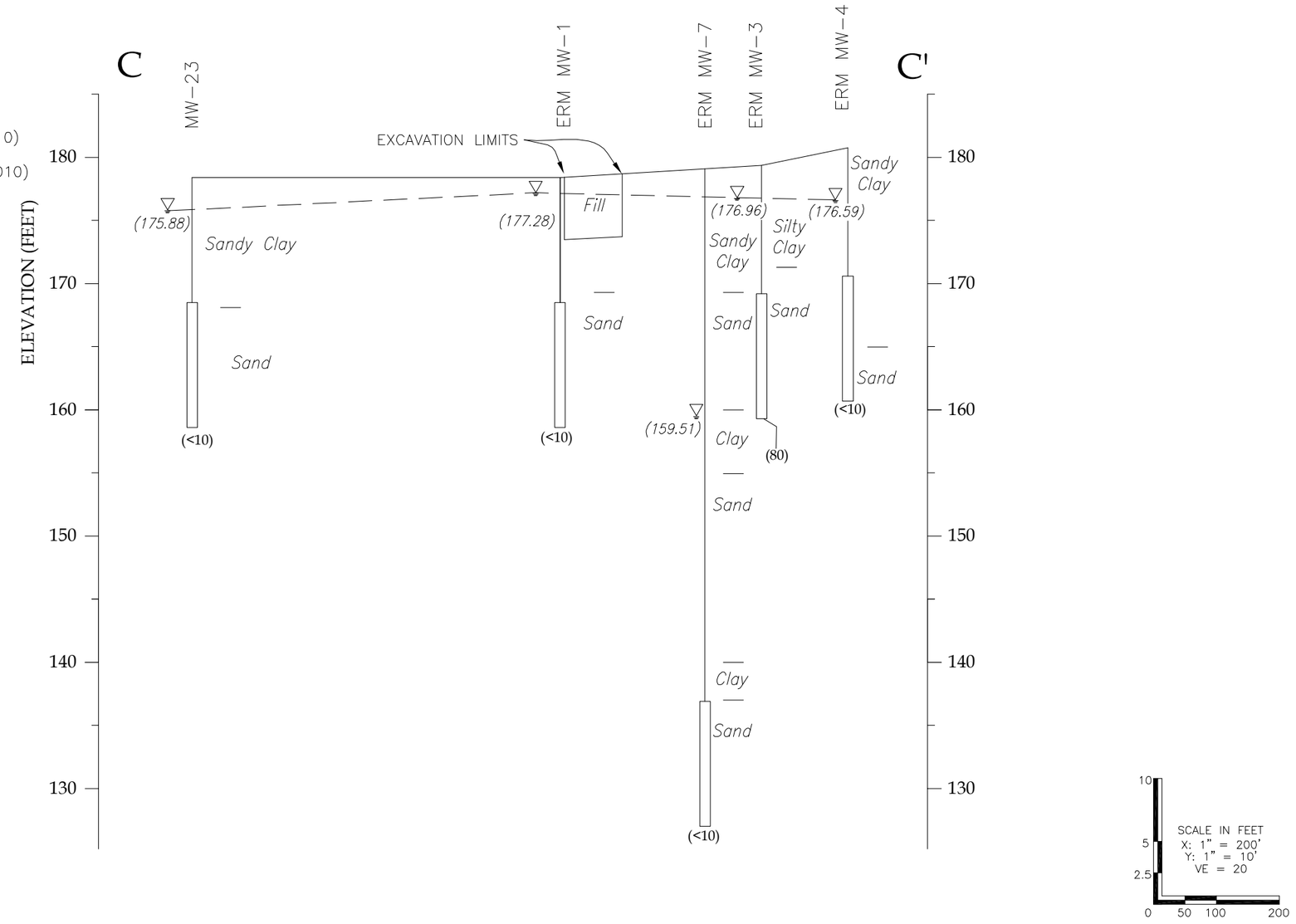
WATER TABLE (MARCH 15, 2010)

(175.88) GROUND WATER ELEVATION (FT MSL – MARCH 15, 2010)

(<10) NAPHTHALENE CONCENTRATION – µg/L (MARCH 15, 2010)

NOTES

CLEANUP STANDARD FOR NAPHTHALENE = 2,900 µg/L
HIGHEST CONCENTRATION OF NAPHTHALENE IN 2010 = 80 µg/L
HIGHEST HISTORICAL CONCENTRATION OF NAPHTHALENE = 140 µg/L



ERM Environmental Resources Management

CROSS-SECTION C-C' (CURRENT CONDITIONS)
VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE **3-6**

25124Site.DWG 3/25/10 SPV REV 4/12/10

LEGEND

WELL SCREEN

WATER TABLE (MARCH 2010)

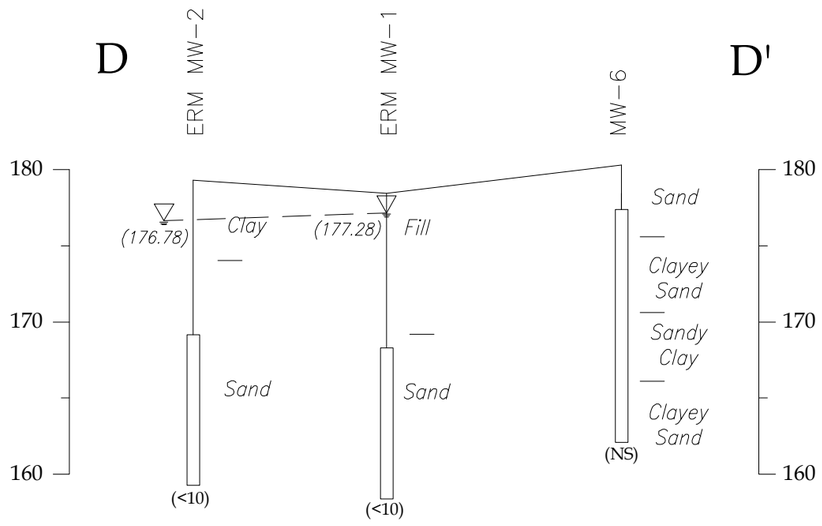
(176.78) GROUND WATER ELEVATION (FT MSL – MARCH 15, 2010)

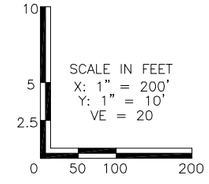
(<10) NAPHTHALENE CONCENTRATION – µg/L (MARCH 15, 2010)

(NS) NOT SAMPLED – DUE TO WELL DAMAGE

NOTES

CLEANUP STANDARD FOR NAPHTHALENE = 2,900 µg/L
HIGHEST CONCENTRATION OF NAPHTHALENE IN 2010 = 80 µg/L
HIGHEST HISTORICAL CONCENTRATION OF NAPHTHALENE = 140 µg/L





ERM Environmental Resources Management

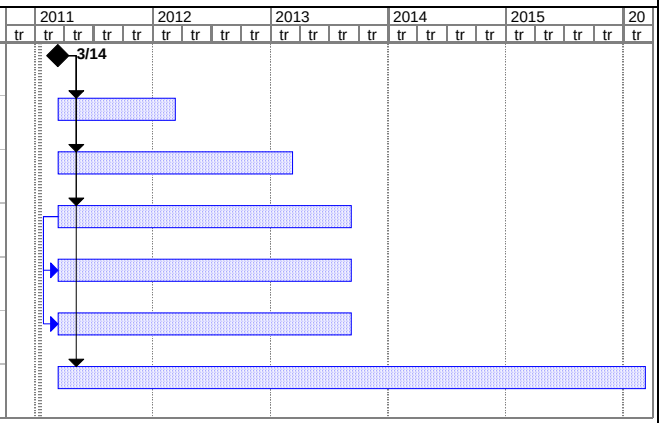
CROSS-SECTION D-D' (CURRENT CONDITIONS)
VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE 3-7

25124Site.DWG 3/25/10 SPV REV 4/12/10

Figure 4-1 VRP Milestone Schedule
Revised 1/14/2010
BWAY Drum Site (HSI# 10731)
Homerville, GA

ID	Task Name	Duration	Start	Finish
1	Assumed VRP Enrollment Date (2 months following this submittal)	1 day	Mon 3/14/11	Mon 3/14/11
2	Complete horizontal delineation on property where access is available at the time of enrollment	260 days	Tue 3/15/11	Mon 3/12/12
3	Complete horizontal delineation onto property for which access was not available at the time of enrollment	520 days	Tue 3/15/11	Mon 3/11/13
4	Update the site CSM to include vertical delineation	650 days	Tue 3/15/11	Mon 9/9/13
5	Finalize the remediation plan	650 days	Tue 3/15/11	Mon 9/9/13
6	Provide a preliminary cost estimate for implementation of remediation/continuing actions	650 days	Tue 3/15/11	Mon 9/9/13
7	Submit the compliance status report required under the VRP, including the requisite certifications	1303 days	Tue 3/15/11	Thu 3/10/16



Project: BWAY_Milestone Schedule - R
Date: Fri 1/14/11

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Appendix A

Copy of VRP Application Checklist

Voluntary Remediation Plan Application Form and Checklist

VRP APPLICANT INFORMATION					
COMPANY NAME	BWAY Corporation				
CONTACT PERSON/TITLE	Mr. Steve Diaz, EHS Manager				
ADDRESS	1601 Valdosta Highway Homerville, Georgia 31634				
PHONE	912-487-4141	**FAX**	912-487-3420	**E-MAIL**	Steve.Diaz@bwaycorp.com

GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP					
NAME	Shanna Thompson			**GA PE/PG NUMBER**	PE 031306
COMPANY	Environmental Resources Management				
ADDRESS	300 Chastain Center Boulevard, Suite 375, Kennesaw, Georgia 30144				
PHONE	(770) 590-8383	**FAX**	(770) 590-9164	**E-MAIL**	shanna.thompson@erm.com

APPLICANT'S CERTIFICATION

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

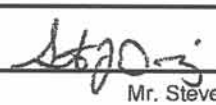
(1) The property must have a release of regulated substances into the environment;
(2) The property shall not be:
- (A) Listed on the federal National Priorities List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601.
- (B) Currently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

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

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

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

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

APPLICANT'S SIGNATURE			
APPLICANT'S NAME/TITLE (PRINT)	Mr. Steve Diaz, EHS Manager	**DATE**	8/6/2010

QUALIFYING PROPERTY INFORMATION			
TAX PARCEL ID	063-026	PROPERTY SIZE (ACRES)	34.88
PROPERTY ADDRESS	NW Corner of Highway 84 and Charley Smith Road		
CITY	Homerville	COUNTY	Clinch County
LATITUDE	31° 1'54.02"N	LONGITUDE	82°46'25.44"W
PROPERTY OWNER(S)	Brockway Standard	PHONE #	(513) 388-2200
MAILING ADDRESS	8200 Broadwell Road		
CITY	Cincinnati, Ohio	STATE/ZIP	45244

ITEM #	DESCRIPTION OF REQUIREMENT	Location in VRP (i.e. pg., Table #, Figure #, etc.)	For EPD Comment Only (Leave Blank)
1.	**$5,000 APPLICATION FEE** IN THE FORM OF A CHECK PAYABLE TO THE GEORGIA DEPARTMENT OF NATURAL RESOURCES.	Previously submitted with Initial VRP Application in February 2010	
2.	**WARRANTY DEED(S)** FOR QUALIFYING PROPERTY.	Previously submitted with Voluntary Remediation Plan in April 2010	
3.	**TAX PLAT** OR OTHER FIGURE INCLUDING QUALIFYING PROPERTY BOUNDARIES, ABUTTING PROPERTIES, AND TAX PARCEL IDENTIFICATION NUMBER(S).	Previously submitted with Initial VRP Application in February 2010	
4.	**ONE (1) PAPER COPY AND TWO (2) COMPACT DISC (CD) COPIES** OF THE VOLUNTARY REMEDIATION PLAN IN A SEARCHABLE PORTABLE DOCUMENT FORMAT (PDF).	Previously submitted with Voluntary Remediation Plan in April 2010	
5.	The VRP participant's initial plan and application must include, using all reasonably available current information to the extent known at the time of application: (a) a graphic three-dimensional preliminary conceptual site model (CSM) (b) including a preliminary remediation plan (c) with a table of delineation standards, (d) brief supporting text, charts, and figures (no more than 10 pages, total) that illustrates the site's surface and subsurface setting, (e) the known or suspected source(s) of contamination, how contamination might move within the environment, (f) the potential human health and ecological receptors, and the complete or incomplete exposure pathways that may exist at the site; The preliminary CSM must be updated as the investigation and remediation progresses and an up-to-date CSM must be included in each semi-annual status report submitted to the director by the participant; (g) a **PROJECTED MILESTONE SCHEDULE** for investigation and remediation of the site, and after enrollment as a participant, must update the schedule in each semi-annual status report to the director describing implementation of the plan during the preceding period. A Gantt chart format is preferred for the milestone schedule. The following four (4) generic milestones are required in all initial plans with the results reported in the participant's next applicable semi-annual reports to	These items were submitted with the Voluntary Remediation Plan dated April 2010.	

	the director. The director may extend the time for or waive these or other milestones in the participant's plan where the director determines, based on a showing by the participant, that a longer time period is reasonably necessary:		
5.a.	Within the first 12 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern on property where access is available at the time of enrollment;	A Milestone Schedule was submitted with the VR Plan dated April 2010. The schedule will be updated as needed in future submittals.	
5.b.	Within the first 24 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern extending onto property for which access was not available at the time of enrollment;	A Milestone Schedule was submitted with the VR Plan dated April 2010. The schedule will be updated as needed in future submittals.	
5.c.	Within 30 months after enrollment, the participant must update the site CSM to include vertical delineation, finalize the remediation plan and provide a preliminary cost estimate for implementation of remediation and associated continuing actions; and	A Milestone Schedule was submitted with the VR Plan dated April 2010. The schedule will be updated as needed in future submittals.	
5.d.	Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications.	A Milestone Schedule was submitted with the VR Plan dated April 2010. The schedule will be updated as needed in future submittals.	
6.	**SIGNED AND SEALED PE/PG CERTIFICATION** AND SUPPORTING DOCUMENTATION: "I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances. Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." Shanna Thompson, PE PE031306 Printed Name and GA PE/PG Number 8/16/2010 Date Shanna Thompson Signature and Stamp		

Appendix B

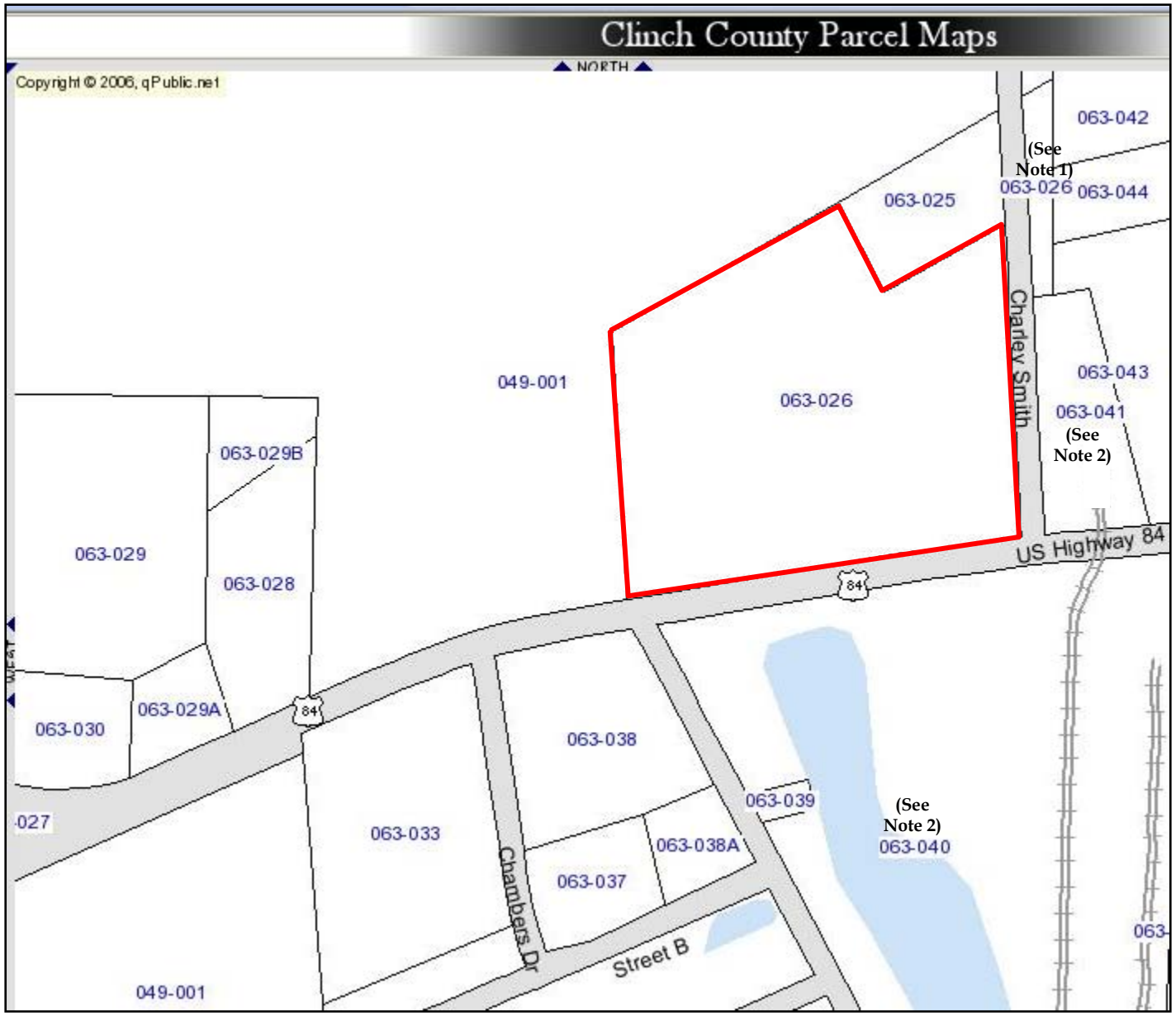
Tax Plat

LEGEND

Qualifying Tax Parcel Boundary

NOTES

1. Although this portion of land is part of Tax Parcel 063-026, the parcels may be divided in the future, prior to implementing a UECA for 063-026
2. Although this tax parcel is also owned by BWAY Corporation, it is not considered to be a qualifying property under the VRP Application for HSI# 10731



ERM Environmental Resources Management	TAX PARCEL MAP (1inch = 400 feet) VRP APPLICATION FORMER BWAY DRUM SITE HOMERVILLE, GEORGIA	FIGURE 1 rev 12/10/10

Appendix C

Documentation of Work Performed by the Professional Engineer

Appendix C
Documentation of Work Performed by the Professional Engineer Since Original VRP Submittal
updated January 15, 2011

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

Month	Number of Hours Invoiced by Shanna Thompson, P.E.	Activities Performed by Shanna Thompson, P.E. on BWAY Drum Site VRP Investigation and Delineation
March 2010	66	Organize March 2010 ground water sampling event and manage resulting data. Hold regular meetings and oversee work performed by the hydrogeologist performing ground water modeling using BIOSCREEN.
April 2010	12	Hold regular meetings and oversee work performed by the CAD operator creating the figures for this Voluntary Remediation Plan. Create text, tables, and appendices for this Voluntary Remediation Plan.
June 2010	16	Prepare Revised VRP Application and Oversee Title Search
November 2010	49	Oversee Well Installation Effort Organize Ground Water Sampling Effort Submit Revised Milestone Schedule to EPD
Dec-10	13	Oversee Ground Water Sampling Effort Submit Revised Delineation Standards and Delineation Plan to EPD
January 2011, first half	26	Prepare Revision 1 of the Voluntary Remediation Plan
SUM	**182**	

RECEIVED
Georgia EPD
NOV 10 2010
Hazardous Sites
Response Program

Environmental
Resources
Management

300 Chastain Center Blvd.
Suite 375
Kennesaw, GA 30144
(770) 590-8383
(770) 590-9164 (fax)

November 10, 2010

Ms. Carolyn Daniels
Georgia Environmental Protection Division
Response and Remediation Program
2 Martin Luther King Jr. Dr.
Suite 1462 East
Atlanta, Georgia 30334

ERM

Subject: **Revised VRP Milestone Schedule**
BWAY Drum Site (HSI #10731)
1601 Valdosta Highway, Tax Parcel No. 063-026
Homerville, Clinch County, Georgia

FILE COPY

Dear Ms. Daniels:

On Behalf of BWAY Corporation, Environmental Resources Management (ERM) is submitting a revised Milestone Schedule for the Georgia Voluntary Remediation Program for Tax Parcel 063-026 in Clinch County, Georgia. The purpose of this submittal is to provide supplemental information to the EPD in order to gain acceptance of HSI Site # 10731 into Georgia's Voluntary Remediation Program. Specifically, this document is being submitted in response to EPD's correspondence dated August 23, 2010 and our meeting at the EPD offices on September 24, 2010. In addition to the VRP Milestone Schedule, we have included a preliminary plan for achieving horizontal delineation, which is the first task on the revised VRP Milestone Schedule.

