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December 21, 2017

Ms. Viral Patel
On-Scene Coordinator/Remedial Project Manager
USEPA Region 5 – SR6J
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

RE: Data Report
Engineering Evaluation and Cost Analysis (EE/CA) Sampling Support
Milwaukee Solvay Coke and Gas Site
Wisconsin Gas LLC (d/b/a We Energies), U.S. EPA Docket No.: V-W-17-C-010

Dear Ms. Patel:

Per Task 3, Data Report, of the Statement of Work (SOW) attached to the Administrative Settlement Agreement and Order on Consent (AOC) for the above-mentioned project, We Energies is providing the attached Data Report summarizing the sampling results from the EE/CA Support Sampling Plan, dated October 24, 2017 and previously performed site activities that support the EE/CA.

Should you have any questions or comments, please don't hesitate to contact me at (414) 221-3948 or robert.paulson@we-energies.com.

Sincerely,

Robert Paulson
Principal Environmental Consultant

Enc: Data Report -Engineering Evaluation and Cost Analysis Sampling Support

cc: Ms. Margaret Brunette, WDNR (email)

TECHNICAL MEMORANDUM

TO:	Robert Paulson, WBS
FROM:	Jennifer Hagen/Jay Karls, NRT/OBG
RE:	EE/CA Support Sampling Plan Data Report Milwaukee Solvay Coke and Gas Site -Wisconsin Gas, LLC (d/b/a We Energies) 311 East Greenfield Avenue, Milwaukee, Wisconsin USEPA Docket No.: V-W-17-C010; CERLIS ID No. WIN000508215
DATE:	December 21, 2017

This Data Report has been prepared in accordance with Task 3 of the Statement of Work (SOW) attached to the Administrative Settlement Agreement and Order on Consent (AOC), for Site Fencing/Security, EE/CA and NTCRA at the Uplands, Docket No. V-W-17-C-010 issued by the United States Environmental Protection Agency (USEPA)for the Milwaukee Solvay Coke and Gas Site (Site). Data previously presented in the USEPA-approved Engineering Evaluation/Cost Analysis (EE/CA) Support Sampling Plan (dated October 24, 2017), the final approved 2016 Remedial Investigation pursuant to the Administrative Settlement Agreement and Order on Consent V-W-07-C-861, dated January 31, 2007 (RI; Arcadis 2016) and those summarized herein will be used in the EE/CA Report.

The EE/CA Support Sampling Plan was prepared to further determine the nature and extent of source material and address certain data gaps at the Site following approval of the RI. Specifically, Section 3.3 through 3.11 of the EE/CA Support Sampling Plan proposed data acquisition activities necessary to evaluate upland area removal alternatives in the EE/CA and to support a Non-Time Critical Removal Action (NTCRA) at the Site. These activities were conducted in October 2017 through December 2017. The following sections provide a description of the activities, referencing the EE/CA Support Sampling Plan Section, deviations (if any), and a summary of the results.

Sampling activities were performed in accordance with the Standard Operating Procedures (SOPs) included in Appendix J of the EE/CA Support Sampling Plan. Soil boring, test pit, soil sampling, and other site observation locations were recorded with a Trimble hand held Global Positioning Survey (GPS) unit. Soil and groundwater samples were submitted to Pace Analytical Services, Green Bay, Wisconsin, for laboratory analysis per the EE/CA Support Sampling Plan and Quality Assurance Project Plan (QAPP). Soil and groundwater analytical data were validated by Shepherd Technical Services, Austin, Texas.

PRE-AOC DATA COLLECTION

As discussed in the EE/CA Support Sampling Plan, several tasks related to characterizing materials and profiling waste streams were conducted between May and August 2017, in advance of the AOC effective date. Additional data was collected in conjunction with the EE/CA Support Sampling Plan that augments the previously collected data, including the following:

- Over 350 samples of brick, concrete and other building materials and waste were sampled for asbestos analysis prior to the effective date of the AOC. The results of that sampling are provided in Appendix G1 of the EE/CA Support Sampling Plan. Three additional samples were collected for asbestos analysis of materials that were encountered during implementation of the EE/CA Support Sampling Plan. The analytical results for the additional asbestos samples are provided in Attachment A.
- Several waste profiles were established for the disposal of material from the Site prior to implementing the EE/CA Sampling Plan. Information related to those profiles is provided in Appendix I of the EE/CA Support Sampling Plan. An additional waste profile was established for disposal of potentially impacted cyanide contaminated (blue-stained) soil (Profile 128463WI). Analytical data used to support the establishment of this profile is summarized in Table 1 (North CN Pile) and provided in Attachment D.

