



SAMPLING AND ANALYSIS PLAN NO. 4

DATE: 6/19/14

SUBJECT: Supplemental RFI

PROJECT NO.: 212114.0000.0000
RCRA 3008(h) Consent Order RCRA-05-2007-0011
Bway Corporation
Cincinnati, Ohio OHD 004 253 225

1. OBJECTIVES

This Sampling and Analysis Plan (SAP) outlines the installation of monitoring wells and quarterly sampling tasks that will be undertaken at the Bway Corporation Metal Container Manufacturing Facility, located in Cincinnati, Ohio (Bway). This work is being conducted, in part, to satisfy requirements of a September 13, 2007 Administrative Order of Consent (Order) between the United States Environmental Protection Agency (U.S. EPA) Region 5 and Bway. USEPA is directing Bway to develop and submit a Work Plan for the supplemental characterization work at the Bway site outlined below.

As referenced in EPA's letter to Bway dated May 22, 2014, USEPA still believes further ground-water characterization is needed. Based on the outcome of recent discussions with EPA in a meeting of April 15, 2014, outlined below is the proposed scope of work in response to comments and "Requirements for Additional Work" provided in USEPA's correspondence dated May 22, 2014.

At this time, we understand the additional scope of work will consist of:

1. Four new water-table ground-water monitoring wells be installed at prescribed locations on the Bway site referenced in USEPA's May 22, 2014 letter (see attached figure for planned well locations).
2. As indicated in well logs submitted by Bway and reviewed by USEPA, the saturated thickness in the water-table aquifer below the facility is in the range of ten to fifteen feet thick. Per USEPA's request, should the saturated interval at any of the proposed well locations cited above exceed twenty feet, Bway shall install a well pair at that location. The well pair shall consist of one well screened across the water table and a second well with a five-foot screen which terminates at the top of the clay. The groundwater table is approximately 50 to 70 feet below the ground surface in that area of the Facility. Groundwater flow is generally to the northwest toward the inactive quarry pond as shown on Figure 1.
3. Confirmatory groundwater sampling of the existing sprayfield wells, quarterly sampling of the new wells, data validation and data screening with progress reporting to the USEPA. Ground-water samples will be collected quarterly for



one year from each of the new wells. All samples will be analyzed for the RCRA Appendix IX constituents volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), target analyte list (TAL) metals. The continuation or termination of the monitoring will be based upon an assessment of the quarterly results.

4. Communication with USEPA, Bway, Ball, TRC and ENVIRON representatives as warranted.

2. WORK TO BE COMPLETED

A. Monitoring Well Installation

Four water table groundwater monitoring wells and potentially four deep well pairs will be installed at the locations shown on Figure 1.

Given the complication of encountering heaving sands during well installation, Sonic Drilling Services (SDS) will utilize a truck-mounted sonic rig with 6 inch casing and 4 inch continuous core sampling to the target depth (TD) between 65 and 75 feet. The new 2 inch monitoring wells will then be constructed with 10 feet of 2 inch PVC screen for the water table wells and 5 foot screen for the deep well (if necessary) with PVC riser. This will be followed by installation of the sand pack, seal and chip to the flush-mount vault elevation. Cuttings and fluids will be contained and the wells will be developed. Soil will also be screened for VOCs using a PID and inspected for indications of contamination (e.g., staining, odors, etc.). Core collection, quality assurance/quality control procedures, employment of data quality objectives, and containment of drilling waste will be coordinated by TRC in accordance with TRC's SOPs and site-specific Quality Assurance Project Plan (QAPP).

B. Well Development

At least 24 hours after installation, each monitoring well will be developed by surging and pumping techniques. Per EPA Region 5 guidance, 1.5-times the water lost to the formation via drilling will be pumped out. Development will be considered complete when either turbidity is below 50 nephelometric turbidity units (NTUs), the well purges dry, or 10 well volumes have been removed, whichever occurs first.

C. Groundwater Sampling of Monitoring Wells

One round of groundwater samples will be collected from the existing sprayfield wells (OW-1, OW-2 and OW-3) along with four quarters from the new wells. The monitoring wells will be gauged for total well depth and depth to water. Depth to water measurements will be used to prepare groundwater surface elevation contour maps, to be provided in the quarterly progress reports. Groundwater samples will be analyzed for the RCRA Appendix IX constituents: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), target analyte list (TAL) metals. The continuation or

termination of the monitoring will be based upon an assessment of the quarterly results. Quality control samples, including matrix spike and matrix spike duplicates will be collected at a minimum frequency of one per twenty samples and analyzed for the same Appendix IX parameters. Trip blanks will be included in each cooler shipped to the laboratory.

D. Site Survey

The Site Survey will be updated to include the locations and elevations (ground surface and top of PVC well casing) of the new monitoring wells. Property boundaries shown on the base maps will be approximate, based on tax maps and not a certified boundary survey.