MILESTONE SCHEDULE

The VRP Milestone Schedule (attached) was revised so that it is consistent with the current version of the VRP application, which includes the following major milestones:

- *12 MONTHS AFTER VRP ENROLLMENT*
  Complete horizontal delineation on property where access is available at the time of enrollment
- *24 MONTHS AFTER VRP ENROLLMENT*
  Complete horizontal delineation on property for which access was not available at the time of enrollment

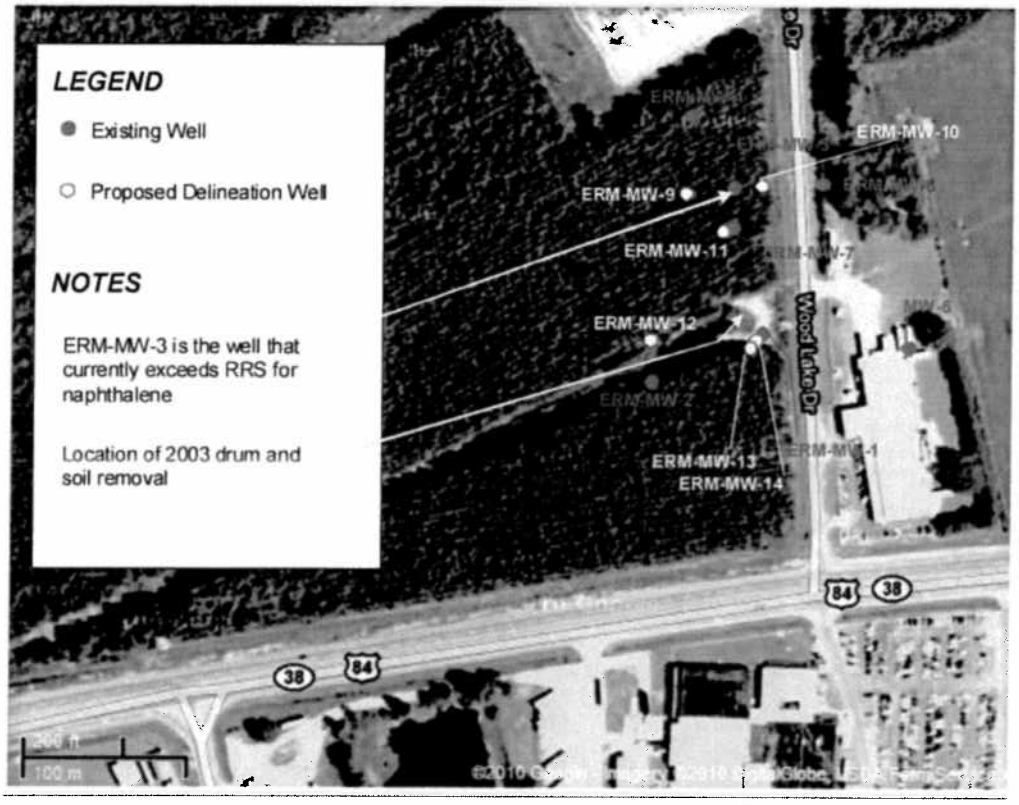
- *30 MONTHS AFTER VRP ENROLLMENT*
  Update the site CSM to include vertical delineation
  Finalize the remediation plan
  Provide a preliminary cost estimate for implementation of remediation actions
- *60 MONTHS AFTER VRP ENROLLMENT*
  Submit the Compliance Status Report required under the VRP, including the requisite certifications

BWAY will communicate progress on the items described above to the EPD via the submittal of semi-annual progress reports to the EPD, per the VRP Act.

PRELIMINARY PLAN FOR HORIZONTAL DELINEATION

The first steps toward achieving horizontal delineation will be taken on Tax Parcel 063-026. The design of the new delineation wells will incorporate the need to (1) better understand the ground water flow pattern and to (2) fulfill requests for specific delineation objectives set in the EPD letter to BWAY dated August 23, 2010. A preliminary map of the six delineation well locations is shown below. We anticipate these wells will be installed and sampled before the end of 2010.

Preliminary Locations for Delineation Wells



The new delineation wells will be screened at varied depth intervals to fulfill requests in EPD's August 23, 2010 letter.

BWAY and ERM look forward to the acceptance of HSI Site #10731 into the Voluntary Remediation Program. Please contact me at 770-590-8383 if you have questions regarding this submittal.

Sincerely,

Shanna L. Thompson

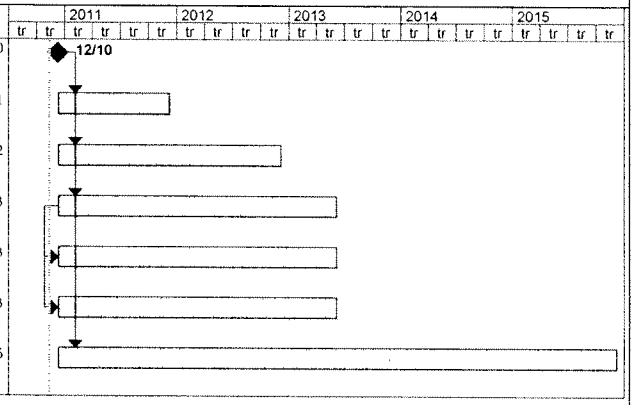
Shanna L. Thompson, P.E.

Attachments

cc: David Reuland, EPD
Steve Diaz, BWAY
Mark Miller, Cornerstone

VRP Milestone Schedule
Revised 11/10/2010
BWAY Drum Site (HSI# 10731)
Homerville, GA

ID	Task Name	Duration	Start	Finish
1	Assumed VRP Enrollment Date (1 month following this submittal)	1 day	Fri 12/10/10	Fri 12/10/10
2	Complete horizontal delineation on property where access is available at the time of enrollment	260 days	Mon 12/13/10	Fri 12/9/11
3	Complete horizontal delineation onto property for which access was not available at the time of enrollment	520 days	Mon 12/13/10	Fri 12/7/12
4	Update the site CSM to include vertical delineation	650 days	Mon 12/13/10	Fri 6/7/13
5	Finalize the remediation plan	650 days	Mon 12/13/10	Fri 6/7/13
6	Provide a preliminary cost estimate for implementation of remediation/continuing actions	650 days	Mon 12/13/10	Fri 6/7/13
7	Submit the compliance status report required under the VRP, including the requisite certifications	1303 days	Mon 12/13/10	Wed 12/9/15



Project: BWAY_Milestone Schedule - R
Date: Wed 11/10/10

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Environmental Resources Management

300 Chastain Center Blvd.
Suite 375
Kennesaw, GA 30144
(770) 590-8383
(770) 590-9164 (fax)

December 10, 2010

Ms. Carolyn Daniels
Georgia Environmental Protection Division
Response and Remediation Program
2 Martin Luther King Jr. Dr.
Suite 1462 East
Atlanta, Georgia 30334

FILE COPY

ERM

Subject: **Additional Response to EPD 8/23/10 Correspondence Regarding the VRP Application for BWAY Drum Site (HSI #10731) 1601 Valdosta Highway, Tax Parcel No. 063-026 Homerville, Clinch County, Georgia**

Dear Ms. Daniels:

On behalf of BWAY Corporation, Environmental Resources Management (ERM) is submitting additional information to provide a full response to the EPD correspondence dated August 23, 2010. ERM initially responded to the August 23, 2010 letter on November 10, 2010. This submittal includes additional information to support ERM's November 10, 2010 submittal and to provide a revised version of selected portions of the Application to the Georgia Voluntary Remediation Program. Specifically, revised versions of the following Voluntary Remediation Plan materials are attached and described below:

- Appendix B – Figure 1-Tax Parcel Boundaries,
- Figure 3-5 -- Current Groundwater Concentrations with Cross-Section Locations, and
- Table 2-1 -- Delineation Standards.

The purpose of these submittals is to address Comment 1 and Comment 13 of the EPD correspondence dated August 23, 2010 and to gain acceptance of HSI Site # 10731 into Georgia's Voluntary Remediation Program.

ADDITIONAL RESPONSE TO COMMENT #1

Comment #1, Regarding the Application/Checklist: The outlines shown for the qualifying property tax parcel on Figure 1-3 (Receptor Map) and the tax parcel map provided in Appendix B of the VRP do not correspond with the property outlines shown on Figures 2-1, 3-1, 3-2, and 3-5. The property boundaries for the qualifying property must be accurately shown on all applicable figures. Furthermore, please indicate whether the Parcel 063-041 is to be included as a qualifying property as delineation location for the groundwater plume are included on this parcel.

Maps have been revised to show that the intent is to perform groundwater delineation within Tax Parcel 063-026 (i.e. 063-041 is not considered a qualifying property). A revised version of Appendix B - Figure 1, the Tax Parcel Map, is attached to show the correct qualifying property boundaries. A revised version of Figure 3-1 is also attached to show that the property boundary for Tax Parcel 063-041 is not intended to be part of the VRP qualifying property. Additionally, figures submitted in future reports will be revised to show the correct qualifying property boundaries.

ADDITIONAL RESPONSE TO COMMENT #13

Comment #13, Regarding Delineation Standards/Criteria: Table 1-2 (Table of Site Delineation Concentrations) should be revised to include references to the respective delineation criteria (Type 1 RRS) for all regulated substances detected in soil and groundwater including degradation products.

The revised table of delineation standards is attached.

BWAY and ERM look forward to the acceptance of HSI Site #10731 into the Voluntary Remediation Program. Please contact me at 770-590-8383 if you have questions regarding this submittal.

Sincerely,

Shanna L. Thompson

Shanna L. Thompson, P.E.

Attachments

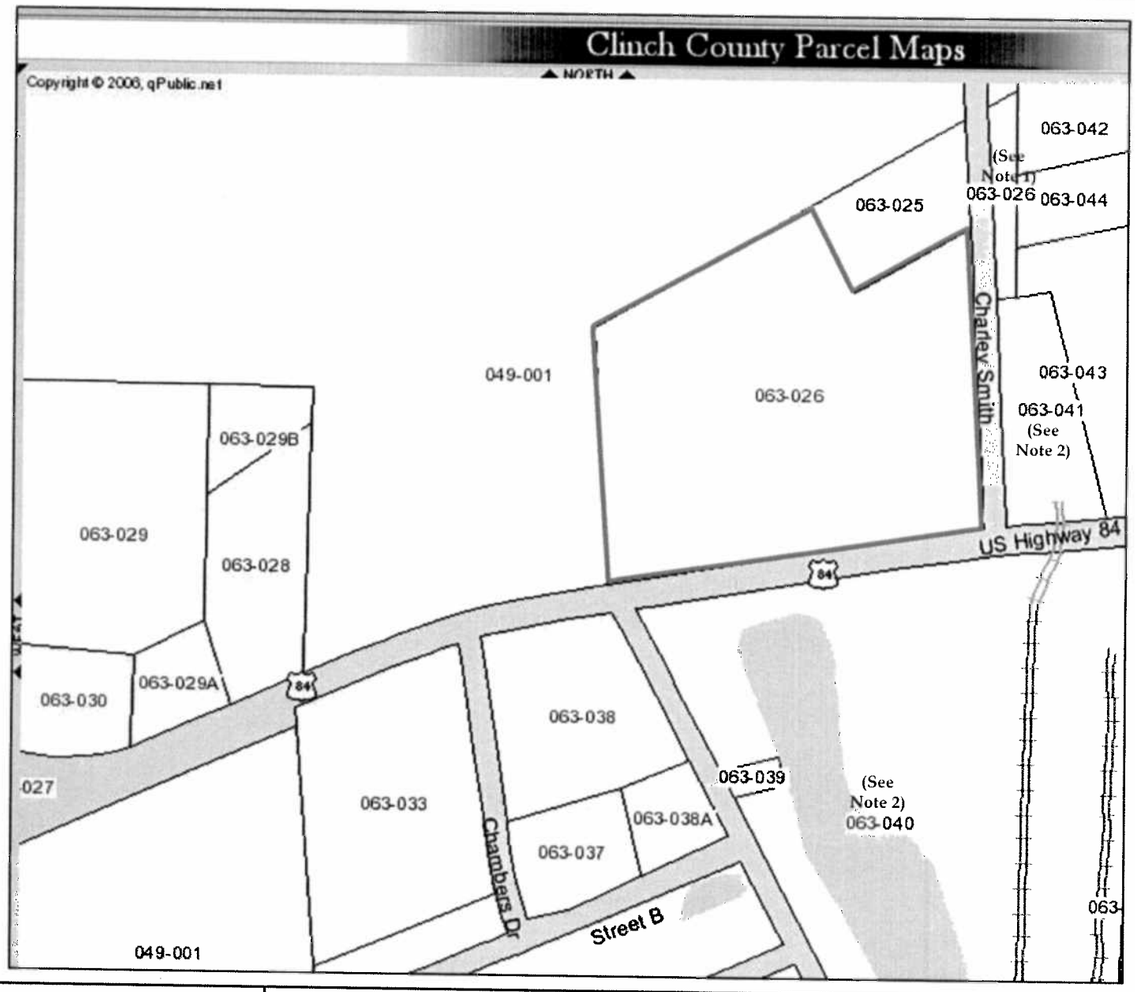
cc: David Reuland, EPD
Steve Diaz, BWAY
Mark Miller, Cornerstone

LEGEND

Qualifying Tax Parcel Boundary

NOTES

1. Although this portion of land is part of Tax Parcel 063-026, the parcels may be divided in the future, prior to implementing a UECA for 063-026
2. Although this tax parcel is also owned by BWAY Corporation, it is not considered to be a qualifying property under the VRP Application for HSI# 10731



ERM Environmental Resources Management	TAX PARCEL MAP (1inch = 400 feet) VRP APPLICATION FORMER BWAY DRUM SITE HOMERVILLE, GEORGIA	FIGURE 1 rev 12/10/10

LEGEND

MW-23	MONITORING WELL LOCATION (SHALLOW)
ERM-MW-7	MONITORING WELL LOCATION (DEEP)
— — —	APPROXIMATE PROPERTY LINE
- - - - - - - - -	APPROXIMATE POWER LINE EASEMENT
(19)	NAPHTHALENE CONCENTRATION (µg/L – MARCH 2010)
C C'	CROSS SECTION LINE

NOTES

CLEANUP STANDARD FOR NAPHTHALENE = 2,900 µg/L
HIGHEST CONCENTRATION OF NAPHTHALENE IN 2010 = 80 µg/L
HIGHEST HISTORICAL CONCENTRATION OF NAPHTHALENE = 140 µg/L

C'
ERM-MW-4 (<10)
(80) ERM-MW-3
ERM-MW-8 (<10)
ERM-MW-7 (<10)
FORMER DRUM DISPOSAL AREA
D'
D
ERM-MW-1 (<10)
MW-6 (DAMAGED)
ERM-MW-2 (<10)
C
MW-23 (<10)
MW-5 (<10)
CHARLEY SMITH ROAD
POWER EASEMENT
U.S. HIGHWAY 84
N
SCALE IN FEET
0 50 100 200

25124Site.DWG 3/25/10 SPV REV 4/12/10

ERM Environmental Resources Management

CURRENT GROUND WATER CONCENTRATIONS WITH CROSS-SECTION LOCATIONS
VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE 3-5

Table 1-2
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
	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

Environmental Resources Management

300 Chastain Center Blvd.
Suite 375
Kennesaw, GA 30144
(770) 590-8383
(770) 590-9164 (fax)

January 25, 2010

Ms. Carolyn Daniels
Georgia Environmental Protection Division
Hazardous Sites Response Program
2 Martin Luther King Jr. Dr.
Suite 1462 East
Atlanta, Georgia 30334

Subject: **Voluntary Investigation and Remediation Plan**
BWAY Drum Site (HSI #10731)
1601 Valdosta Highway, Tax Parcel No. 063-026
Homerville, Clinch County, Georgia

Dear Ms. Daniels:

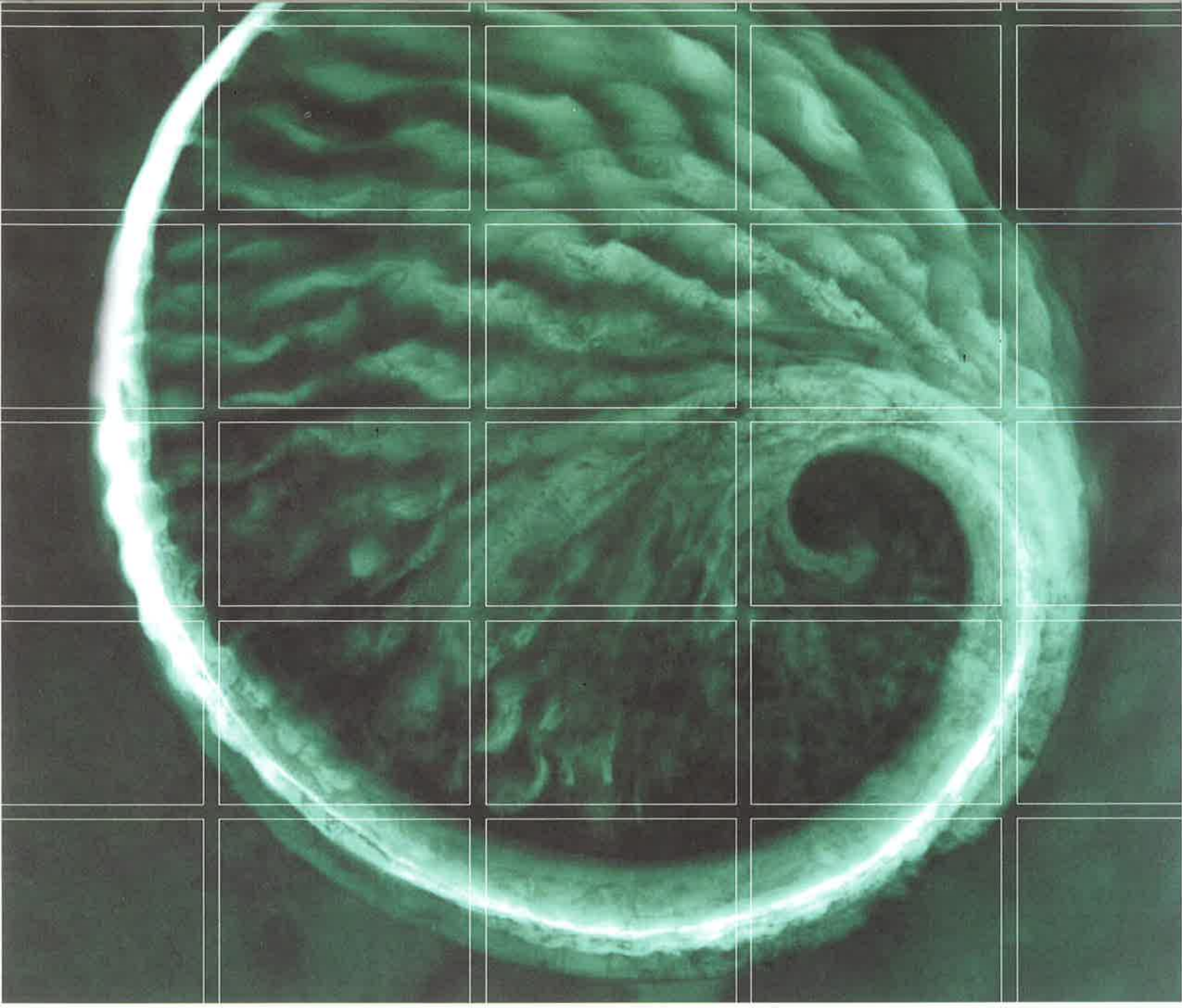
On Behalf of BWAY Corporation, Environmental Resources Management (ERM) is submitting the attached Voluntary Investigation and Remediation Plan (VIRP). One hard copy and two electronic copies are provided for your review. The purpose of this submittal is to address comments received from the EPD via email on December 22, 2010 and to gain acceptance of HSI Site # 10731 (specifically, Parcel 063-026) into Georgia's Voluntary Remediation Program. The attached VIRP is a revised version of the Voluntary Remediation Plan that was originally submitted to the EPD on April 14, 2010. Please contact me at 770-590-8383 if you have questions regarding this submittal.