NAPL CHARACTERIZATION (SECTION 3.3)

Geoprobe borings and test pits were used to further delineate the lateral and vertical extent of visual non-aqueous phase liquid (NAPL) characterized as sheen, oil-wetted or oil coated material. A total of 105 Geoprobe borings were advanced between October 26 and November 19, 2017 (Figures 1A and 1B). Ninety-five borings were used for NAPL evaluation, while an additional ten were advanced to a depth of four feet exclusively for the assessment of surficial soil.

A total of 15 test pits were excavated on October 30 and 31, 2017 in the northern portion of the Site and on November 9, 2017 in the southern portion of the Site. Geoprobe boring and test pit locations are shown on Figures 1A and 1B. The target depth and actual depth of the borings and test pits, along with the rational for the installation of the borings/test pits is provided in Table 2. Boring logs are provided in Attachment B.

Seventy borings were initially identified in the EE/CA Support Sampling Plan to evaluate NAPL and 25 additional "step-out" borings were advanced based on observations of the initial borings. Soil borings, were generally installed to a depth of approximately 20 to 25 feet below ground surface (bgs). Borings that terminated prior to reaching the target depth were terminated either because refusal was encountered or native clay was observed as NAPL had not been observed in native clay in previous assessments conducted at the Site.

Test pits were anticipated to be excavated to a depth of approximately 12 feet bgs. Test pits FT-TT08, FT-TT09 and FT-TT10, on the southern portion of the Site, as well as CG-TT23, on the northern portion of the Site, were excavated to a depth of approximately 12 feet bgs. The remaining test pits were excavated to a depth of approximately 6 to 8 feet bgs, as significant water infiltration occurred within these test pits at a depth of approximately 5 to 6 feet bgs, limiting the effectiveness of the test pit for observing NAPL.

A summary of the NAPL observations, including locations, depth intervals, and a description of the NAPL observed is provided in Table 3. Table 3 includes NAPL observations from previous investigations conducted at the Site between 2003 and 2013 presented in the RI (Arcadis 2016). These were used to update the NAPL delineation model for the Site (Figures 2A and 2B).

The EE/CA Support Sampling Plan noted that photoionization detector (PID) readings of 500 ppm or greater may be indicative of NAPL presence. The greatest PID reading recorded within the 105 borings advanced as part of the EE/CA support sampling was 145 ppm (Attachment B). Only two PID readings were greater than 100 ppm, and with the majority of the PID readings less than 10 ppm. PID readings were not incorporated into the updated NAPL delineation model.

Figures 3A and 3B provide the depth in feet bgs to the top (closest to ground surface) of NAPL, where it was encountered. Where NAPL was encountered, Figures 4A and 4B provide the bottom (deepest) depth where NAPL was observed. These depths, areas and volumes calculated from the updated NAPL delineation model will be used in the EE/CA. An electronic copy of a three-dimensional NAPL plume is provided as Attachment C and depicts the observations of NAPL in the subsurface based on the updated NAPL model. In general, the NAPL observations are located from approximately 4 feet bgs to 17 feet bgs, with the majority of the NAPL being present between 7 feet bgs and 14 feet bgs on the western portion of the Site, north of the car ferry area. The only NAPL identified south of the car ferry was in test pits FT-TT08, FT-TT09 and FT-TT10 with the NAPL in FT-TT08 being the only area previously identified (Arcadis 2016). The NAPL south of the car ferry was limited in depth and areal extent, and was excavated and removed from the Site as investigative derived waste (IDW) in November 2017. Limited areas of NAPL impacted soil were identified on the eastern portion of the Site adjacent to the north side of the car ferry. Borings advanced as part of this scope of work showed that these areal extents were small and were not associated with other significant NAPL impacts.

The EE/CA Support Sampling Plan included that laboratory analysis of 34 PAHs were to be performed at four locations of isolated NAPL to provide a fingerprint of NAPL outside of the coking operation area and to assess whether NAPL observations in these areas are indicative of principal threat waste. NAPL was not encountered in two of the four borings (CG-SB60 and CS-SB41) targeted for 34 PAH analysis. The other two borings (CG-SB61

and CG-SB109) were in areas that were encompassed by a larger NAPL area, as shown by the updated NAPL delineation model (Figures 4a and 4b, Attachment C) and therefore were not submitted for 34 PAH analysis.

CYANIDE CHARACTERIZATION (SECTION 3.4)

Soil borings and test pits were visually evaluated for the presence of blue staining, an indication of cyanide contamination. Locations and depths where blue staining was observed is provided in Figures 5A and 5B. In many locations, the staining did not appear to be consistent with the deep blue staining generally associated with Prussian blue and cyanide contamination. The staining appeared to be more of a lighter blue to blue-green staining, similar to that observed within most of the concrete foundations that had been removed. This staining is likely associated with the well-known phenomena in high slag concrete where reactions with sulfides produce a blue-green color (https://www.slagcement.org/aboutslagcement/is-10.aspx).