E. Investigation Derived Waste

- Investigation derived waste (IDW) is anticipated to include the following: drilling return water, decontamination fluids, well purge and development water, and soil cuttings.
- Soil exhibiting evidence of gross contamination will be segregated and stored separately in 55-gallon drums for characterization and off-site treatment/disposal.
- Wash and rinse water used for equipment decontamination, development water, purge water, and soil cuttings will be containerized in DOT-approved 55-gallon drums for off-site disposal.
- Used PPE and disposable sampling equipment will be bagged as regular refuse and disposed as solid waste, unless grossly contaminated.
- Materials containerized for off-site disposal will be staged on pallets at a location that is acceptable to the property owner (Bway).
- Containerized materials will be clearly marked to indicate the contents of the containers, the date of collection, and the source of the material.

F. SAMPLE HANDLING AND SHIPMENT

Samples will be labeled immediately after collection. The information on the sample label will include the project name, sample identification, sample date and time, and the analyses requested. Samples will be shipped to and analyzed by the project laboratory, as discussed above.

G. FIELD DOCUMENTATION

Field Logbook

A field logbook will be used to record facts and circumstances of the sampling event. Information recorded in the logbook/field form will include the following:

- Name of sampling personnel;
- Sample location;
- Time and date;
- Weather conditions;
- Sample type (i.e. grab, composite, etc.); and
- Pertinent sample data.

Chain-of-Custody

Chain-of-custody documentation will accompany each sample shipment. The chain-of-custody record will record the project name, type of sample collected, date of sample collection, name(s) of the person(s) responsible for sample collection, date of custody transfer, signature of the person relinquishing and accepting sample custody, and other pertinent information.

H. EQUIPMENT DECONTAMINATION

Decontamination procedures include:

- Field Equipment coming into contact with contaminated materials (e.g., drilling core barrels and rods, etc.) will be decontaminated in accordance with TRC's SOPs. Disposable one-time use sampling equipment will be discarded after each use (e.g., plastic bailers and tubing);
- Decontamination procedures include:
 - Scrub the sampling equipment in a non-phosphate detergent solution (Bucket #1);
 - Rinse thoroughly with distilled water (Bucket #2);
 - Rinse thoroughly with a 1% hydrochloric acid solution (Bucket #3)
 - Rinse thoroughly with distilled water and allow to air dry; (Bucket #4);
 - Rinse with methanol and allow to air dry; (Bucket #5)
 - Rinse thoroughly with distilled water and allow to air dry (Bucket #6);
 - If oil or notable contamination is present, the field coordinator should determine if additional decontamination methods are necessary.

Decontamination solutions will be contained and new solutions used periodically during each day of sampling. All decontamination solutions will be contained and properly disposed.

I. Data Screening and Progress Reporting

The quarterly progress reports will present the results of the supplemental investigation. The RI Report will be prepared in accordance with the applicable provisions of the September 13, 2007 Order. The report will include report text, tables, and figures which show the aerial and vertical extent of contaminants identified, describe the subsurface characteristics of the areas investigated, including physical features, geology and



hydrogeology. Groundwater surface elevation contour maps showing inferred predominant groundwater flow direction will be provided. If determined, the progress report will identify the sources of contamination, migration pathways, and known actual or potential receptors of contaminants. TRC will validate the laboratory-reported results and generate a data usability summary report (DUSR). The DUSR will provide an evaluation of analytical data with the primary objective of determining whether or not the data, as presented, satisfies the project specific criteria for data quality and data use. ENVIRON will provide a screening assessment utilizing appropriate screening values when assessing the need for further monitoring. Appropriate screening values are assumed to include MCLs, Region 9 PRGs, Region 5 ESLs and RBSLs, or RAGS.