Sincerely,

Shanna L. Thompson

Shanna L. Thompson, P.E.
Project Manager

Attachment
cc: Steve Diaz, BWAY – electronic copy / Mark Miller, Cornerstone – electronic copy



Voluntary Investigation and Remediation Plan
BWAY Drum Site
Homerville, Georgia
HSI Site No. 10731

January 25, 2011

www.erm.com

ERM

Delivering sustainable solutions in a more competitive world

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

This Voluntary Investigation and Remediation Plan is being submitted as a follow-up to the application for entry into the Voluntary Remediation Program (VRP) for the Former BWAY Drum Site located off of US-84 in Homerville, Georgia (HSI# 10731). A copy of the most recent version of the VRP Application Checklist is provided in Appendix A.

The Georgia Environmental Protection Division (EPD) responded to the initial February 15, 2010 VRP application via a letter dated February 26, 2010. Since that time ERM has submitted information to fulfill EPD's requests on the five occasions listed below.

- April 12, 2010 – Voluntary Remediation Plan submittal
- May 6, 2010 – Warranty deed submittal
- August 16, 2010 – Revised VRP Application submittal
- November 10, 2010 – Revised VRP Milestone Schedule and Soil Delineation Plan
- December 10, 2010 – Additional Response to EPD's 8/23/2010 Correspondence

This document has been revised to address comments received from the EPD via letter on August 23, 2010 and via email on December 22, 2010.

1.1 SITE DESCRIPTION AND HISTORY

The BWAY Drum Site (Site) is listed on Georgia's Hazardous Sites Inventory (HSI) as Site Number 10731. The Site is located on a wooded property across US-84 from the main plant (Tax Parcel ID 063-026). Specifically, the Site is situated northwest of the intersection of Charley Smith Road (also known as Woodlake Road) and Highway 84 (Figure 1-1). A map of the tax parcel boundaries is provided as Appendix B.

The history of Site discovery through submittal of the initial VRP Application is provided below.

- Dec. 7, 2001 - A utility contractor discovered drums on this undeveloped, wooded property
- Jan. 7, 2002 - BWAY notified EPD of the drum discovery
- Mar. 18, 2002 - EPD placed the Site on the HSI
- Aug. 2003 - Drums, drum remnants, waste materials, and soil were removed from this area. Compliance certification sampling for soils was performed.
- Feb. 2005 – The Compliance Status Report (CSR) for soils at this Site was accepted by GAEPD
- Jul. 28, 2005 - A Corrective Action Plan (CAP) was approved by the GAEPD
- 2007 – 2009 Ground water remediation pilot testing
- Feb. 15, 2010 – Submittal of the initial VRP Application and Fee

The Site addressed in this Voluntary Investigation and Remediation Plan is located adjacent to the BWAY Homerville plant, which 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 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.

As described in the 2005 CSR, analyses of soil samples collected in proximity to the drum disposal area demonstrated that the **soils are in compliance with the Type 1 Risk Reduction Standards (RRS); therefore, no additional corrective action with respect to soils at the Site is needed**.

Nine ground water monitoring wells are located in proximity to the drum disposal area: wells MW-5; MW-6; MW-23; ERM-MW-1 through ERM-MW-4; ERM-MW-7; and ERM-MW-8. The locations of these wells are shown in Figure 1-2. Ground water samples were collected from these wells regularly since 2004. ERM-MW-3 is currently the only monitoring well that has chemicals above HSRA Risk Reduction Standard (RRS).

Specifically, the only compound that consistently exceeds HSRA RRS is naphthalene, which has a RRS of 20 ug/L.

1.2 CONTAMINANTS OF CONCERN

Prior to 2003, both soil and ground water at this Site exhibited Contaminants of Concern (COCs) above background concentrations. However, soil and ground water sampling performed between 2003 and 2005 showed that the only COC remaining above HSRA RRS is naphthalene in ground water. Table 1-1 is a table of regulated substances detected at this Site and Table 1-2 is a table of Site delineation concentrations.

1.2.1 SOIL CONTAMINANTS OF CONCERN

Soil with contaminants of concern (COCs) above HSRA RRS were excavated, as documented in the CSR submittals. The confirmation samples collected indicated that soils remaining in place after the excavation are in compliance with Type 1 Risk Reduction Standards (RRS). The CSR was accepted by EPD in a letter dated February 16, 2005.

1.2.2 GROUND WATER CONTAMINANTS OF CONCERN

Ground water samples collected from this Site exhibited the following regulated VOCs between the Site discovery in 2001 and the Corrective Action Plan submittal in 2005: chloroethane, 1,1-dichloroethene, ethylbenzene, isopropylbenzene, methyl ethyl ketone, naphthalene, toluene, 1,1,1-trichloroethane, vinyl chloride, and xylenes.

At the time the 2005 CAP was submitted (which had guided remediation since 2005):

- The concentrations of ethylbenzene, methyl ethyl ketone, toluene, 1,1,1-trichloroethane, vinyl chloride, xylenes, barium, cadmium, chromium, and lead in the ground water at the Site were in compliance with (i.e., less than) their respective Type 1 RRS.
- The concentrations of isopropylbenzene, chloroethane and 1,1-dichloroethene in the ground water are in compliance with the Type 2 RRS.

- The concentration of naphthalene at well ERM-MW-3 was greater than the Type 1, 2, 3, and 4 RRS.

Based on this comparison, the CAP concluded that corrective action for this Site is limited to naphthalene in ground water.

1.3 RECEPTORS AND WATER USAGE

Two figures have been prepared to illustrate the potential receptors in the area around this Site. Figure 1-3 is a Receptor Map that shows the surrounding tax parcels and describes the potential receptors within the area. The table on Figure 1-3 gives a parcel-by-parcel evaluation of the potential exposure pathways. Figure 1-4 is a Water Usage Map that shows the location of the following relevant features: Bateman's Pond on parcel 063-040, wooded swamps on parcel 049-001, and drinking water wells on parcel 063-039.

The list below is a summary of the exposure pathways and potential receptors that will be considered during the exposure assessment (i.e. this list is a summary of the evaluation given on Figure 1-3) .

- ***Ground Water Exposure Pathway.*** The ground water exposure pathway is to be considered on properties where the ground water plume exists (063-026) or on nearby properties where ground water is extracted for use (063-039).
    - Parcel 063-026: Current data shows that the ground water plume is limited to this parcel, which is the qualifying tax parcel.
        - Additional delineation data will be collected to confirm this is the case.
        - A Uniform Environmental Covenant for tax parcel 063-026 will be used to restrict ground water extraction.
        - Since an actual ground water drinking well does not exist in the direction downgradient of the ground water plume, the exposure assessment for this site will include a hypothetical drinking water well located 1000 feet downgradient from the ground water plume.

- Parcel 063-039: Ground water potentiometric surface maps and modeling will be used to assess potential exposure to the City of Homerville ground water wells on this tax parcel.

- ***Vapor Intrusion Exposure Pathway.*** The vapor intrusion exposure pathway is to be considered on properties where the ground water plume exists near a building occupied by humans. The following three neighboring properties include buildings occupied by humans: tax parcels 063-041, 063-040, and 063-025. As described below, the current ground water data indicates that the ground water plume does exist near buildings:

  - Parcel 063-041: Three wells on this parcel show chemicals of concern are below laboratory detection limits (MW-5, MW-6, and ERM-MW-8).

  - Parcel 063-040: Two wells between the ground water plume and this parcel show chemicals of concern are below laboratory detection limits (MW-5 and MW-23).

  - Parcel 063-025: One well between the ground water plume and this parcel shows chemicals of concern are below laboratory detection limits (ERM-MW-4).

  The vapor intrusion pathway will be assessed further when delineation is completed.

  If needed, the Uniform Environmental Covenant for tax parcel 063-026 will include the requirement for vapor intrusion assessment prior to design of future site structures.

- ***Surface Water Exposure Pathway.*** The surface water pathway should be considered for creeks, ponds, wetlands, etc. within 1000 feet of the ground water plume. The following three properties have potential surface water receptors: 063-026, 063-040, and 049-001, as described below.

  - Parcel 063-026: This is the qualifying tax parcel, which will have a Uniform Environmental Covenant discussing the ground water plume. This parcel has intermittent ditches and ponds that vary depending on rainfall.

  - Parcel 063-040: This parcel located south of the ground water plume. This parcel has a surface water feature, Bateman's

Pond, which is potentially within 1000 feet of the ground water plume.

- Parcel 049-001: This parcel is located west/northwest of the ground water plume. The topographic map for this parcel indicates the presence of wooded swamp areas. The locations of the swamp areas have not been confirmed in the field.

The exposure assessment will be completed when the delineation effort is completed, and this is discussed in detail in Section 4 of this document.

1.4 PREVIOUS REMEDIATION

Soil excavation and ground water remediation pilot tests have already been performed at this Site, as described below.

1.4.1 SOIL EXCAVATION AND CONFIRMATION SAMPLING

ERM conducted the excavation of drums, waste materials, and soil at the Site in July 2003; this remediation activity brought the soils at HSI #10731 into compliance with HSRA Type 1 RRS for soil. Compliance certification for soils has already been performed, as described in Section 1.3.

Approximately 1,422 tons of material that was classified as nonhazardous waste and 9.36 tons of material that was classified as a hazardous waste were removed from the Site. The waste materials included drums of dry paint, paint residue, drum remnants, and soil. The approximate boundaries of the excavated area are shown on Figure 1-2. The depth of the excavation ranged from 5-to-10 feet deep.

ERM collected confirmation samples that were sent to a laboratory for analysis of VOCs and metals of interest. These samples indicated that soils remaining in place after the excavation are in compliance with Type 1 Risk Reduction Standards (RRS). The excavated area was backfilled with approximately 2,208 tons of sandy soil. After backfilling, the area was graded, fertilized, seeded and mulched.

1.4.2 GROUND WATER REMEDIATION

Two methods of ground water remediation have been pilot tested at this Site, as described below.

High Vacuum Extraction. The purpose of using high vacuum extraction (HVE) is primarily to effect the physical removal of ground water and associated contaminants. The HVE event was successful in removing ground water quickly; however, it did not reduce concentrations of naphthalene at the pilot test monitoring point, ERM-MW-3.

Enhanced Bioremediation. The Site aquifer conditions are normally anaerobic as is evidenced by very low dissolved oxygen conditions. Naphthalene degrades under a number of anaerobic metabolic pathways, including sulfate reduction (Karthikeyan and Bhandari 2001). The pilot test hypothesis was that we could enhance biodegradation by injection of sulfate, which can act as an electron acceptor.

As described in previous reports to the EPD, the pilot injection conducted in late 2007 consisted of two separate events. Epsom Salt, $MgSO_4$, was used as the injectate. A total of approximately 10,000 gallons of solution were injected over eight injection points. Injection horizons were targeted throughout the shallow water table, at 11 ft, 16 ft, and 20 ft bgs.

The pilot test showed that in-situ injection can be performed in the Site geology; however, the radius of influence (ROI) is low. The main causes of the low ROI are (1) the low permeability of the silty sands and (2) the extremely low hydraulic gradient at this Site. The pilot test of this technology was not successful in reducing concentrations of naphthalene at the pilot test monitoring well, ERM-MW-3.

2.0 CLEANUP STANDARDS

2.1 SOIL CLEANUP STANDARDS

Cleanup standards for soil are not needed at this Site, since the Site soils were previously documented in the 2005 CSR as being in compliance with the Type 1 RRS.

2.2 GROUND WATER CLEANUP STANDARDS AT POINTS OF EXPOSURE

ERM calculated RRS for soil and ground water as part of the February 11, 2005 CSR. EPD proposed slight modifications to these RRS values in a correspondence dated February 16, 2005. ERM incorporated the EPD-proposed RRS into the 2005 CAP for the BWAY Drum Site. The HSRA RRS will continue to be used as cleanup standards for ground water at the point of exposure, as described in the definition below:

POTENTIAL POINT OF GROUND WATER EXPOSURE	*DIRECTION FROM PLUME*	*POINT OF DEMONSTRATION*
The hypothetical point of drinking water exposure located at a distance of 1000 feet downgradient from the delineated site contamination	*NORTH & WEST (i.e. downgradient direction)*	*ERM-MW-4* *Additional POD well to be installed west of ERM-MW-3*
The public water supply wells located south of U.S. Highway 84	*SOUTH*	*MW-23* *ERM-MW-2*

2.3 GROUND WATER CLEANUP STANDARDS WITHIN SOURCE AREA

The cleanup standards for the source (i.e. for ground water within the naphthalene plume boundary) will be calculated to be protective of the various potential points of ground water exposure described in Section 1.4. The entire plume will be held to the source cleanup standard. The source cleanup standards will likely be calculated using the BIOSCREEN model. BIOSCREEN is a screening model intended for the simulation of subsurface contaminant transport of dissolved hydrocarbons. It is based on the Domenico analytical solute transport model and has the ability to simulate advection, dispersion, adsorption, aerobic decay, and anaerobic reactions, which have been shown to be dominant biodegradation processes at many petroleum release sites. This model will likely be selected for use because it was developed by the USEPA through collaboration with others and is recognized by the USEPA as a "screening tool for remediation managers to identify sites where natural attenuation is most likely to be protective of human health and the environment" (BIOSCREEN users manual).

The primary objective of the modeling will be to determine site-specific source area concentrations of naphthalene protective of human health and the environment. ERM will use data from monitoring wells at the Site that have years of monitoring history, as well as several new wells that will be installed to assist with horizontal and vertical delineation. The modeling effort will include:

- Calibration runs based on points of exposure,
- Use of future simulation runs to determine if the points of exposure are impacted,
- Use of back-calculated runs for determining acceptable source concentrations, concentrations at PODs, etc.).

3.0 GROUND WATER DELINEATION & CURRENT STATUS

3.1 GROUND WATER ELEVATION MONITORING

A potentiometric surface map was created from data most recently collected from the Site monitoring wells using an electronic water level meter (Figure 3-1). Ground water movement at the Site is predominately toward the west/northwest. A summary of historical and current ground water level measurements is provided in Table 3-1.

3.2 GROUND WATER DELINEATION

Figures showing the current interpretation of ground water delineation are provided in plan view (Figure 3-2) and in cross section (Figures 3-3 and 3-4). The current naphthalene plume delineation is noted on these figures as a 10 ug/L isoconcentration boundary, since the laboratory reporting limit is most commonly 10 ug/L. As described in Section 4 of this Plan, additional ground water monitoring wells will be installed to complete the horizontal and vertical delineation. Another intent of the well installation is to achieve delineation within the boundaries of tax parcel 063-026 to demonstrate that this is the only tax parcel requiring a Uniform Environmental Covenant.

3.3 CURRENT GROUND WATER CONDITIONS

Ground water samples were most recently collected on March 15, 2010 using low flow procedures as requested in the April 9, 2007 correspondence from GAEPD. Samples were collected using a peristaltic pump with polyethylene tubing (specifically, the soda straw method). Low flow purging methods were used and parameters were monitored for stabilization. Sampling logs and laboratory data reports were previously provided to the EPD with the April 12, 2010 Voluntary Remediation Plan submittal. Ground water samples were placed into containers provided by the analytical laboratory. ERM personnel transferred the samples to Analytical Services, Inc. (ASI), located in Atlanta, Georgia. The analytical results for these events were used to

update the historical ground water quality data table for the Site. The updated data table is provided in Table 3-2.

The current conditions of naphthalene in ground water are shown are shown in plan view (Figure 3-5) and in cross section (Figures 3-6 and 3-7). The ground water concentrations from March 2010 are shown on each of these figures. ERM-MW-3 was the only well where naphthalene was detected, since the other wells exhibited concentrations below the laboratory reporting limit of 10 ug/L.

The ground water analysis will be adjusted to meet the requirements set forth in the August 23, 2010 letter from the EPD. Historically, the ground water analysis has been limited to naphthalene, with the exception of full EPA Method 8260 analysis at the downgradient well, ERM-MW-4. Future sampling events will include the list of all compounds detected in ground water in the past, as described in Section 1.3 and Table 1-2. In addition to the previously detected compounds, acetaldehyde will be analyzed in samples near previous magnesium sulfate pilot testing (specifically, ERM-MW-3 and ERM-MW-4).

3.4 QUALITY ASSURANCE/QUALITY CONTROL SAMPLING

Quality assurance/quality control (QA/QC) samples were routinely included in the ground water sampling discussed above. These include trip blanks and duplicate samples. Analytical reports for the QA/QC samples from the March 2010 sampling event were included with the April 12, 2010 submittal of a Voluntary Remediation Plan.

A summary of the duplicate sample results for naphthalene is provided in Table 3-3. The correlation between the naphthalene concentration in ERM-MW-3 and the duplicate samples has been acceptable. Table 3-3 also shows that the trip blanks were consistently below laboratory detection limits.

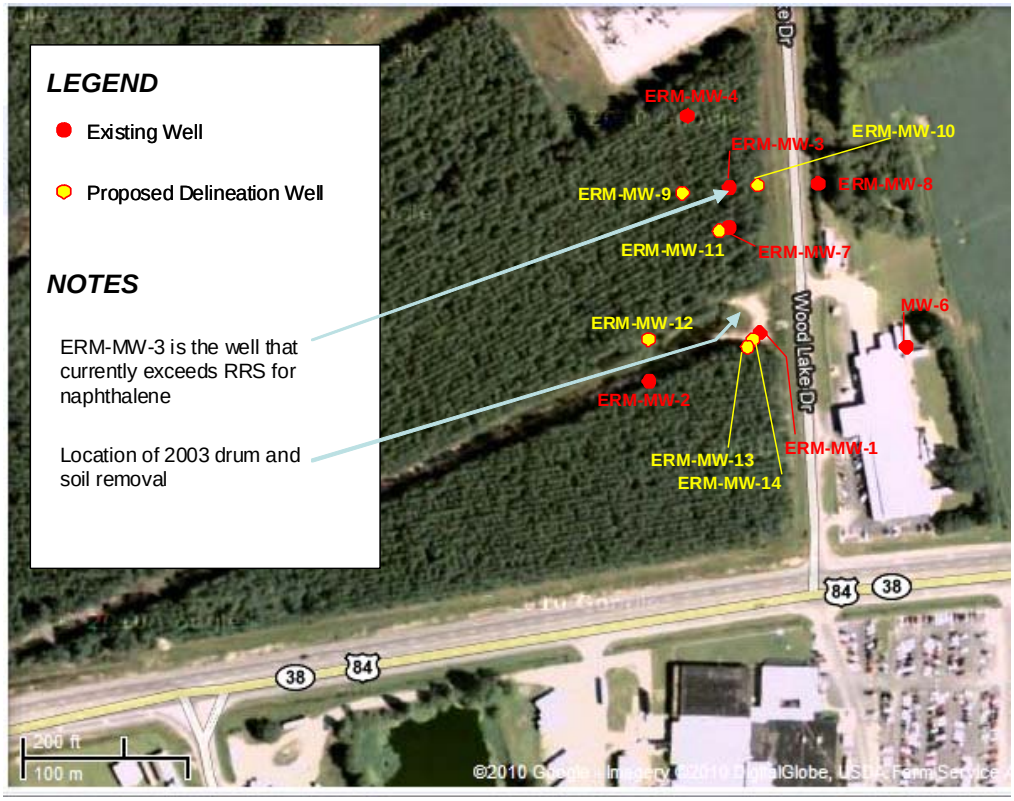
4.0 GROUND WATER INVESTIGATION AND REMEDIATION PLAN

This section presents the plan for future delineation, institutional control, and assessment activities to will be performed to move the qualifying property toward site closure. A milestone schedule of future activities is provided in Figure 4-1.