SUBSURFACE GEOLOGICAL EVALUATION (SECTION 3.5)

Soil borings were also used to evaluate the presence and depth of peat and clay surface. Figure 6 provides the depth (feet bgs) of the top of the peat layer, and Figure 7 provides the depth (feet bgs) of the bottom of the peat layer. Figure 8 provides the top of the native clay surface where encountered. Note that these figures utilized both data collected as part of this scope of work, as well as data collected during previous investigative activities at the Site and summarized in the RI Report (Arcadis 2016).

Peat was found in borings across the Site, but was not found in all borings advanced. The top of the peat layer is encountered generally within 5 to 10 feet bgs on the southern portion of the Site, and generally within 10 to feet 20 feet bgs on the northern portion of the Site. In isolated areas of the northern portion of the Site peat is encountered at depths from 25 to 40 feet bgs.

The depth to the top of the native clay layer varies across the Site from less than 10 feet bgs to greater than 40 feet bgs, but is generally found at a depth of approximately 20 to 25 feet bgs. As part of the EE/CA Support Sampling Plan, a number of the borings that were located in the northern portion of the Site were used to evaluate a potential depression in the clay surface which may influence NAPL migration pathways. The additional data collected during this sampling event did not confirm the presence of a valley, but instead showed that there are low points in the clay surface of the Site. As with previous Site investigations, where native clay was penetrated the clay did not indicate the presence of NAPL.

SOIL CHARACTERIZATION (SECTION 3.6)

Soil from the direct contact zone (0 to 4 feet bgs) was collected from 25 locations at the Site, which were selected for constituents of concern (COC) analysis. The boring locations selected for COC analysis are provided in Table 1 and Figure 9. The 0 to 4-foot soil sample was split into a 0 to 2 foot and a 2 to 4-foot soil sample, and one sample from each of the 25 locations selected for COC sampling was submitted for benzene, polycyclic aromatic hydrocarbon (PAH), cyanide and arsenic analysis. Analytical and data validation reports are provided in Attachment D and summarized in Table 4. The borings are color-coded indicating exceedance of the Wisconsin Department of Natural Resources (WDNR) Industrial Direct Contact Residual Contaminant Level (RCL). The Industrial Direct Contact RCL exceedances were generally associated with arsenic and/or benzo(a)pyrene and are consistent with the RI Report (Arcadis 2016).

Borings selected for COC analysis that are located adjacent to/near the Kinnickinnic River (FT-SB39, FT-SB40, FT-SB46 and CS-SB-46) were compared to the WDNR Consensus-Based Sediment Quality Guidelines (December 2003) sediment screening levels. Specifically, the selected soil boring analytical results were compared to the total PAH (TPAH) Probable Effects Concentration (PEC) screening level of 22.8 mg/kg and the arsenic PEC of 33 mg/kg to assess potential risk if the Site soil were to enter the surface water and become sediment. The TPAH and arsenic concentrations from the selected borings adjacent to the Kinnickinnic River were less than the sediment screening concentration (Table 4).

GROUNDWATER CHARACTERIZATION (SECTION 3.7)

Groundwater samples were collected using low-flow sampling techniques from the 35 existing Site wells from November 10, 2017 to November 17, 2017 to document pre-NTCRA groundwater quality and post-NTCRA improvements. The groundwater samples were submitted to Pace Analytical Services for benzene, ethylbenzene, PAH, arsenic, available cyanide and iron analyses. Analytical and data validation reports are provided as Attachment E. Table 5 provides a summary of the validated groundwater analytical data, depth to groundwater and field measured parameters collected as part of the sampling event.

With the exception of the Public Welfare criteria for iron, the following were the only exceedances of WDNR's NR140 Enforcement Standards and USEPA's Maximum Contaminant Levels:

- Benzene in well MW01D and MW22,
- Naphthalene in well MW22,
- Arsenic in well MW18.

These current conditions are consistent with groundwater data collected between 2009 and 2013.

GROUNDWATER MONIITORING WELL ABANDONMENT (SECTION 3.8)

Damaged monitoring wells MW-7 and MW-27 were abandoned on December 8, 2017. Well abandonment forms are provided in Attachment F. With the abandonment of these two wells and the previously abandoned well, 35 monitoring wells remain in service on the Site. Replacement wells will not be installed until after the Removal Action and/or site development is completed.