3. SAMPLING AND REPORTING TEAM

Project Manager/Field Coordinator/Quality Assurance Officer

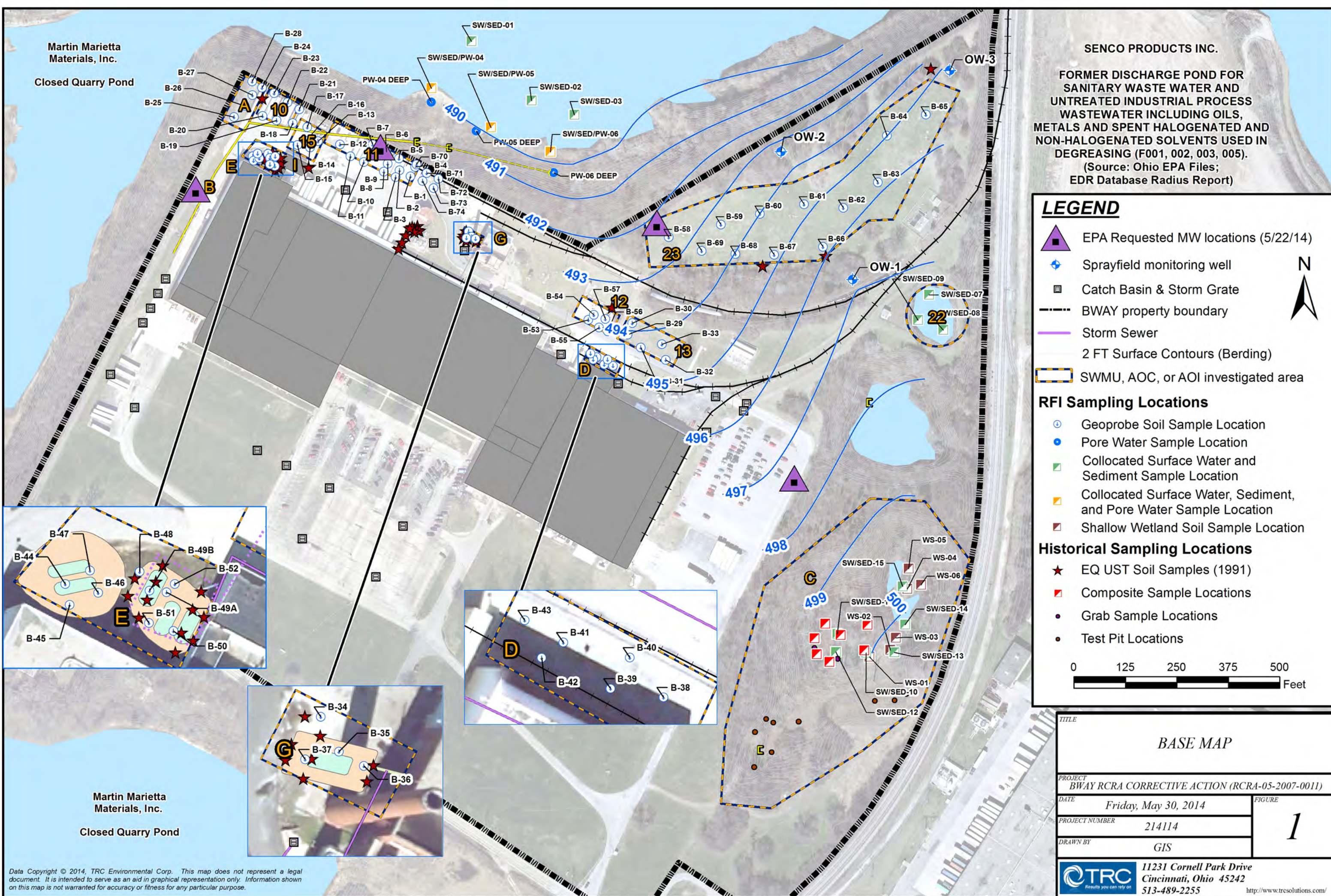
- TRC - Kevin D. Kallini, P.G.

Field Samplers and field geologist

- TRC staff

Data Screening Assessment Project Manager

- ENVIRON - Christopher M. Buzgo, Ph.D., Manager



Martin Marietta
Materials, Inc.
Closed Quarry Pond

SENCO PRODUCTS INC.

FORMER DISCHARGE POND FOR
SANITARY WASTE WATER AND
UNTREATED INDUSTRIAL PROCESS
WASTEWATER INCLUDING OILS,
METALS AND SPENT HALOGENATED AND
NON-HALOGENATED SOLVENTS USED IN
DEGREASING (F001, 002, 003, 005).
(Source: Ohio EPA Files;
EDR Database Radius Report)

LEGEND

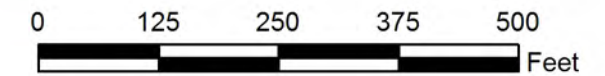
- EPA Requested MW locations (5/22/14)
- Sprayfield monitoring well
- Catch Basin & Storm Grate
- BWAY property boundary
- Storm Sewer
- 2 FT Surface Contours (Berding)
- SWMU, AOC, or AOI investigated area

RFI Sampling Locations

- Geoprobe Soil Sample Location
- Pore Water Sample Location
- Collocated Surface Water and Sediment Sample Location
- Collocated Surface Water, Sediment, and Pore Water Sample Location
- Shallow Wetland Soil Sample Location

Historical Sampling Locations

- EQ UST Soil Samples (1991)
- Composite Sample Locations
- Grab Sample Locations
- Test Pit Locations



TITLE		
BASE MAP		
PROJECT		
BWAY RCRA CORRECTIVE ACTION (RCRA-05-2007-0011)		
DATE	Friday, May 30, 2014	FIGURE
PROJECT NUMBER	214114	1
DRAWN BY	GIS	



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