4.1 GROUND WATER DELINEATION

The first steps toward achieving horizontal delineation will be taken on Tax Parcel 063-026. The design of the new delineation wells will incorporate the need to (1) better understand the ground water flow pattern and to (2) fulfill requests for specific delineation objectives set in the EPD letter to BWAY dated August 23, 2010. A preliminary map of the six delineation well locations is shown below. We anticipate these wells will be installed and sampled before the end of 2010.

Preliminary Locations for Delineation Wells



The new delineation wells will be screened at varied depth intervals to fulfill requests in EPD's August 23, 2010 letter.

4.2 GROUND WATER MODELING TO ASSESS GROUND WATER EXPOSURE PATHWAYS

The model will be calibrated based on site conditions and validated with an appropriate number of groundwater sampling results over time in order to be valid for proposing site-specific ground water cleanup standards for the ground water plume. BWAY will attempt to perform the modeling per the requests in the August 23, 2010 letter which states, "At a minimum, EPD recommends the following model simulation runs must be conducted for all potential human and ecological receptor exposure pathways/POEs." Thus, the following model simulations will be run:

- ***Calibration Run.*** An initial calibration based on:
    - Drum excavation area as the source of ground water contamination,
    - The simulation time equal to the time elapsed between the estimated time of release and the calibration data. We will attempt to incorporate EPD's suggestion that the model begin with a release date around August 1984, and
    - An infinite source with a concentration equal to contaminant solubility in water (worst case condition) and maximum contaminant concentration detected at the source.
- ***Validation Runs***. Used to assess simulation time sensitivity based on the following criteria:
    - A minimum of two validation runs will be conducted once the model is calibrated.
    - The validation runs will have the same input values, with the exception of simulation time. BWAY will attempt to have the simulation times match the actual ground water sampling dates. If the predictions are not consistent, BWAY will consider the use of different modeling software.

- ***Projected Plume Extent Runs***. Used to assess maximum plume transport distance by:

    - Increasing the simulation time to determine the projected maximum extent of the ground water contaminant plume.

    - Assessing the maximum extent to determine if additional remedial efforts will be necessary based on established POEs for the ground water plume.

- ***Target Cleanup Concentration Run.*** Used to estimate maximum acceptable source concentrations for each completed exposure pathway that are protective of the POEs to demonstrate:

    - Impact of varied source concentrations,

    - Impact of varied simulation times, and

    - What concentration of ground water contaminants can be detected at each POD well and still protect the POE wells.

Future submittals containing the fate and transport modeling results will contain paper copies of data input and output worksheets for each model runs, per EPD's August 23, 2010 request.

4.3 ASSESSMENT OF VAPOR INTRUSION EXPOSURE PATHWAY

The vapor intrusion pathway will be considered for properties that have buildings within 1000 feet of the ground water plume. Specifically, the following three properties have potential vapor intrusion receptors:

- Parcel 063-041: Three wells on this parcel show chemicals of concern are below laboratory detection limits (MW-5, MW-6, and ERM-MW-8).

- Parcel 063-040: Two wells between the ground water plume and this parcel show chemicals of concern are below laboratory detection limits (MW-5 and MW-23).

- Parcel 063-025: One well between the ground water plume and this parcel shows chemicals of concern are below laboratory detection limits (ERM-MW-4).

As described above, the current ground water data indicates that the ground water plume does exist near buildings. However, a detailed assessment of this hypothesis will be performed and documented in future submittals. The assessment will be performed when the delineation effort is completed.

4.4 ASSESSMENT OF SURFACE WATER EXPOSURE PATHWAY

The surface water pathway should be considered for creeks, ponds, wetlands, etc. within 1000 feet of the ground water plume. Specifically, the following three properties have potential surface water receptors: 063-026, 063-040, and 049-001.

- Parcel 063-026: This is the qualifying tax parcel, which will have a Uniform Environmental Covenant discussing the ground water plume. This parcel has intermittent ditches and ponds that vary depending on rainfall.

- Parcel 063-040: This parcel located south of the ground water plume. This parcel has a surface water feature, Bateman's Pond, which is potentially within 1000 feet of the ground water plume.

- Parcel 049-001: This parcel is located west/northwest of the ground water plume. The topographic map for this parcel indicates the presence of wooded swamp areas. The locations of the swamp areas have not been confirmed in the field.

The surface water exposure assessment will be performed when the delineation effort is completed.

4.5 INSTITUTIONAL CONTROLS

BWAY intends to implement institutional controls restricting the future uses of the properties relying on controls for the purpose of certifying compliance with site-specific cleanup standards. The covenant will conform to O.C.G.A. 44-16-1.

4.6 COMPLIANCE STATUS REPORT

After delineation and assessment activities are completed, BWAY will submit a CSR to the GA EPD certifying compliance with the VRP cleanup standards for ground water. The CSR will be prepared in accordance with Section 12-8-107(e) of the VRP Act.

Following EPD's concurrence with the CSR certifying compliance, monitoring wells installed for investigation of the Drum Site will be abandoned. However, the following monitoring wells will be left in place to serve as POD wells (ERM-MW-4, ERM-MW-8, MW-5, and MW-23).

4.7 COST ESTIMATE

The estimated cost of the remaining activities is estimated to include:

- Installation of Additional Delineation Wells ($60,000),
- Ground Water Modeling and Exposure Pathway Analysis ($15,000),
- Additional Ground Water Sampling ($22,000),
- Preparation of two Semi-Annual Reports ($8,000),
- Preparation of a Compliance Status Report ($10,000) and
- Monitoring well abandonment ($5,000).

This is an estimated total of $120,000 to perform investigation, fate and transport modeling, and documentation activities in an effort to have the site removed from the Hazardous Sites Inventory via the Voluntary Remediation Program. This method of site closure will require the use of Institutional Controls on tax parcel 063-026.

If EPD requires annual sampling of POD wells for a certain time period following de-listing of the site, that sampling and annual reporting effort is estimated to be on the order of $10,000 per year.

5.0 REFERENCES

Aamand J et al; J Contam Hydrology 4: 299-312 (1989)

Anderson and Loveley, Enviro. Sci. Technol., 34, 2261-2266 (2000)

Herbes SE, Schwall LR; Appl Environ Microbiol 35: 306-16 (1978)

Heitkamp MA et al; Appl Environ Microbiol 53: 129-36 (1987)

Karthikeyan and Bhandari . Anaerobic Biotransformation of Aromatic and Polycyclic Aromatic Hydrocarbons in Soil Microcosms: A Review, , Journal of Hazardous Substance Research 3:1-19 (2001)

Lee RF; 1977 Oil Spill Conf; Amer Petrol Inst pp. 611-6 (1977)

Thomas JM et al; Environ Toxicol Chem 6: 607-14 (1987)

Van der Linden AC; Dev Biodegrade Hydrocarbons 1: 165-200 (1978)

6.0 *PE CERTIFICATION AND SUPPORTING DOCUMENTS*

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

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

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

A summary and description of the hours invoiced by the Professional Engineer since the previous submittal to EPD is provided in Appendix C.

Shanna Thompson, PE031306 — Printed Name and GA PE/PG Number

1/25/2011 — Date

Shanna Thompson — Signature and Stamp

Tables

Table 1-1
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

Historically, the only compound that exceeded HSRA RRS in ground water was naphthalene, thus only naphthalene was addressed in previous HSRA CAPs

Table 1-2
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 3-1
Ground Water Elevation Data

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

Date	Well ID	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
8/17/2005	MW-5	179.49	2.64	176.85
	MW-6	183.05	5.84	177.21
	MW-23	182.34	6.51	175.83
	ERM-MW-1	182.14	4.9	177.24
	ERM-MW-2	182.51	5.71	176.80
	ERM-MW-3	182.98	6.00	176.98
	ERM-MW-4	183.69	7.04	176.65
	ERM-MW-7	182.66	NM	-
11/4/2005	MW-5	179.49	5.88	173.61
	MW-6	183.05	9.43	173.62
	MW-23	182.34	9.09	173.25
	ERM-MW-1	182.14	8.51	173.63
	ERM-MW-2	182.51	9.37	173.14
	ERM-MW-3	182.98	9.51	173.47
	ERM-MW-4	183.69	10.46	173.23
	ERM-MW-7	182.66	NM	-
8/31/2006	MW-5	179.49	NM	-
	MW-6	183.05	11.71	171.34
	MW-23	182.34	10.18	172.16
	ERM-MW-1	182.14	10.71	171.43
	ERM-MW-2	182.51	11.11	171.40
	ERM-MW-3	182.98	12.09	170.89
	ERM-MW-4	183.69	13.05	170.64
	ERM-MW-7	182.66	24.94	157.72
2/26/2007	MW-5	179.49	4.26	175.23
	MW-6	183.05	7.54	175.51
	MW-23	182.34	7.50	174.84
	ERM-MW-1	182.14	6.64	175.50
	ERM-MW-2	182.51	7.59	174.92
	ERM-MW-3	182.98	7.51	175.47
	ERM-MW-4	183.69	8.42	175.27
	ERM-MW-7	182.66	24.74	157.92
6/14/2007	MW-5	179.49	6.92	172.57
	MW-6	183.05	10.36	172.69
	MW-23	182.34	10.16	172.18
	ERM-MW-1	182.14	9.57	172.57
	ERM-MW-2	182.51	10.52	171.99
	ERM-MW-3	182.98	10.62	172.36
	ERM-MW-4	183.69	11.78	171.91
	ERM-MW-7	182.66	26.51	156.15
	ERM-MW-8	UNK	10.92	-
9/17/2007	MW-5	179.49	NM	-
	MW-6	183.05	9.86	173.19
	MW-23	182.34	9.24	173.10
	ERM-MW-1	182.14	9.86	172.28
	ERM-MW-2	182.51	9.66	172.85
	ERM-MW-3	182.98	9.98	173.00
	ERM-MW-4	183.69	10.75	172.94
	ERM-MW-7	182.66	25.6	157.06
	ERM-MW-8	UNK	9.24	-
12/17/2007	MW-5	179.49	NM	-
	MW-6	183.05	9.81	173.24
	MW-23	182.34	9.19	173.15
	ERM-MW-1	182.14	8.92	173.22
	ERM-MW-2	182.51	9.70	172.81
	ERM-MW-3	182.98	9.93	173.05
	ERM-MW-4	183.69	10.69	173.00
	ERM-MW-7	182.66	25.26	157.40
	ERM-MW-8	182.41	9.07	173.34
3/3/2008	MW-5	179.49	3.17	176.32
	MW-6	183.05	6.40	176.65
	MW-23	182.34	6.90	175.44
	ERM-MW-1	182.14	5.50	176.64
	ERM-MW-2	182.51	6.35	176.16
	ERM-MW-3	182.98	6.50	176.48
	ERM-MW-4	183.69	7.40	176.29
	ERM-MW-7	182.66	NM	-
	ERM-MW-8	182.41	5.78	176.63

Table 3-1
Ground Water Elevation Data

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

Date	Well ID	Reference Point Elevation (feet)	Depth to Water Table (feet)	Water Table Elevation (feet)
9/29/2008	MW-5	179.49	5.47	174.02
	MW-6	183.05	8.86	174.19
	MW-23	182.34	8.78	173.56
	ERM-MW-1	182.14	8.02	174.12
	ERM-MW-2	182.51	9.02	173.49
	ERM-MW-3	182.98	9.06	173.92
	ERM-MW-4	183.69	10.07	173.62
	ERM-MW-7	182.66	25.99	156.67
	ERM-MW-8	182.41	8.27	174.14
12/9/2008	MW-5	179.49	4.01	175.48
	MW-6	183.05	7.23	175.82
	MW-23	182.34	7.59	174.75
	ERM-MW-1	182.14	6.39	175.75
	ERM-MW-2	182.51	7.37	175.14
	ERM-MW-3	182.98	7.25	175.73
	ERM-MW-4	183.69	8.19	175.50
	ERM-MW-7	182.66	24.86	157.80
	ERM-MW-8	182.41	6.52	175.89
3/11/2009	MW-5	179.49	3.69	175.80
	MW-6	183.05	6.91	176.14
	MW-23	182.34	7.34	175.00
	ERM-MW-1	182.14	6.08	176.06
	ERM-MW-2	182.51	7.04	175.47
	ERM-MW-3	182.98	6.99	175.99
	ERM-MW-4	183.69	7.96	175.73
	ERM-MW-7	182.66	24.28	158.38
	ERM-MW-8	182.41	6.27	176.14
6/30/2009	MW-5	179.49	4.92	174.57
	MW-6	183.05	8.87	174.18
	MW-23	182.34	6.07	176.27
	ERM-MW-1	182.14	7.93	174.21
	ERM-MW-2	182.51	6.01	176.50
	ERM-MW-3	182.98	9.08	173.90
	ERM-MW-4	183.69	10.12	173.57
	ERM-MW-7	182.66	25.07	157.59
	ERM-MW-8	182.41	7.76	174.65
9/28/2009	MW-5	179.49	6.42	173.07
	MW-6	183.05	10.03	173.02
	MW-23	182.34	9.26	173.08
	ERM-MW-1	182.14	8.95	173.19
	ERM-MW-2	182.51	9.62	172.89
	ERM-MW-3	182.98	9.91	173.07
	ERM-MW-4	183.69	10.64	173.05
	ERM-MW-7	182.66	24.48	158.18
	ERM-MW-8	182.41	8.26	174.15
12/9/2009	MW-5	179.49	NR	NR
	MW-6	183.05	NR	NR
	MW-23	182.34	NR	NR
	ERM-MW-1	182.14	NR	NR
	ERM-MW-2	182.51	NR	NR
	ERM-MW-3	182.98	7.85	175.13
	ERM-MW-4	183.69	8.70	174.99
	ERM-MW-7	182.66	NR	NR
	ERM-MW-8	182.41	NR	NR
3/15/2010	MW-5	179.49	2.55	176.94
	MW-6	183.05	Damaged	Damaged
	MW-23	182.34	6.46	175.88
	ERM-MW-1	182.14	4.86	177.28
	ERM-MW-2	182.51	5.73	176.78
	ERM-MW-3	182.98	6.02	176.96
	ERM-MW-4	183.69	7.10	176.59
	ERM-MW-7	182.66	23.15	159.51
	ERM-MW-8	182.41	5.41	177.00

Note: NM = Not Measured. MW-5 was blocked by a vehicle. ERM-MW-7 was not installed.
Note: UNK= Elevation Unknown at time of update.

Table 3-2
Ground Water VOC Monitoring Data

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

Well ID	VOCs Detected[1]	Concentration (µg/L)																			
		Sep-03	Dec-04	Jan-05	Aug-05	Nov-05	Feb-06	Aug-06	Feb-07	Jun-07	Sep-07	Dec-07	Mar-08	Apr-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10
MW-5	None	NS	< 10.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**Naphthalene <10**
MW-6	None	NS	< 10.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS/Well Damaged**
MW-23	1,1-dichloroethene	< 5.	8	8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**Naphthalene <10**
ERM-MW-1	Chloroethane	< 5.	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**Naphthalene <10**
	Ethylbenzene	44	< 5.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	Toluene	65	< 5.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	1,1,1-trichloroethane	9	< 5.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	Xylenes, total	250	< 5.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
ERM-MW-2	None	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**Naphthalene <10**
ERM-MW-3	1,1-dichloroethene	9	8	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS**
	Ethylbenzene	110	120	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS**
	Isopropylbenzene	25	26J	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS**
	Naphthalene	24	34	NS	69	48	66	65	85	NS	52	< 10.	57	93	52	64	56	65	96	34	**80**
	Toluene	9	6	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS**
	Vinyl chloride	2	< 2.	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS**
	Xylenes, total	220	220	NS	NA	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**NS**
ERM-MW-4	1,1-dichloroethene	NS	6	5	5	NS	< 5.	< 5.	< 5.	NS	< 2.	< 2.	< 5.	< 5.	< 5.	< 5.	< 2.	< 2.	< 2.	< 2.	**Naphthalene <10**
	Ethylbenzene	NS	5	5	< 5.	NS	5	< 5.	< 5.	NS	< 2.	< 2.	< 5.	< 5.	< 5.	< 5.	< 2.	< 2.	< 2.	< 2.	
	Xylenes	NS	NS	< 5.	< 5.	NS	5	< 5.	< 5.	NS	< 5.	< 5.	< 10.	< 5.	< 5.	< 5.	< 5.	< 5.	< 5.	< 5.	
ERM-MW-7	1,1-dichloroethene	NS	NS	NS	NS	NS	6	< 5.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**Naphthalene <10**
ERM-MW-8	Naphthalene	NS	NS	NS	NS	NS	NS	NS	NS	< 10.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**Naphthalene <10**

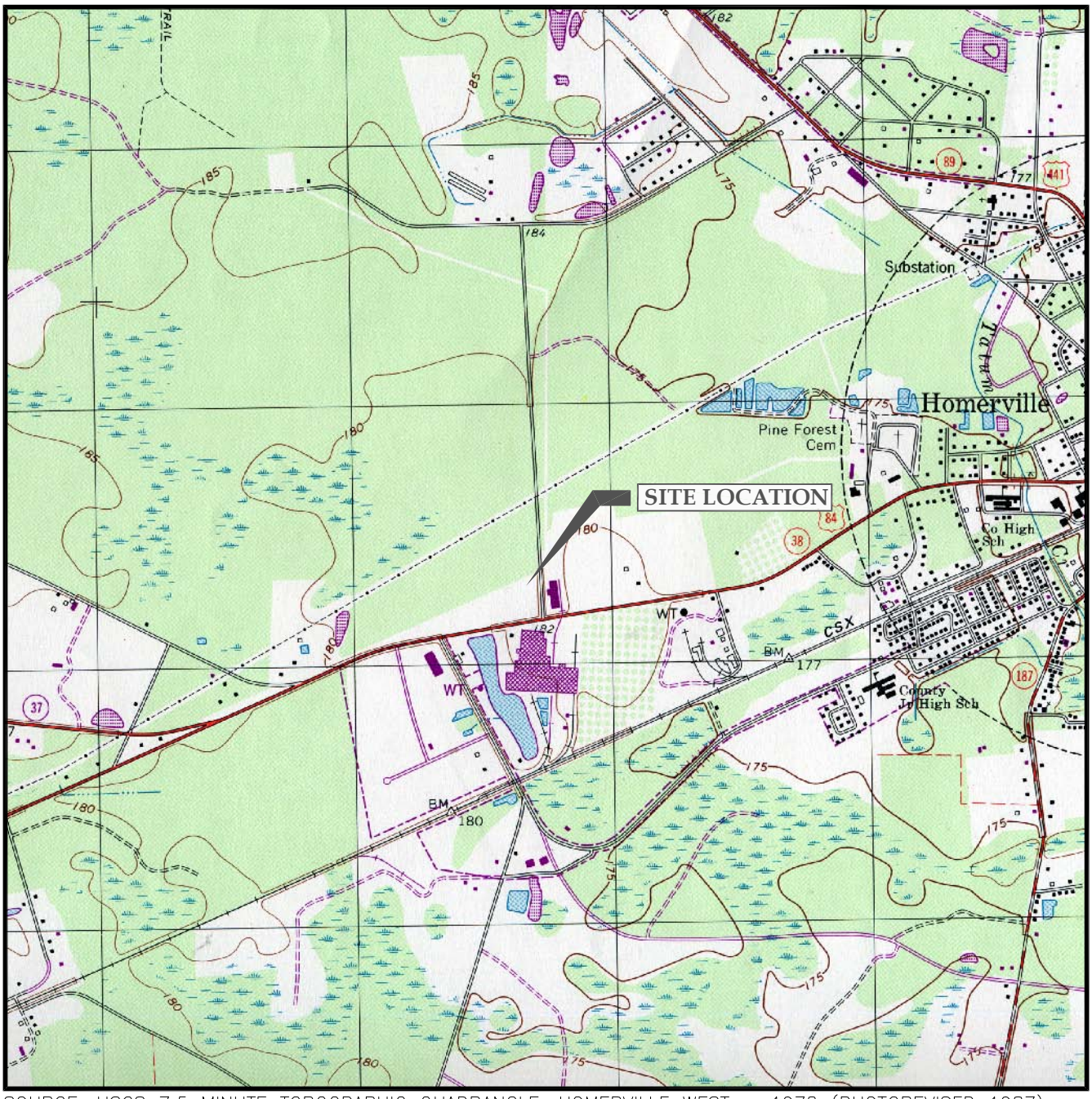
Notes:
1. Only VOCs that have been detected in ground water at the site are listed. Naphthalene results are shown for all wells
2. NS = Not Sampled.
3. J = Estimated value.
4. NA = Not Analyzed.

Table 3-3
Ground Water Monitoring QA/QC Data

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

Date	Trip Blank Naphthalene Concentration (ug/L)	ERM-MW-3 Naphthalene Concentration (ug/L)	Duplicate Sample Naphthalene Concentration (ug/L)	Percent Difference Between ERM-MW-3 and Its Duplicate
Mar-08	< 5	57	57	0%
Apr-08	< 10	93	86	-8%
Sep-08	< 10	52	53	2%
Dec-08	< 10	64	64	0%
Mar-09	NS	56	49	-13%
Jun-09	< 10	65	67	3%
Sept-09	< 10	96	99	3%
Dec-09	< 10	34	36	6%
Mar-10	< 10	80	74	-8%

Figures



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 10 FEET

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

GEORGIA

QUADRANGLE LOCATION

N

25124Site.DWG 3/25/10 SPV REV 3/29/10

ERM **Environmental Resources Management**

SITE LOCATION

VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE
1-1

LEGEND

MW-23 MONITORING WELL LOCATION (SHALLOW)

ERM-MW-7 MONITORING WELL LOCATION (DEEP)

APPROXIMATE PROPERTY LINE

APPROXIMATE POWER LINE EASEMENT

ERM-MW-4

ERM-MW-3

ERM-MW-8

ERM-MW-7

FORMER DRUM DISPOSAL AREA

ERM-MW-1

MW-6

CHARLEY SMITH ROAD

ERM-MW-2

POWER EASEMENT

MW-5

MW-23

U.S. HIGHWAY 84

N

SCALE IN FEET

0 50 100 200

25124Site.DWG 3/29/10 SPV REV

Environmental Resources Management

ERM

MONITORING WELL LOCATION MAP

VOLUNTARY REMEDIATION PLAN

BWAY CORPORATION (HSI # 10731)

HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE

1-2

TYPE *	PARCEL ID**	PROPERTY OWNER	POTENTIAL RECEPTORS ON PROPERTY?
A	049-001 ***	RAYONIER FOREST RESOURCES LP	NO HUMAN RECEPTORS ON THIS PROPERTY. POTENTIAL IMPACT TO SURFACE WATER BODIES (WETLANDS) WILL BE ASSESSED AS PART OF PARTICIPATION IN THE VOLUNTARY REMEDIAITON PROGRAM. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE HORIZONTAL DELINEATION IS COMPLETE.
C	063-025 ***	UNLISTED ON TAX MAP – SITE VISIT INDICATES IT IS A POWER SUBSTATION	POTENTIAL VAPOR INTRUSION RECEPTOR IN THE FORM OF OCCASIONAL EMPLOYEES. GROUND WATER SAMPLES FROM THE WELL NEAR THIS PROPERTY BOUNDARY (ERM-MW-4) SHOW THE CHEMICALS OF CONCERN ARE CONSISTENTLY BELOW LABORATORY DETECTION LIMITS. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE HORIZONTAL DELINEATION IS COMPLETE. ERM-MW-4 WILL SERVE AS A POD WELL BETWEEN THE DRUM SITE AND THIS PROPERTY.
A	063-042	COGDELL BERRY FARM LLC	NO / UPGRADIENT
G	063-044	CLINCH COUNTY DEVELOPMENT AUTHORITY	NO / UPGRADIENT
G	063-043	CLINCH COUNTY DEVELOPMENT AUTHORITY	NO / UPGRADIENT
C	063-041	BROCKWAY STANDARD	POTENTIAL VAPOR INTRUSION RECEPTOR IN THE FORM OF FULL-TIME EMPLOYEES. HOWEVER, GROUND WATER SAMPLES FROM THE THREE WELLS ON THIS PROPERTY (MW-5, MW-6, AND MW-8) SHOW THE CHEMICALS OF CONCERN ARE CONSISTENTLY BELOW LABORATORY DETECTION LIMITS. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE HORIZONTAL DELINEATION IS COMPLETE. ERM-MW-8 WILL SERVE AS A POD WELL BETWEEN THE DRUM SITE AND THIS BUILDING.
A	063-061	COGDELL BERRY FARMS LLC	NO / UPGRADIENT
C	063-040	BROCKWAY STANDARD	POTENTIAL SURFACE WATER RECEPTOR IN THE FORM OF BATEMAN'S POND. GROUND WATER SURFACE MAPS AND MODELING WILL BE PERFORMED TO ASSESS THIS POTENTIAL RECEPTOR. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE DELINEATION IS COMPLETE. POTENTIAL VAPOR INTRUSION RECEPTOR IN THE FORM OF FULL-TIME EMPLOYEES. THE RISK TO THIS POTENTIAL RECEPTOR WILL BE ASSESSED. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE HORIZONTAL DELINEATION IS COMPLETE. HOWEVER, GROUND WATER SAMPLES FROM WELLS BETWEEN THE DRUM REMOVAL AREA AND THIS PROPERTY SHOW THE CHEMICALS OF CONCERN ARE CONSISTENTLY BELOW LABORATORY DETECTION LIMITS. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE DELINEATION IS COMPLETE. MW-23 AND MW-5 WILL SERVE AS POD WELLS BETWEEN THE DRUM SITE AND THIS PROPERTY.
G	063-039	CITY OF HOMERVILLE	POTENTIAL GROUND WATER RECEPTOR IN THE FORM OF PUBLIC WATER SUPPLY WELLS. GROUND WATER SURFACE MAPS AND MODELING WILL BE PERFORMED TO ASSESS THIS POTENTIAL RECEPTOR. THE HYPOTHESIS IS THAT THIS PATHWAY WILL PROVE TO BE AN INCOMPLETE PATHWAY ONCE DELINEATIN IS COMPLETE. MW-23 WILL SERVE AS A POD WELL BETWEEN THE DRUM SITE AND THIS PROPERTY.
G	063-038A	CLINCH DEVELOPMENT AUTH	NO / SIDEGRADIENT
C	063-038	BASSFORD PACKING CO	NO / SIDEGRADIENT
G	063-037	CLINCH DEVELOPMENT AUTH	NO / SIDEGRADIENT
C	063-033	LEE J DONALD	NO / SIDEGRADIENT
C	063 -026	BROCKWAY STANDARD	NO HUMAN RECEPTORS ON THIS PROPERTY, WHICH IS THE VRP QUALIFYNG PROPERTY. PRIOR TO REMOVAL FROM THE HSI, AN ENVIRONMENTAL COVENANT WILL BE PLACED ON THE PROPERTY TO NOTE THAT (1) GROUND WATER CANNOT BE EXTRACTED FROM TAX PARCEL 063-026 AND (2) VAPOR INTRUSION SHOULD BE FULLY ASSESSED IF PLANS FOR CONSTRUCTION ON TAX PARCEL 063-026 ARISE IN THE FUTURE. AN ADDITIONAL POD WELL WILL BE INSTALLED ON THIS PROPERTY TO THE WEST OF THE GROUND WATER PLUME, AND ERM-MW-4 WILL BE USED AS A POD WELL TO THE NORTHWEST OF THE GROUND WATER PLUME. POTENTIAL IMPACT TO SURFACE WATER BODIES WILL BE ASSESSED AS PART OF PARTICIPATION IN THE VOLUNTARY REMEDIAITON PROGRAM.

* A – Agricultural C – Commercial G – Government U - Undeveloped

** Properties are listed in this table in a clockwise manner, starting from the left corner of the image

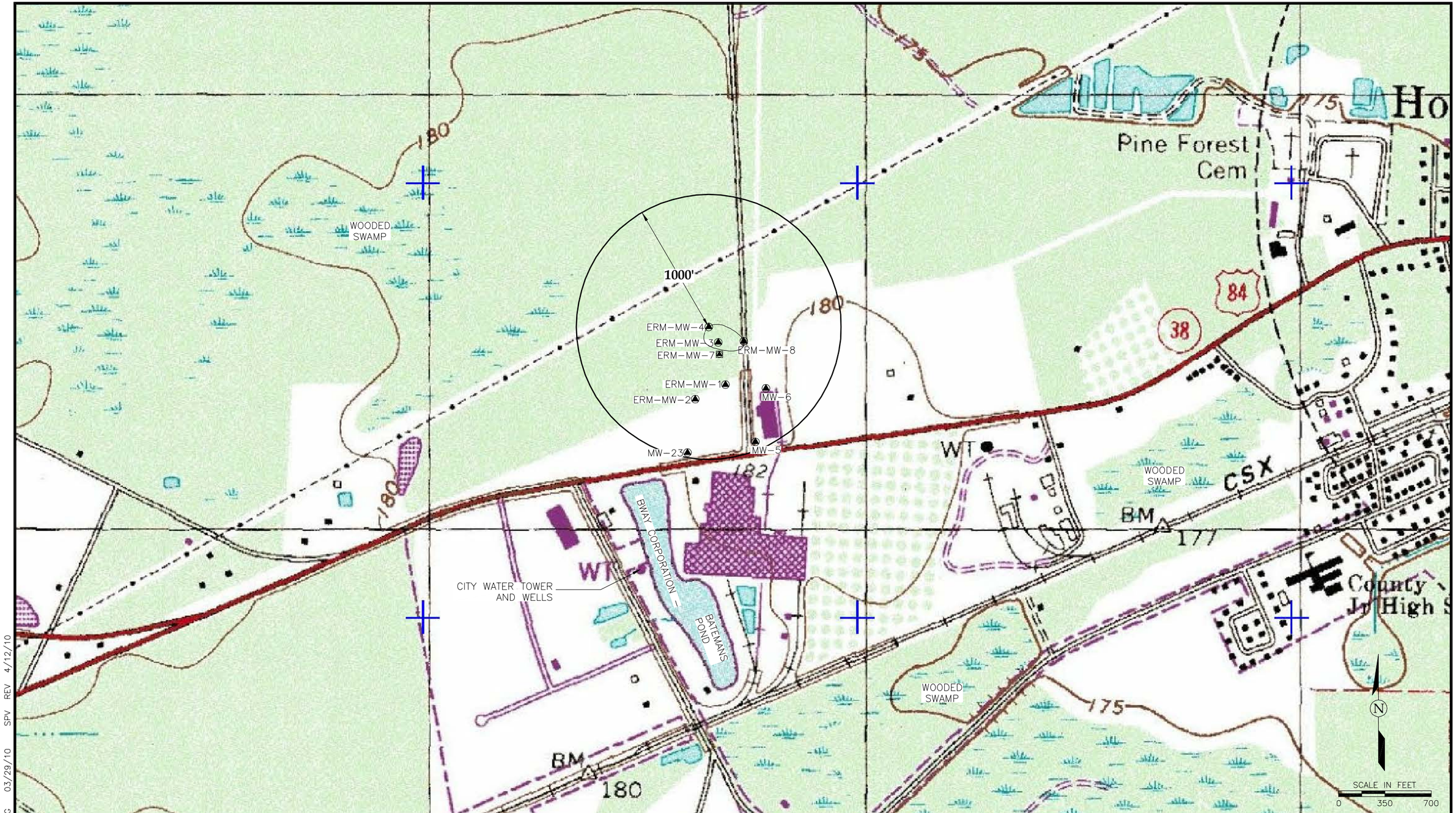
*** This property is in the downgradient direction of the ground water plume within 1000' of the delineated edge

Environmental Resources Management

RECEPTOR MAP
VOLUNTARY REMEDIATION PLAN - REVISION 1
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE
1-3

121022Site.DWG 1/14/11 SPV REV



NOTES

STANDARD USGS TOPOGRAPHIC MAP LEGEND APPLIES

ERM Environmental Resources Management

WATER USAGE MAP

VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE
1-4

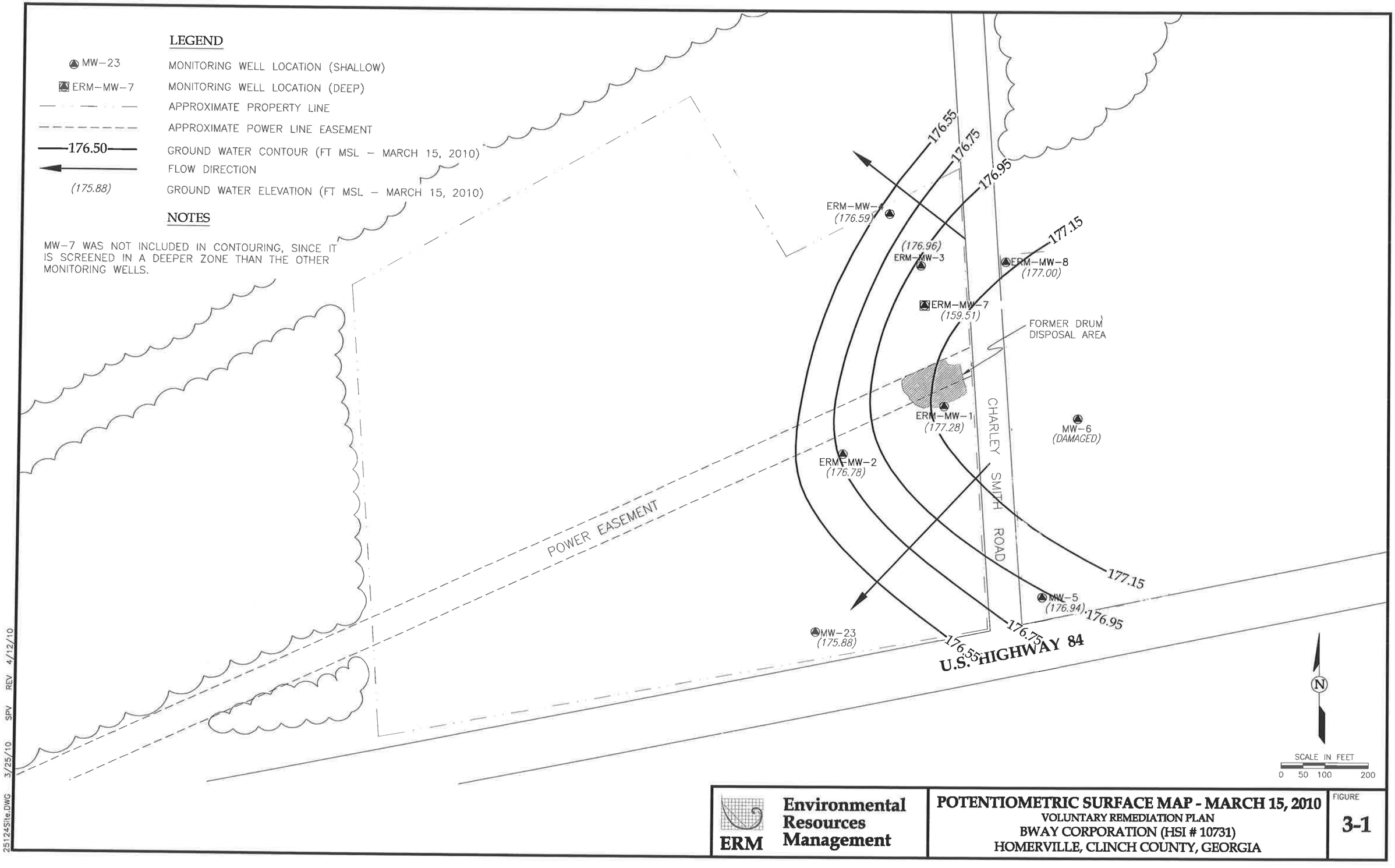
25124SiteF1-4.DWG 03/29/10 SPV REV 4/12/10

LEGEND

- MW-23 — MONITORING WELL LOCATION (SHALLOW)
- ERM-MW-7 — MONITORING WELL LOCATION (DEEP)
- APPROXIMATE PROPERTY LINE
- APPROXIMATE POWER LINE EASEMENT
- 176.50 — GROUND WATER CONTOUR (FT MSL – MARCH 15, 2010)
- FLOW DIRECTION
- (175.88) — GROUND WATER ELEVATION (FT MSL – MARCH 15, 2010)

NOTES

MW-7 WAS NOT INCLUDED IN CONTOURING, SINCE IT IS SCREENED IN A DEEPER ZONE THAN THE OTHER MONITORING WELLS.



25124Site.DWG 3/25/10 SPV REV 4/12/10

ERM Environmental Resources Management	POTENTIOMETRIC SURFACE MAP - MARCH 15, 2010 VOLUNTARY REMEDIATION PLAN BWAY CORPORATION (HSI # 10731) HOMERVILLE, CLINCH COUNTY, GEORGIA	FIGURE 3-1

LEGEND

- MW-23 — MONITORING WELL LOCATION (SHALLOW – SAMPLED 3/15/10)
- ERM-MW-7 — MONITORING WELL LOCATION (DEEP – SAMPLED 3/15/10)
- APPROXIMATE PROPERTY LINE
- APPROXIMATE POWER LINE EASEMENT
- GP-1W — GROUND WATER SAMPLING LOCATION (4/25/06)
- (19) — NAPHTHALENE CONCENTRATION – µg/L
- A A' — CROSS SECTION LINE
- GROUND WATER DELINEATION

ERM-MW-4 (<10)
ERM-MW-3 (80)
GP-9N (54)
GP-10N (140)
B (<10) GP-1W
GP-3W (<10)
ERM-MW-3
GP-12E (110)
B' ERM-MW-8 (<10)
GP-2W (<10)
GP-4W (19)
GP-11E (67)
GP-5S (<10)
ERM-MW-7 (<10)
GP-6S (<10)
FORMER DRUM DISPOSAL AREA
GP-7S (<10)
GP-8S (<10)
ERM-MW-1 (<10)
CHARLEY SMITH ROAD
MW-6 (DAMAGED)
ERM-MW-2 (<10)
POWER EASEMENT
A
MW-23 (<10)
MW-5 (<10)
U.S. HIGHWAY 84
N
SCALE IN FEET
0 75 150

25124Site.DWG 3/29/10 SPV REV 4/12/10

ERM Environmental Resources Management	SITE DELINEATION MAP WITH CROSS-SECTION LOCATIONS VOLUNTARY REMEDIATION PLAN BWAY CORPORATION (HSI # 10731) HOMERVILLE, CLINCH COUNTY, GEORGIA	FIGURE 3-2

LEGEND

WELL SCREEN (SAMPLED MARCH 2010)

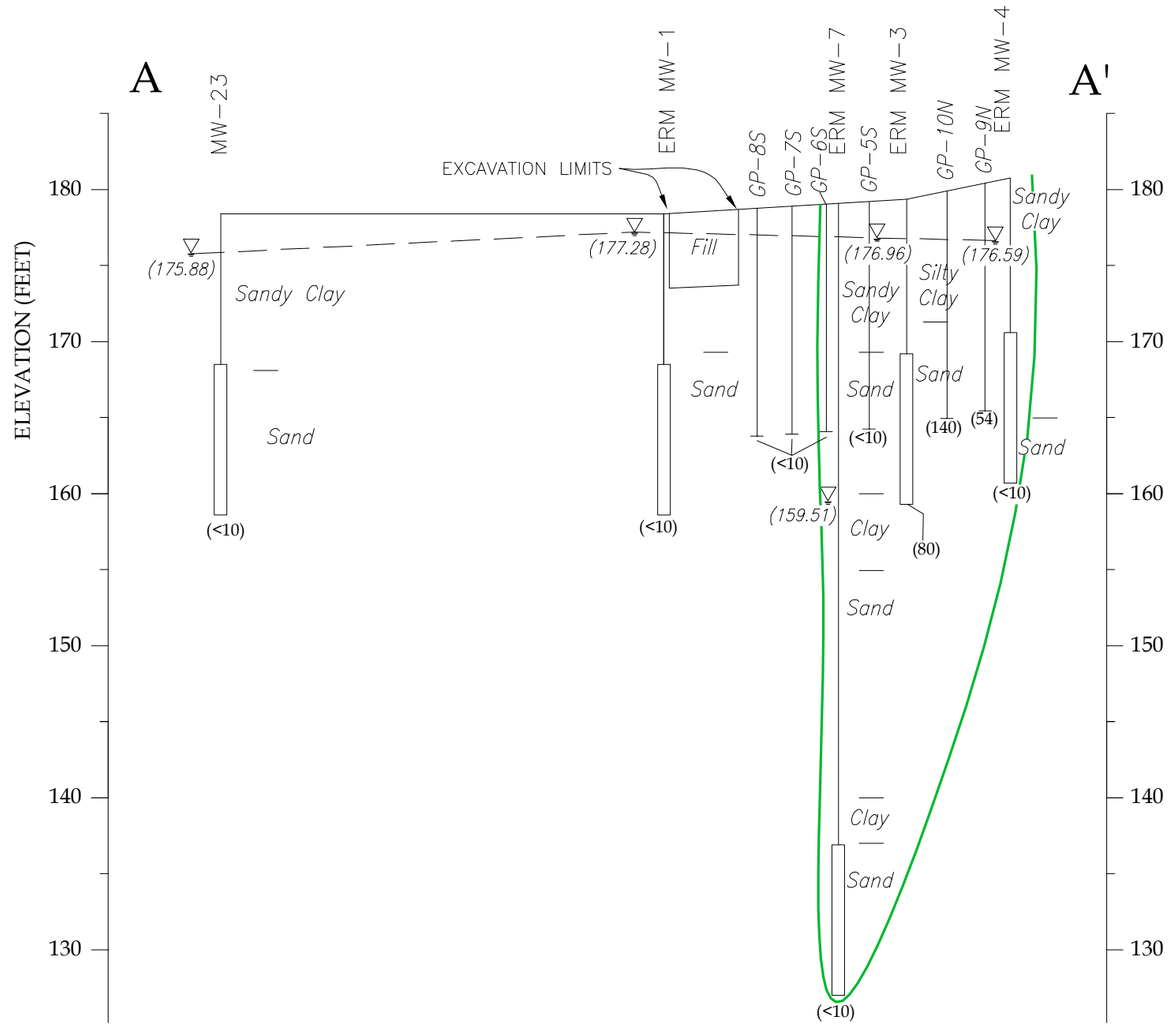
GROUND WATER SAMPLE FROM GEOPROBE BORING (SAMPLED APRIL 2006)

(175.88) WATER TABLE (MARCH 15, 2010)

GROUND WATER ELEVATION (FT MSL – MARCH 15, 2010)

(<10) NAPHTHALENE CONCENTRATION – µg/L

GROUND WATER DELINEATION



SCALE IN FEET
X: 1" = 200'
Y: 1" = 10'
VE = 20

10 5 2.5 0 50 100 200

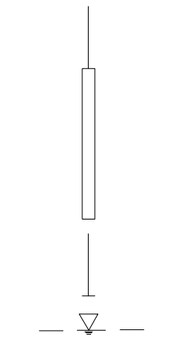
ERM Environmental Resources Management

CROSS-SECTION A-A' (DELINEATION)
VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE 3-3

25124Site.DWG 3/30/10 SPV REV 4/12/10

LEGEND



WELL SCREEN (SAMPLED MARCH 2010)

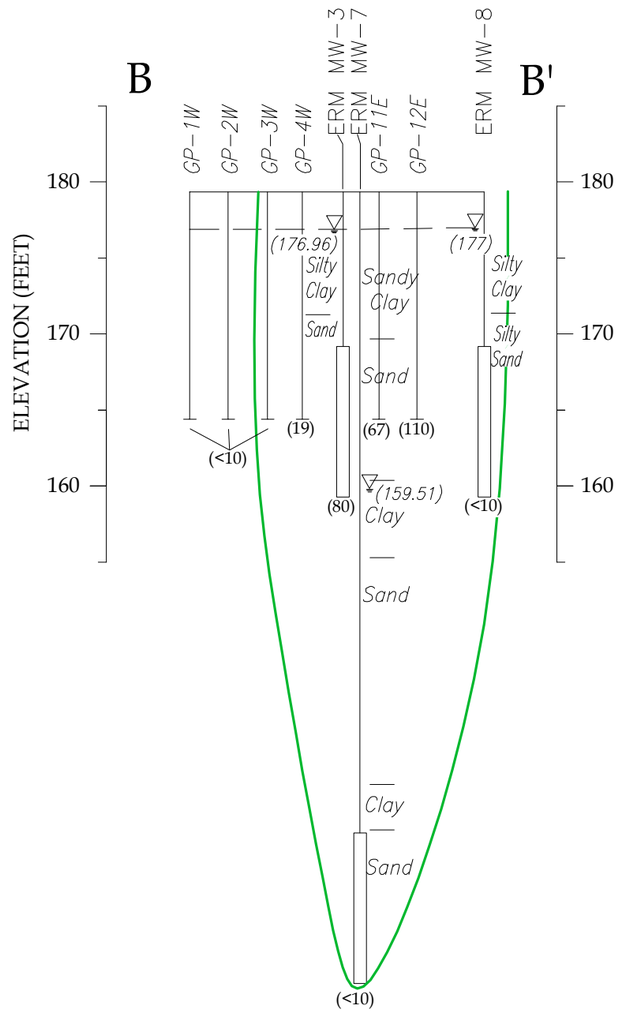
GROUND WATER SAMPLE FROM GEOPROBE BORING (SAMPLED APRIL 2006)

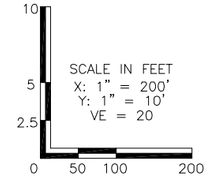
WATER TABLE (MARCH 15, 2010)

(176.78) GROUND WATER ELEVATION (FT MSL – MARCH 15, 2010)

(<10) NAPHTHALENE CONCENTRATION – µg/L

GROUND WATER DELINEATION





Environmental Resources Management	**CROSS-SECTION B-B' (DELINEATION)** VOLUNTARY REMEDIATION PLAN BWAY CORPORATION (HSI # 10731) HOMERVILLE, CLINCH COUNTY, GEORGIA	FIGURE **3-4**

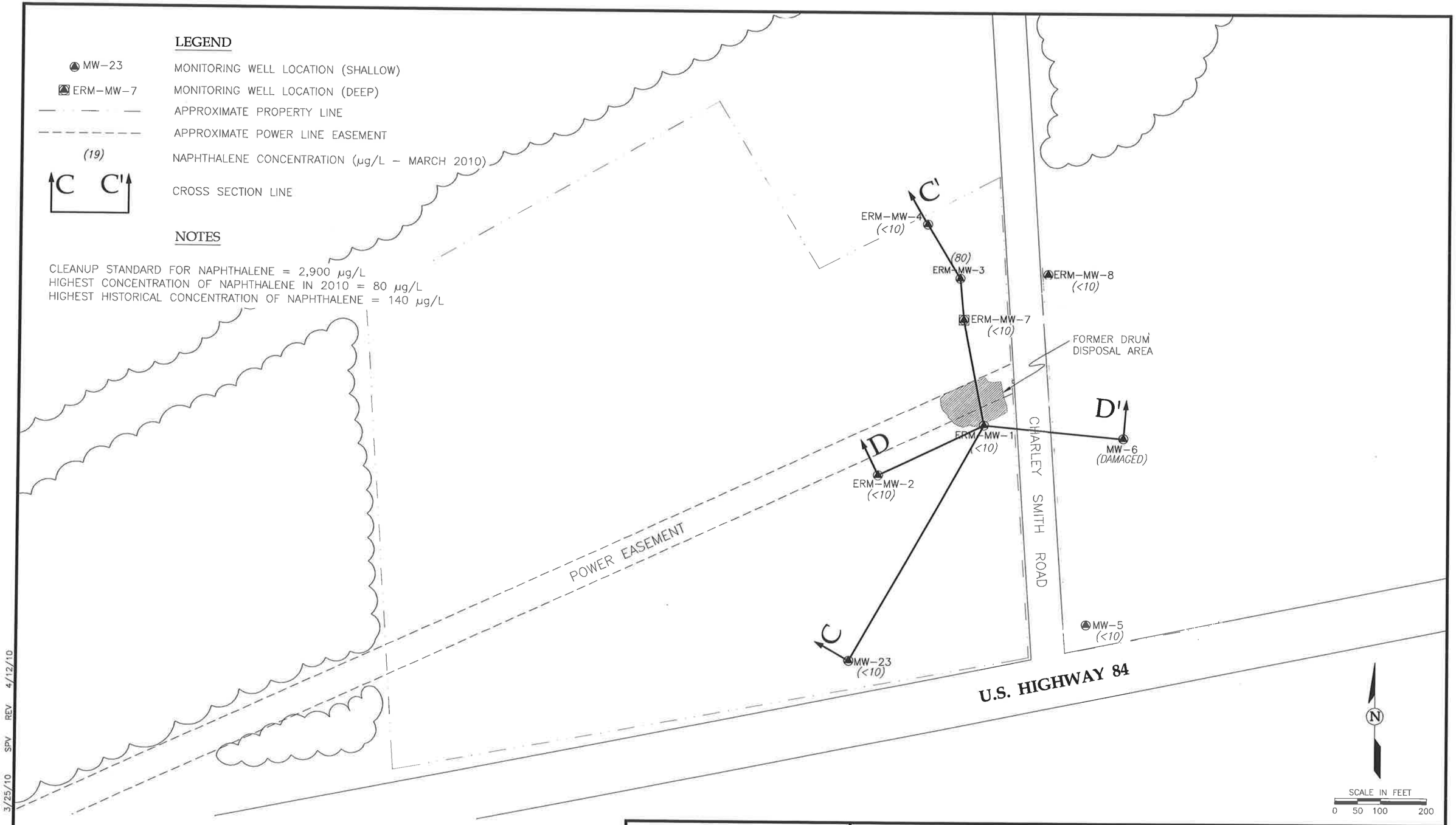
25124Site.DWG 3/30/10 SPV REV 4/12/10

LEGEND

- MW-23 — MONITORING WELL LOCATION (SHALLOW)
- ERM-MW-7 — MONITORING WELL LOCATION (DEEP)
- APPROXIMATE PROPERTY LINE
- APPROXIMATE POWER LINE EASEMENT
- (19) — NAPHTHALENE CONCENTRATION (µg/L – MARCH 2010)
- C C' — CROSS SECTION LINE

NOTES

CLEANUP STANDARD FOR NAPHTHALENE = 2,900 µg/L
HIGHEST CONCENTRATION OF NAPHTHALENE IN 2010 = 80 µg/L
HIGHEST HISTORICAL CONCENTRATION OF NAPHTHALENE = 140 µg/L



25124Site.DWG 3/25/10 SPV REV 4/12/10

Environmental Resources Management

CURRENT GROUND WATER CONCENTRATIONS WITH CROSS-SECTION LOCATIONS
VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE 3-5

LEGEND

WELL SCREEN

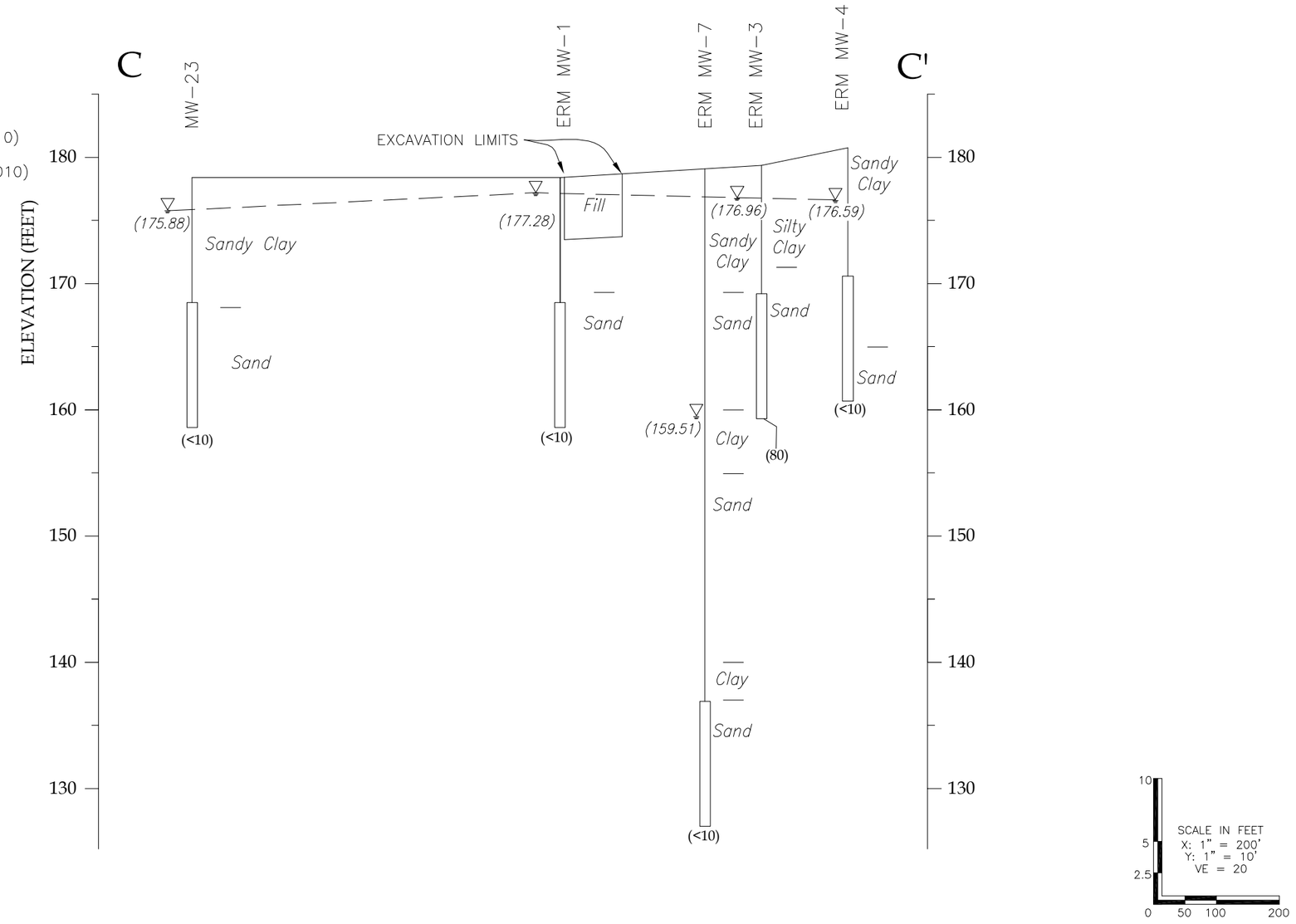
WATER TABLE (MARCH 15, 2010)

(175.88) GROUND WATER ELEVATION (FT MSL – MARCH 15, 2010)

(<10) NAPHTHALENE CONCENTRATION – µg/L (MARCH 15, 2010)

NOTES

CLEANUP STANDARD FOR NAPHTHALENE = 2,900 µg/L
HIGHEST CONCENTRATION OF NAPHTHALENE IN 2010 = 80 µg/L
HIGHEST HISTORICAL CONCENTRATION OF NAPHTHALENE = 140 µg/L



ERM Environmental Resources Management

CROSS-SECTION C-C' (CURRENT CONDITIONS)
VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE **3-6**

25124Site.DWG 3/25/10 SPV REV 4/12/10

LEGEND

WELL SCREEN

WATER TABLE (MARCH 2010)

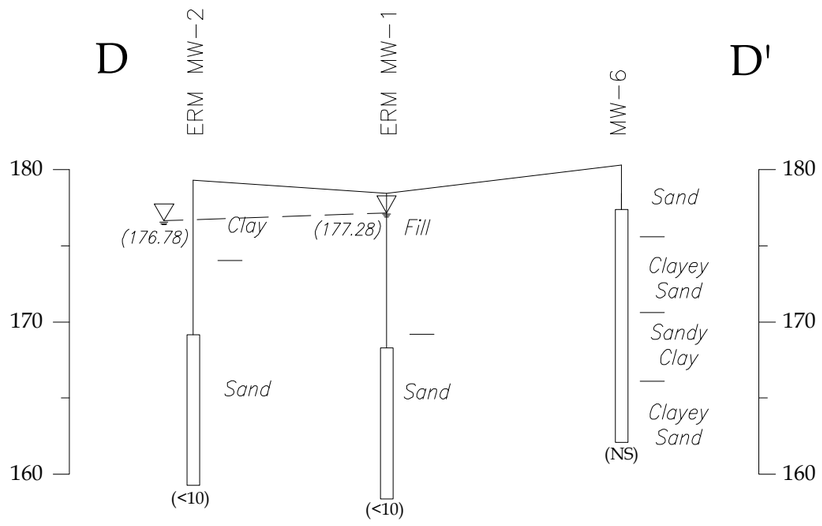
(176.78) GROUND WATER ELEVATION (FT MSL – MARCH 15, 2010)

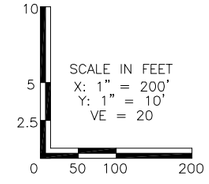
(<10) NAPHTHALENE CONCENTRATION – µg/L (MARCH 15, 2010)

(NS) NOT SAMPLED – DUE TO WELL DAMAGE

NOTES

CLEANUP STANDARD FOR NAPHTHALENE = 2,900 µg/L
HIGHEST CONCENTRATION OF NAPHTHALENE IN 2010 = 80 µg/L
HIGHEST HISTORICAL CONCENTRATION OF NAPHTHALENE = 140 µg/L





ERM Environmental Resources Management

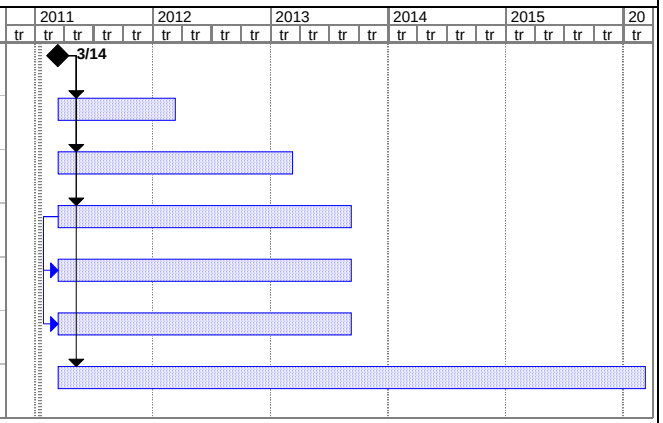
CROSS-SECTION D-D' (CURRENT CONDITIONS)
VOLUNTARY REMEDIATION PLAN
BWAY CORPORATION (HSI # 10731)
HOMERVILLE, CLINCH COUNTY, GEORGIA

FIGURE 3-7

25124Site.DWG 3/25/10 SPV REV 4/12/10

Figure 4-1 VRP Milestone Schedule
Revised 1/14/2010
BWAY Drum Site (HSI# 10731)
Homerville, GA

ID	Task Name	Duration	Start	Finish
1	Assumed VRP Enrollment Date (2 months following this submittal)	1 day	Mon 3/14/11	Mon 3/14/11
2	Complete horizontal delineation on property where access is available at the time of enrollment	260 days	Tue 3/15/11	Mon 3/12/12
3	Complete horizontal delineation onto property for which access was not available at the time of enrollment	520 days	Tue 3/15/11	Mon 3/11/13
4	Update the site CSM to include vertical delineation	650 days	Tue 3/15/11	Mon 9/9/13
5	Finalize the remediation plan	650 days	Tue 3/15/11	Mon 9/9/13
6	Provide a preliminary cost estimate for implementation of remediation/continuing actions	650 days	Tue 3/15/11	Mon 9/9/13
7	Submit the compliance status report required under the VRP, including the requisite certifications	1303 days	Tue 3/15/11	Thu 3/10/16



Project: BWAY_Milestone Schedule - R
Date: Fri 1/14/11

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Appendix A

Copy of VRP Application Checklist

Voluntary Remediation Plan Application Form and Checklist

VRP APPLICANT INFORMATION					
COMPANY NAME	BWAY Corporation				
CONTACT PERSON/TITLE	Mr. Steve Diaz, EHS Manager				
ADDRESS	1601 Valdosta Highway Homerville, Georgia 31634				
PHONE	912-487-4141	**FAX**	912-487-3420	**E-MAIL**	Steve.Diaz@bwaycorp.com

GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP					
NAME	Shanna Thompson			**GA PE/PG NUMBER**	PE 031306
COMPANY	Environmental Resources Management				
ADDRESS	300 Chastain Center Boulevard, Suite 375, Kennesaw, Georgia 30144				
PHONE	(770) 590-8383	**FAX**	(770) 590-9164	**E-MAIL**	shanna.thompson@erm.com

APPLICANT'S CERTIFICATION

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

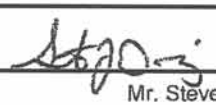
(1) The property must have a release of regulated substances into the environment;
(2) The property shall not be:
- (A) Listed on the federal National Priorities List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601.
- (B) Currently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

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

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

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

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

APPLICANT'S SIGNATURE			
APPLICANT'S NAME/TITLE (PRINT)	Mr. Steve Diaz, EHS Manager	**DATE**	8/6/2010

QUALIFYING PROPERTY INFORMATION			
TAX PARCEL ID	063-026	PROPERTY SIZE (ACRES)	34.88
PROPERTY ADDRESS	NW Corner of Highway 84 and Charley Smith Road		
CITY	Homerville	COUNTY	Clinch County
LATITUDE	31° 1'54.02"N	LONGITUDE	82°46'25.44"W
PROPERTY OWNER(S)	Brockway Standard	PHONE #	(513) 388-2200
MAILING ADDRESS	8200 Broadwell Road		
CITY	Cincinnati, Ohio	STATE/ZIP	45244

ITEM #	DESCRIPTION OF REQUIREMENT	Location in VRP (i.e. pg., Table #, Figure #, etc.)	For EPD Comment Only (Leave Blank)
1.	**$5,000 APPLICATION FEE** IN THE FORM OF A CHECK PAYABLE TO THE GEORGIA DEPARTMENT OF NATURAL RESOURCES.	Previously submitted with Initial VRP Application in February 2010	
2.	**WARRANTY DEED(S)** FOR QUALIFYING PROPERTY.	Previously submitted with Voluntary Remediation Plan in April 2010	
3.	**TAX PLAT** OR OTHER FIGURE INCLUDING QUALIFYING PROPERTY BOUNDARIES, ABUTTING PROPERTIES, AND TAX PARCEL IDENTIFICATION NUMBER(S).	Previously submitted with Initial VRP Application in February 2010	
4.	**ONE (1) PAPER COPY AND TWO (2) COMPACT DISC (CD) COPIES** OF THE VOLUNTARY REMEDIATION PLAN IN A SEARCHABLE PORTABLE DOCUMENT FORMAT (PDF).	Previously submitted with Voluntary Remediation Plan in April 2010	
5.	The VRP participant's initial plan and application must include, using all reasonably available current information to the extent known at the time of application: (a) a graphic three-dimensional preliminary conceptual site model (CSM) (b) including a preliminary remediation plan (c) with a table of delineation standards, (d) brief supporting text, charts, and figures (no more than 10 pages, total) that illustrates the site's surface and subsurface setting, (e) the known or suspected source(s) of contamination, how contamination might move within the environment, (f) the potential human health and ecological receptors, and the complete or incomplete exposure pathways that may exist at the site; The preliminary CSM must be updated as the investigation and remediation progresses and an up-to-date CSM must be included in each semi-annual status report submitted to the director by the participant; (g) a **PROJECTED MILESTONE SCHEDULE** for investigation and remediation of the site, and after enrollment as a participant, must update the schedule in each semi-annual status report to the director describing implementation of the plan during the preceding period. A Gantt chart format is preferred for the milestone schedule. The following four (4) generic milestones are required in all initial plans with the results reported in the participant's next applicable semi-annual reports to	These items were submitted with the Voluntary Remediation Plan dated April 2010.	

	the director. The director may extend the time for or waive these or other milestones in the participant's plan where the director determines, based on a showing by the participant, that a longer time period is reasonably necessary:		
5.a.	Within the first 12 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern on property where access is available at the time of enrollment;	A Milestone Schedule was submitted with the VR Plan dated April 2010. The schedule will be updated as needed in future submittals.	
5.b.	Within the first 24 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern extending onto property for which access was not available at the time of enrollment;	A Milestone Schedule was submitted with the VR Plan dated April 2010. The schedule will be updated as needed in future submittals.	
5.c.	Within 30 months after enrollment, the participant must update the site CSM to include vertical delineation, finalize the remediation plan and provide a preliminary cost estimate for implementation of remediation and associated continuing actions; and	A Milestone Schedule was submitted with the VR Plan dated April 2010. The schedule will be updated as needed in future submittals.	
5.d.	Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications.	A Milestone Schedule was submitted with the VR Plan dated April 2010. The schedule will be updated as needed in future submittals.	
6.	**SIGNED AND SEALED PE/PG CERTIFICATION** AND SUPPORTING DOCUMENTATION: "I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances. Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." Shanna Thompson, PE PE031306 Printed Name and GA PE/PG Number 8/16/2010 Date Shanna Thompson Signature and Stamp		

Appendix B

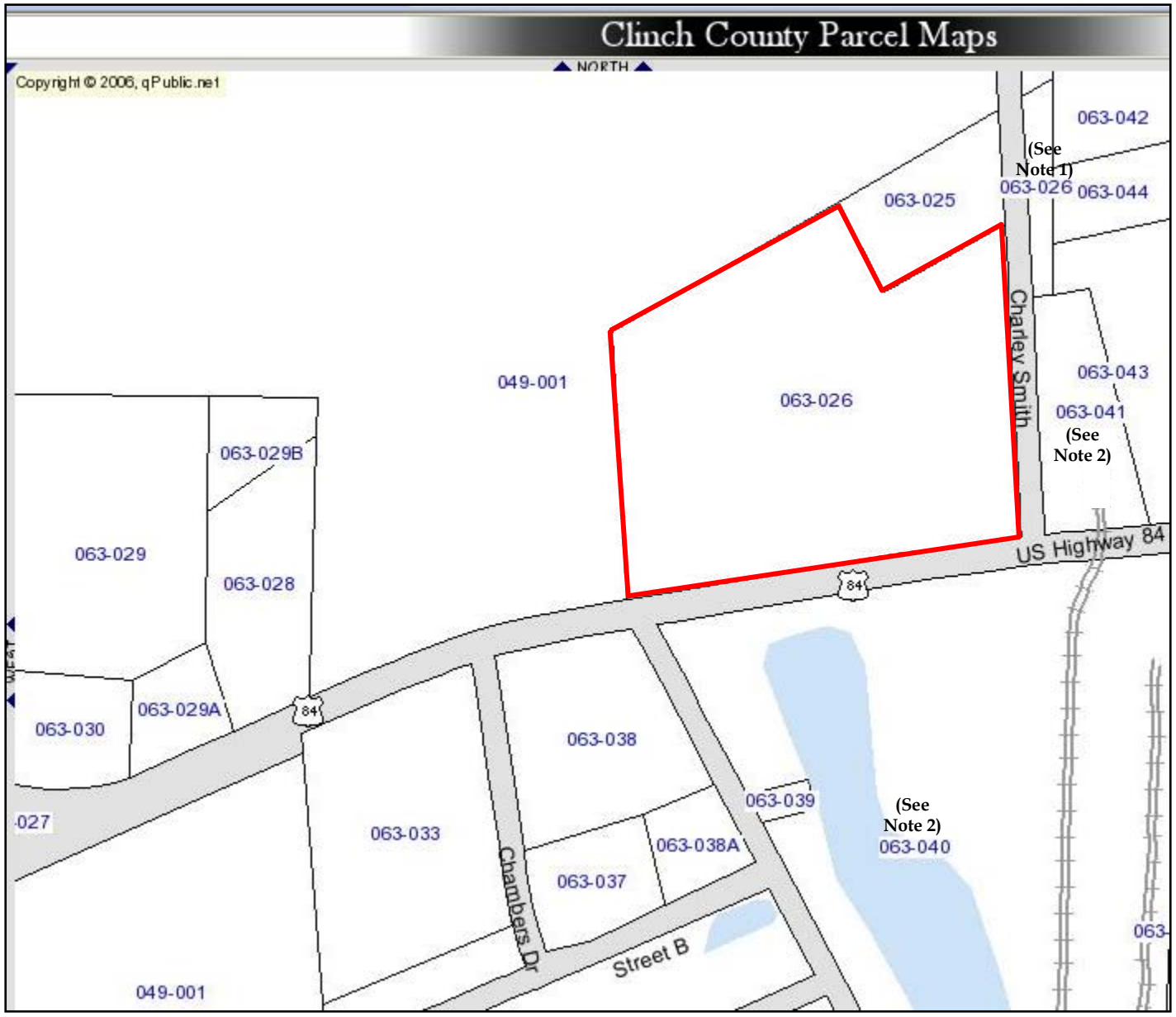
Tax Plat

LEGEND

Qualifying Tax Parcel Boundary

NOTES

1. Although this portion of land is part of Tax Parcel 063-026, the parcels may be divided in the future, prior to implementing a UECA for 063-026
2. Although this tax parcel is also owned by BWAY Corporation, it is not considered to be a qualifying property under the VRP Application for HSI# 10731



ERM Environmental Resources Management	TAX PARCEL MAP (1inch = 400 feet) VRP APPLICATION FORMER BWAY DRUM SITE HOMERVILLE, GEORGIA	FIGURE 1 rev 12/10/10

Appendix C

Documentation of Work Performed by the Professional Engineer

Appendix C
Documentation of Work Performed by the Professional Engineer Since Original VRP Submittal
updated January 15, 2011

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

Month	Number of Hours Invoiced by Shanna Thompson, P.E.	Activities Performed by Shanna Thompson, P.E. on BWAY Drum Site VRP Investigation and Delineation
March 2010	66	Organize March 2010 ground water sampling event and manage resulting data. Hold regular meetings and oversee work performed by the hydrogeologist performing ground water modeling using BIOSCREEN.
April 2010	12	Hold regular meetings and oversee work performed by the CAD operator creating the figures for this Voluntary Remediation Plan. Create text, tables, and appendices for this Voluntary Remediation Plan.
June 2010	16	Prepare Revised VRP Application and Oversee Title Search
November 2010	49	Oversee Well Installation Effort Organize Ground Water Sampling Effort Submit Revised Milestone Schedule to EPD
Dec-10	13	Oversee Ground Water Sampling Effort Submit Revised Delineation Standards and Delineation Plan to EPD
January 2011, first half	26	Prepare Revision 1 of the Voluntary Remediation Plan
SUM	**182**	

Environmental
Resources
Management

300 Chastain Center Blvd.
Suite 375
Kennesaw, GA 30144
(770) 590-8383
(770) 590-9164 (fax)

June 10, 2011

Mr. David Reuland
Georgia Environmental Protection Division
Response and Remediation Program
MLK Jr. Drive
Atlanta, GA 30337

Subject: Response to the August 23, 2011 Comment Letter from the Georgia EPD Response and Remediation Program
BWAY Corporation, Homerville, GA
Former Drum Site (HSI# 10731)

Dear Mr. Reuland:

This letter is being provided in order to document that the comments raised by the EPD on August 23, 2010 have been sufficiently addressed. This letter has been prepared by Environmental Resources Management on behalf of BWAY. The majority of comments have been addressed in previous submittals to the EPD made on November 10, 2010, December 10, 2010 and January 25, 2011, and the specific location of those responses are provided in this letter. Each comment from the EPD's August 23, 2010 letter is re-stated below, and then followed by BWAY's response. This document has been prepared to provide supplemental information the EPD with the goal of having this HSI site accepted into Georgia's Voluntary Remediation Program.

APPLICATION/CHECKLIST

Comment 1: The outlines shown for the qualifying property tax parcel on Figure 1-3 (Receptor Map) and the tax parcel map provided in Appendix B of the VRP do not correspond with the property outlines shown on Figures 2-2, 3-1, 3-2, and 3-5. The property boundaries for the qualifying property must be accurately shown on all applicable figures. Furthermore, please indicate whether the Parcel 063-041 is to be included as a qualifying property as delineation locations for the groundwater plume are included on this parcel.

Response: Revised figures were submitted with the January 25, 2011 submittal. These figures show that the only qualifying parcel is Parcel 063-026.

CONCEPTUAL SITE MODEL

Comment 2: Regulated Substances Released: Please note, all regulated substances detected in soil and/or groundwater must be evaluated along with their degradation products; therefore, please include methyl ethyl ketone (MEK) in Table 1-1 (Table of Regulated Substances) and appropriate narrative and tables and figures as needed.

Response: MEK will be added to tables, figures, and narrative of future reports to the EPD.

a. Due to the past injection of magnesium sulfate please include a discussion of potential metabolites (e.g. acetaldehyde, etc.) (see EPD's letters dated July 17, 2007 and October 21, 2009). Future groundwater sampling events must include any expected metabolites that are regulated substances as analytes.

Response: Several pathways for anaerobic naphthalene degradation under sulfate reducing conditions have been documented. ERM completed a review of the most commonly documented pathways of naphthalene metabolism by sulfate reducing bacteria. Of the intermediates identified (2-methylnaphthalene, naphthyl-2-methylsuccinate, 1-methylnaphthalene, 1,2-dimethylnaphthalene, 1-methyl-2-naphthoic acid, 2-naphthoic acid, tetralin, 5,6,7,8-tetrahydro-2-naphthoic acid, phenanthroic acid, naphthol, and acetaldehyde), the only regulated substance identified was acetaldehyde. Acetaldehyde will be added to the analyte list for future sampling events.

b. Groundwater samples collected from monitoring well MW-ERM-3 were analyzed for vinyl chloride only during two monitoring events in 2003 and 2004 and it was detected at a concentration of 2.0 µg/L, which is equal to its Type 1 groundwater RRS, during one of those two events. Future groundwater sampling events must include vinyl chloride to confirm that vinyl chloride remains in compliance with Type 1 groundwater RRS.

Response: The ground water analyte list for future sampling events will include the following compounds, since these compounds were detected in soil and/or ground water at this property at some point during the investigation/remediation effort: chloroethane, ethylbenzene, isopropylbenzene, naphthalene, toluene, vinyl chloride, xylenes, 1,1-dichloroethene, and 1,1,1-trichloroethane. As mentioned in the response to Comment 2a, acetaldehyde will also be added to the analyte list for two future sampling events at ERM-MW-3 and ERM-MW-4, since those two wells are in the vicinity of the previous magnesium sulfate injection pilot test. If this compound is

detected, then it will remain on the analyte list for future ground water sampling events.

Comment 3: Source(s): Groundwater in the source area does not appear to have been adequately characterized.

a. While the buried drums and soil contaminated above Type 1 RRS have been removed from the property, shallow groundwater between the excavation area and monitoring well ERM-MW-3, a distance of over 200 ft., has not been evaluated for shallow groundwater conditions and the only monitoring well located in the referenced area, ERM-MW-7, is screened within a deeper aquifer zone (the deepest of three zones shown on the cross sections provided in the VRP). In order to properly calibrate groundwater contaminant fate and transport modeling (see Comment 8 below), a shallow groundwater monitoring well straddling the groundwater table must be installed at the excavation area and a representative groundwater sample obtained and analyzed for all regulated substances released.

Response: ERM-MW-13 was recently installed for this purpose, and the results of sampling events from this monitoring well will be included in the first semi-annual progress report to the EPD under the VRP program.

b. In addition, all of the monitoring wells installed at the site, with the exception of monitoring well ERM-MW-7, appear to have been screened within the uppermost aquifer zone shown on the cross sections. Therefore, the intermediate aquifer zone located from approximately 25 to 40 ft. bgs between two clay layers has not been investigated to determine if it has been impacted and/or is acting as a potential source and/or migration pathway for groundwater contamination. A groundwater monitoring well screened within said aquifer zone must be installed within the excavation area for this purpose and a representative groundwater sample obtained and analyzed for all regulated substances released. If found to be impacted, contamination within said aquifer zone must be delineated and considered when assessing potential exposure pathways and future modeling efforts.

Response: ERM-MW-14 was recently installed for this purpose, and the results of sampling events from this monitoring well will be included in the first semi-annual progress report to the EPD under the VRP program.

Comment 4: Contaminant Delineation: EPD does not concur that horizontal delineation of the groundwater contaminant plume has been achieved as follows:

a. Analytical results acquired from the 12 direct push tool borings (DPT) advanced in April 2006, are not acceptable for demonstrating delineation of groundwater contamination (as indicated on Figures 2-2 and 3-2 of the VRP) as DPT groundwater sampling points do not meet the standards of a groundwater monitoring well and is considered a field screening method.

Response: Additional monitoring wells will be installed and sampled to achieve ground water delineation.

b. As previously stated in Comment #2 of EPD's comment letter dated October 21, 2001, the groundwater contaminant (naphthalene) plume has not been delineated to the west/northwest of ERM-MW-3. In addition, the plume has not been delineated to the west/northwest of the excavation area.

Response: Additional monitoring wells will be installed and sampled to achieve ground water delineation.

c. The location of Cross Section D to D', Figure 3-4 of the VRP, is not appropriate for demonstrating the current status/extent of the groundwater contaminant plume since it is located outside the area of the plume. Cross sections should include the central portion of the plume using the monitoring well demonstrating the highest contaminant levels in groundwater as a data point. In addition, monitoring wells installed to address plume delineation deficiencies addressed in Comment 4 should be incorporated into revised cross-sections.

Response: Cross sections will be updated for future report submittals to include the additional wells that will be installed for delineation. Also, an additional cross section will be added to future reports to address this comment.

Comment 5: Potential Receptors/Exposure Pathways: The soil exposure pathway has been adequately addressed as soil complies with Type 1 RRS. However, EPD does not concur that there are no human or environmental receptors for contaminants in groundwater at the qualifying and adjacent non-qualifying properties. An exposure assessment that is consistent with US EPA's Guidance for Exposure Assessment (57FR104: 20888-22938; May 29, 1992) will be required. Several potential exposure pathways (current and/or likely future) on the qualifying and non-qualifying properties cannot currently be eliminated from consideration until

comments regarding: 1) contaminant delineation 2) groundwater contaminant fate and transport and vapor intrusion modeling, 3) surface water body locations, and 4) likely future property usage have been adequately addressed. EPD notes that Parcel 063-041 includes an active manufacturing facility, which will need to be included in the exposure assessment.

Response: This comment was addressed in Section 1.3 of the January 25, 2011 Voluntary Investigation and Remediation Plan.

Due to the divergent groundwater flow pattern in the upper aquifer the following potential points of exposure (POEs) must be considered at a minimum (other POEs may exist) unless it is fully demonstrated that associated exposure pathways are incomplete:

a. Human Receptors: (i) The city drinking water supply well, located approximately 350 ft. south of the southwestern corner of the qualifying property, and (ii) A hypothetical drinking water supply well located to the west and north/northwest of the qualifying property.

Response: This comment was addressed in Section 1.3 and Section 2.2 of the January 25, 2011 Voluntary Investigation and Remediation Plan.

b. Surface Water/Ecological: Section 1.4 and Figure 1-3 of the VRP indicate there are no surface water bodies located within the area occupied by the ground water plume or in the downgradient direction. However, based on a review of the portion of the USGS topographic quadrangle map provided as Figure 1-1 and online Digital National Wetlands Inventory Maps maintained by the US Fish and Wildlife Service, the following surface water bodies may also be located within 1,000 ft. downgradient of the onsite contaminant plume and its sources: 1) creeks and wetlands located on and to the northwest of the qualifying property; and 2) Bateman's Pond located on the property immediately south of the qualifying property. Please note that although historical maximum concentrations of regulated substances listed on Table 1-1 in groundwater at the qualifying property are less than Georgia In-Stream Water Quality Standards, the referenced surface water bodies cannot be eliminated as potential POEs until comments regarding groundwater contaminant delineation and fate and transport modeling are adequately addressed.

Response: This comment was addressed in Section 4.4, Figure 1.3, and Figure 1.4 of the January 25, 2011 Voluntary Investigation and Remediation Plan.

GROUNDWATER FATE AND TRANSPORT MODELING

Comment 6: Section 2.3.3 of the VRP states that the groundwater fate and transport model was not calibrated to field observations, but was run to steady state assuming a cleanup standard of 2,900 µg/L of naphthalene. While EPD acknowledges that this is a conservative number that exceeds the highest concentration of naphthalene detected on the property, the results indicate that the plume will extend onto property owned by Rayonier Forest Resources LP and a power substation (property owner unknown). In order for EPD to concur with a cleanup standard of 2,900 µg/L, a uniform environmental covenant, in addition to the one required for the subject property, restricting groundwater use and potential future development on these properties would be required.

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

Comment 7: Given Comment 7 above, EPD recommends the model be: 1) calibrated based on site conditions and 2) validated with an appropriate number of groundwater sampling results over time in order to be valid for proposing site-specific groundwater cleanup standards pursuant to the Act. At a minimum, EPD recommends the following model simulation runs must be conducted for all potential human and ecological receptor exposure pathways/POEs (see Comment 6):

a. **Calibration Run:** An initial calibration run should be conducted based on the following site information: (i) The drum burial area as the source of groundwater contamination. Although the source area has been removed, its contributions to the groundwater plume between the initial release date and source removal date cannot be ignored. (ii) The simulation time equal to the time elapsed between the estimated time of release of regulated substances to groundwater and sampling event used as the calibration date. Due to the inherent uncertainty in determining dates of undocumented releases, EPD suggests using the estimated date of drum burial, estimated to be August 1984 (or slightly earlier) based on labels observed on the drums as stated in the November 18, 2003 Compliance Status Report prepared for the subject property, as the release date, and (iii)An infinite source with a concentration equal to contaminant solubility in water (worst case condition) or maximum contaminant concentration detected at the source. If maximum observed concentrations at the source are less than those observed elsewhere on the qualifying property, contaminant solubility should be used as the source concentration.

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

b. Validation Runs: A minimum of two (2) validation runs should be conducted once the model has been calibrated. The validation runs should use the same input values with the exception of the simulation time. Simulation times should approximate actual groundwater sampling dates and modeling results should be compared with the actual groundwater data acquired during those dates. If model predictions are not consistent with actual groundwater analytical data, the model should be recalibrated and/or the validity of the modeling software housed should be re-evaluated.

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

c. Projected Plume Extent Runs: Assuming the model was validated, simulation time should be increased to determine the projected maximum extent of the groundwater contaminant plume and the time projected to reach its maximum extent to determine if additional remedial efforts will be necessary based on established POEs for the groundwater plume.

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

d. Target Clean Up Concentration Run: An additional model run should be conducted to estimate maximum acceptable source concentrations which are protective of each downgradient POE based on the validated model runs, by varying the source concentration and simulation time (use the project plume extent run times as a basis for selection of simulation times.) In addition, maximum acceptable concentrations (contingency plan "trigger" concentrations) during sampling events at each Point of Determination (POD) should also be proposed based on this simulation run. Note that a POD must be proposed/selected for each complete exposure pathway; potentially resulting in multiple PODs at a site and must be clearly identified on all figures depicting site conditions.

Please note that based on a review of the groundwater analytical data, the magnesium sulfate injection events conducted at the subject property do not appear to have had a significant effect on contaminant concentrations and it appears that only one groundwater monitoring event was conducted prior to source removal. Therefore, EPD is not requiring both pre- and post-remedial

simulation runs. Simulation runs based on worst case/conservative values are acceptable.

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

Comment 8: EPD cannot concur with the following site-specific model input parameters used in the groundwater contaminant fate and transport modeling efforts presented in the VRP and as summarized on Table 2-2 at this time:

a. **Hydraulic gradient:** As several years of groundwater elevation measures have been accumulated, an average of historical hydraulic gradients based on onsite groundwater elevation measurements is preferred as a model input value as opposed to an input value based on a single monitoring event.

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

b. **Contaminant half life/first order decay constant:** EPD prefers the use of site-specific decay constants based on decay rates observed since the estimated release date rather than a calculated decay constant based on published values.

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

c. **Plume length and source zone widths and concentrations:** These input parameters must be based on the results of additional activities required to address contaminant delineation and Comment 8 above.

Response: After the plume is delineated, ground water fate and transport modeling will be based on plume length and width observed during the most current delineation and sampling efforts.

d. **Contaminant plume dispersivity (longitudinal, transverse, and vertical):** The modeler chose to allow Bioscreen, which is programmed to use certain commonly used relationships representative of typical and low-end dispersitives. Please note that although EPD does not disagree with the use of said values in the model, it has been EPD's experience that other acceptable, commonly used relationships to plume length (as

outlined in the model users manual) may better fit site conditions. If these parameters are revised based on site conditions, they should be included in the sensitivity analysis.

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

e. **Simulation time:** Simulation times should be based on time elapsed since the estimated release date (see Comment 8a above).

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

Please note that several parameters automatically calculated by the modeling software (Bioscreen) and dependent upon site-specific input parameters (e.g. see page velocity, etc.) are not included above. In the case of contaminant longitudinal, transverse and vertical dispersivity input parameters, the default relationships to plume lengths used by Bioscreen may not reflect actual site conditions. The modeler may wish to explore the use of other dispersivity vs plume length relationships, which are provided in the model user manual, when calibrating future model simulation runs.

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

Comment 9: The model input parameter summary table (Table 2-1) must be revised to include variations in input values (and their sources) for <u>each</u> of the required model simulation runs (and pathways modeled).

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

Comment 10: The VRP must include paper copies of data input and output (centerline and plume output) worksheets for each model run used in support of conclusions and/or recommendations presented presented in the VRP. Please complete the field data comparison section (Section 7) on the input worksheet of each required model simulation run as appropriate (Figure 2-1 of the subject VRP). At a minimum, actual contaminant field concentrations should be shown for the source area and POD(s) monitoring well locations. Proposed maximum acceptable

concentrations for required substances at POD(s) that will demonstrate that corrective actions are protective of potential receptors must be specified.

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

Comment 11: Complete bibliographic references were not provided in Section 5.0 (*References*) for the resources used to estimate several model input values referenced on Tables 2-2 and 2-3 of the VRP.

Response: The bibliographic references will be updated after the fate and transport model is revised as discussed in the response to Comment 10 above.

INVESTIGATION AND REMEDIATION PLAN

Comment 12: Proposed Corrective Actions: The applicant is requesting removal of the qualifying property from the HSI after submittal of a Compliance Status Report (CSR) demonstrating soil and groundwater compliance with applicable cleanup standards. EPD cannot concur with the request until all deficiencies noted in this letter have been adequately addressed. Revised proposed corrective actions must also include, but not necessarily limited to, in addition to those proposed in the subject VRP:

f. Required groundwater contaminant plume delineation investigation activities, including the installation of additional groundwater monitoring wells and groundwater sampling and analysis (see Comment 5);

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts. At a minimum, six additional wells will be installed in locations to specifically address this letter and to address the need to complete the delineation effort.

g. Groundwater contamination fate and transport modeling calibration and validation activities, including additional groundwater monitoring and reporting, as necessary (see Comment 8); and

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

h. Implementation of institutional controls restricting the future uses of the properties relying on controls for the purpose of certifying compliance with site-specific cleanup standards [O.C.G.A. §12-8-107(3)(h) of the Act

requires the execution of a covenant restricting property use that conforms with O.C.G.A. §44-16-1, et seq, the Georgia Uniform Environmental Covenants Act]. A model environmental covenant that conforms to the above standard may be accessed online at: http://www.gaepd.org/Files DOC/forms/hwb/modelcovenan.doc (see Comment 7);

Response: This comment was addressed in Section 4.5 of the January 25, 2011 Voluntary Investigation and Remediation Plan.

DELINEATION AND CLEANUP STANDARDS

Comment 13: Delineation Standards/Criteria: Table 1-2 (Table of Site Delineation Concentrations) should be revised to include references to the respective delineation criteria (Type 1 RRS) for all regulated substances detected in soil and groundwater including degradation products.

Response: This comment was addressed in Table 1-2 of the January 25, 2011 Voluntary Investigation and Remediation Plan.

Comment 14: Cleanup Standards: EPD concurs that Type 1 (residential default) RRS are acceptable clean up standards for regulated substances in soil at the qualifying property pursuant to §12-8-108(6) of the Act and that certification of compliance with said soil RRS were achieved pursuant to EPD's letter dated February 16, 2005. However, EPD cannot concur with groundwater cleanup standards currently proposed until deficiencies regarding: 1) contaminant delineation, 2) vapor intrusion modeling (if applicable), and 3) groundwater contaminant fate and transport modeling have been adequately addressed. Please specify the specific site-specific cleanup standard to which BWAY intends to certify the qualifying and non-qualifying properties.

Response: The fate and transport model will be revised after delineation efforts are completed. This comment will be addressed during future modeling efforts.

MISCELLANEOUS COMMENTS:

Comment 15: As groundwater monitoring well MW-6 has been damaged, it must be properly abandoned and replaced in accordance with Section 2.8 of U.S. EPA Region 4, Science and Ecosystem Support Division Standard Operating Procedure SESDGWD-101-R0 (February 18, 2008). In addition, since said monitoring well is an "upgradient" delineation point for the onsite groundwater plume, please include it in the monitoring network for future monitoring events.

Response: This monitoring well will be replaced and sampled as part of the monitoring network.

Comment 16: Please ensure that both written (i.e., 1 inch = 150 ft.) and bar scales on provided on all figures depicting site conditions.

Response: Comment noted.

Comment 17: The groundwater purging and sample collection procedures used during the March 2010 sampling event were not adequately described in the narrative of the VRP:

i. Section 3.3 of the VRP does not state which low flow purging method was used at monitoring wells immediately prior to collection of groundwater samples on the referenced date. Please note that the EPA Region 4 Field Branches Quality System and Technical Procedures (FBQSTP) Groundwater Sampling Operating Procedure document (SESDPROC-301-R1, dated November 1, 2007), provides guidance for two (2) different low flow purging methods, low flow-low stress and low flow-low volume, each of which have differing requirements for implementation.

Response: The purging method used prior to ground water sample collection at this site is the low flow-low volume method. This will be noted in future sampling logs and reports, as well.

j. Neither the narrative nor the sampling field logs in Appendix D of the VRP described sample collection procedures. Pursuant to Section 4.3.1.2 of the SESDPROC-301-R1, groundwater samples collected for volatile organic compounds (VOCs; including naphthalene) analysis using a peristaltic pump (as indicated in field sampling records provided) should be collected using the "soda straw" method, and

Response: The ground water sample collection method at this site is the soda straw method. This will be noted in future sampling logs and reports, as well.

k. Samples for VOC analysis, naphthalene is a VOC, must be collected using either stainless steel or Teflon® equipment pursuant to Section 2.1 of the SESDPROC-301-R1, rather than the polyethylene tubing (as described in Section 3.3 and on field sampling records in Appendix D of the VRP), if

sample results are to be used to certify compliance with groundwater RRS.

Response: Teflon equipment will be used in lieu of polyethylene tubing, since the data from future sampling events will be used to calculate cleanup standards and certify compliance.

l. Please note that deviations from the above standard operating procedures could result in compromised samples that are not acceptable for demonstrating compliance with groundwater standards and/or achievement of groundwater contaminant delineation.

Response: Comment noted.

Comment 18: Please note that the date of the EPD letter summarizing acceptable RRS and background concentrations was stated as February 16, 2006 in Section 1.3.1 of the VRP. However, the correct date for said letter is February 16, 2005. In addition, the date of the progress report referenced as the source of hydraulic conductivity values for groundwater contaminant fate and transport modeling presented in the VRP was incorrectly referenced as June 2, 2008. EPD records show the referenced report as dated August 28, 2008.

Response: Comment noted.

Comment 19: It appears that a corrected monitoring well construction diagram, or an explanation for the installation of 10 ft of sand pack for a one (1)-ft screen interval, for monitoring ERM-MW-7 has not been provided to EPD as requested in Comment #2 of the April 9, 2007 Conditional Approval of the Revised Corrective Action Plan (CAP; dated September 8, 2006) and Comment #5 in the October 21, 2009 EPD letter. Accurate well construction information for the referenced well is critical for evaluating adequacy of contaminant delineation efforts, etc.

Response: A revised well construction record for MW-7 is attached. The 10-ft long well screen is now accurately reflected in this well construction record.

Comment 20: Please provide a well construction table for all monitoring wells installed/monitored in response to the release of regulated substances at the site (or revise Table 3-1 of the VRP to include depths of well screen intervals measured from the same datum as depths to groundwater) as requested in Comment #10 of the

above referenced letter. This is necessary for reviewing potentiometric surface maps and/or adequacy of groundwater contaminant delineation.

Response: A detailed well construction table is attached. It will be provided in future reports, and it will be updated to include the additional wells installed as part of the delineation effort in response to Comments 3 and 4.

Comment 21: It is unclear from EPD's review of the VRP whether you are requesting provisional acceptance into the program or seeking full acceptance into the program. If you are seeking provisional approval, please include a milestone schedule for submittal of the items to complete the application by December 31, 2010. If you are not requesting provisional acceptance into the program, please provide a revised milestone schedule that conforms with the checklist.

Response: BWAY is seeking full acceptance, not provisional acceptance. The revised milestone schedule was submitted to the EPD as part of the November 10, 2010 submittal.

In addition to the comments above, the EPD asked ERM to confirm the acreage of the property that is applying to be a VRP participant, parcel 063-026. Although the parcel was listed on the Clinch County Parcel Maps website as 34.88 acres in 2010, that website was updated in 2011 and it currently shows an area of 29.55 acres for parcel 063-026. ERM has reviewed engineering drawings provided by BWAY, and the property acreage of parcel 063-026 is 29.55 acres on those drawings. A copy of the facility engineering drawing that shows the 29.55 acre value is attached for your files. ERM believes that the acreage of the VRP qualifying property is 29.55 acres, as opposed to the 34.88 acre value originally listed on the VRP application.

If you would like to discuss these topics further, please call Shanna Thompson at 770-590-8383.

Sincerely,

Shanna L. Thompson, P.E.
Project Manager

Jeffrey N. Bilkert
Principal

cc: Mr. Mark Miller, Mr. Steve Diaz, and Ms. Carolyn Daniels
Attachments: (1) Revised Well Diagram for MW-7, (2) Well Construction Table, and (3) Facility Engineering Drawing Showing Acreage for Parcel 063-026

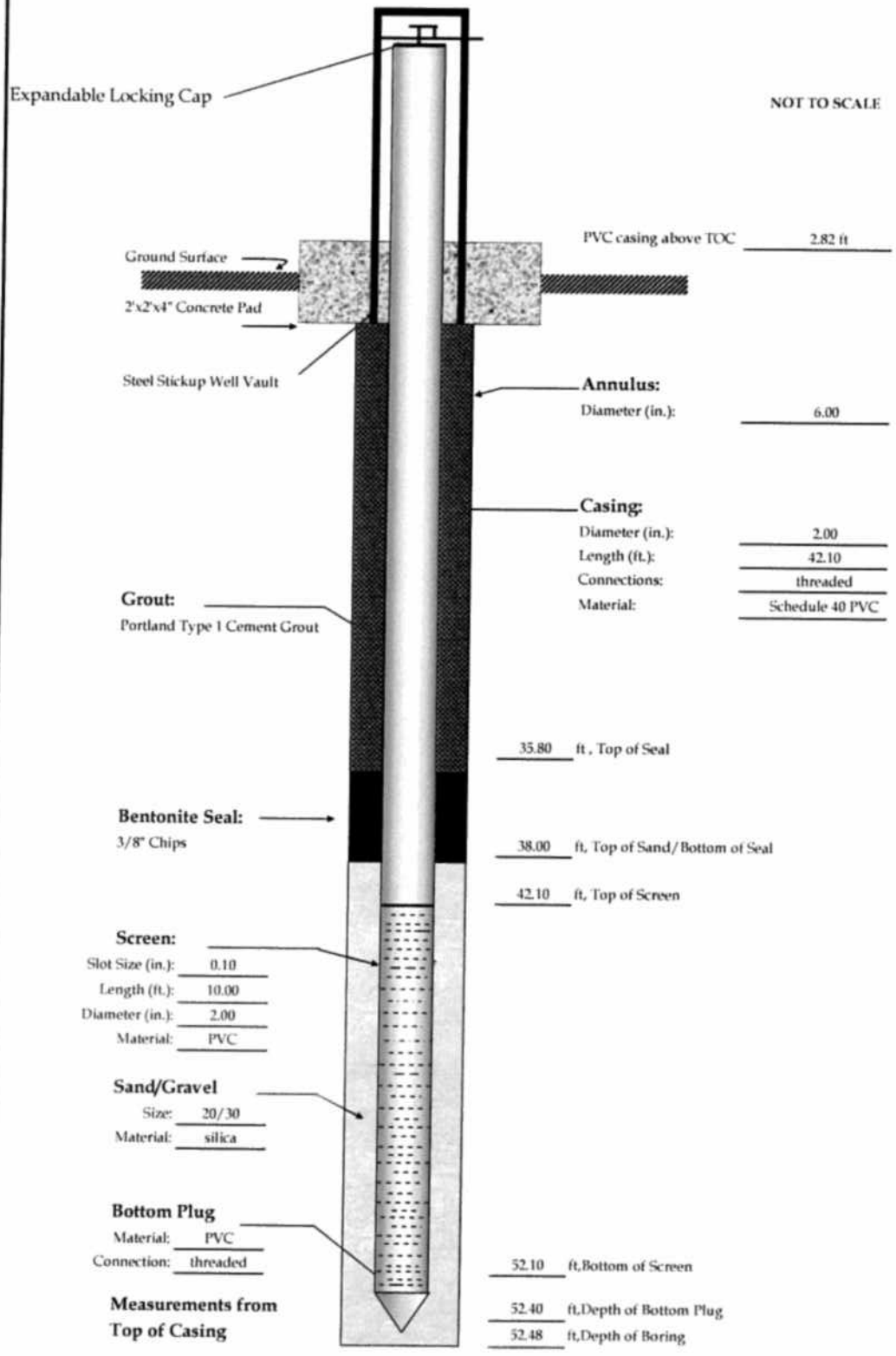
Attachments

- *Revised MW Diagram for ERM-MW-7*
- *Monitoring Well Construction Table*
- *Copy of BWAY Engineering Drawing Showing Acreage of VRP Parcel*

Monitoring Well Schematic

Project: Former BWAY Drum Site
Project No.: 0025124
Project Location: Homerville, Georgia
Drilling Method: Mud Rotary

Well/Boring No.: ERM-MW-7
ERM Field Supervisor: Mike Swafford
Date(s): February 21, 2006
Drilling Contractor: Betts Environmental Drilling



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)
ERM-MW-1	09/15/03	2	22.0	10	10.0	20.0
ERM-MW-2	09/15/03	2	22.0	10	10.0	20.0
ERM-MW-3	09/15/03	2	22.0	10	10.0	20.0
ERM-MW-4	12/14/04	2	22.0	10	10.0	20.0
MW-5	04/14/93	4	17.0	15	2.0	17.0
MW-6R	11/08/10	2	17.0	15	1.8	16.8
ERM-MW-7	02/21/06	2	52.4	10	42.1	52.1
ERM-MW-8	06/14/07	2	21.0	10	10.0	20.0
ERM-MW-9	11/09/10	2	20.5	10	10.0	20.0
ERM-MW-10	11/09/10	2	20.5	10	9.3	19.3
ERM-MW-11	11/09/10	2	12.0	10	1.8	11.8
ERM-MW-12	11/09/10	2	20.0	10	9.8	19.8
ERM-MW-13	11/08/10	2	13.0	10	1.8	11.8
ERM-MW-14	11/08/10	2	35.0	10	24.8	34.8
ERM-MW-15	05/10/11	2	19.0	10	8.0	18.0
ERM-MW-16	05/10/11	2	20.5	10	10.0	20.0
MW-23	07/29/02	2	21.0	10	11.0	21.0