SEWER AND WATER INTAKE EVALUATION (SECTION 3.9)

An evaluation of the sewers and water intake structures was conducted on November 30 and December 1, 2017. Visu-Sewer was contracted to assess the sewers with mobile cameras. Additionally, excavations were conducted in order to locate sewers and water intake structures. Relevant findings are as follows:

- Historical drawings indicate that the Orchard Street Sewer had been abandoned immediately west of the Site. Excavation activities were conducted to locate the Orchard Street Sewer on the eastern portion of the Site. The sewer was identified at an elevation of approximately 7 feet bgs at the location identified on Figure 1A. The sewer was abandoned near the eastern Site boundary by pouring concrete into the eastern portion of the sewer pipe, thereby sealing it. The area was then covered with the soil from the excavation and crushed concrete from the Site.
- The water intake line was encountered on the northeastern portion of the Site at the location provided in Figure 1A. The water intake consisted of an approximately 60-inch reinforced concrete pipe. The pipe was penetrated to observe the interior of the pipe, which was filled with gravel and concrete apparently associated with previous abandonment activities. Concrete was used to seal the hole made in the pipe, and the pipe was covered with soil from the excavation.
- The 30-inch storm/process sewer constructed of brick was located within an excavation at the location provided on Figure 1A, and Visu-Sewer inspected the pipe with the mobile camera. The pipe appeared to have been abandoned approximately 35 feet north of excavation. The area to the south was filled with significant amounts of brick debris. The two ends of the pipe within the excavation were filled with concrete, and the excavation was filled with soil. Note that the discharge point for this pipe/system was confirmed to be abandoned as part of the removal action in 2003 (Figure 1B).
- The storm sewer inlet on the northern portion of the Site (Figure 1A) appears to be active and discharges to the storm sewer system beneath Greenfield Avenue.

POTENTIAL BARRIER MATERIAL ANALYSIS (SECTION 3.10)

Multiple potential onsite and offsite clean fill sources of soil that may be suitable for constructing the site surface barrier have been identified as part of construction projects near the Site. The evaluation of several of those soil sources are ongoing, and sampling of soil will be conducted consistent with WDNR guidance or certified clean prior to the soil being allowed on the Site.

Samples of crushed concrete, along with brick fines generated in pre-screening activities associated with crushing brick from the north oven foundations, and concrete from Pile 16, were analyzed at Pace Analytical Services. The analytical results, summarized in Table 1 and provided in Attachment D, were used to evaluate whether these materials would be suitable for use as barrier material and/or and general fill at the Site. The crushed concrete did not contain PAHs or metals at concentrations exceeding the WDNR Industrial Direct Contact Standards, and therefore may be suitable as barrier material. The concentration of analytes contained in the brick fines and concrete fines were generally consistent with Site soils, particularly in the former coking areas, and therefore may be suitable as general fill.

INVESTIGATIVE-DERIVED WASTE DISPOSAL (SECTION 3.11)

Tar and tar-impacted soil encountered in Test Pits FT-TT08, FT-TT09 and FT-TT10, located on the southern portion of the Site, were limited in both depth and areal extent. Test pit excavation activities were continued at those locations beyond the extent of the impacted soil to remove tar and impacted soil. The material generated as part of these test pitting activities was placed in roll-off dumpsters and shipped to Waste Management's Laraway Landfill in Joliet, Illinois for disposal.

The tar tank on the northeastern portion of the property (Figure 1A) was removed and the area surrounding the tar tank was evaluated on November 13, 2017. A concrete pad supported by a concrete foundation was present beneath the tank. The foundation was at least 4 to 5 feet thick, based on excavation activities conducted along the foundation. Significant staining was not observed on the pad. A tank bedding layer consisting of approximately three inches of a concrete material was present over a second, thicker pad. A thin layer of NAPL was noted in the space between the tank bedding layer and pad in areas where the bedding layer was not well bonded to the pad. It did not appear that significant tar penetrated the pad as the steel tank bottom was structurally sound with no signs of leakage. An area of hardened tar measuring approximately 15 feet in length, approximately 5 feet in width and approximately one foot thick was observed and removed from the area immediately adjacent to the east side of the pad and foundation. The soil beneath the hardened tar did not exhibit impacts, and other significant areas of coal tar impacts were not observed in the area surrounding the tar tank. The tar tank and impacted soils were placed in roll-off dumpsters and disposed of at Waste Management's Laraway Landfill. Additionally, NAPL-impacted soil excavated from test pit TT-28, and soil cuttings and sleeves associated with geo-probe activities, were placed in roll-off dumpsters and shipped to Waste Management's Laraway Landfill for disposal. In total, 230.8 tons of tar impacted materials were removed and disposed.

Potentially cyanide impacted (blue-stained) soil from the two surficial areas identified in previous investigations conducted at the Site (Arcadis 2016) were excavated on December 15, 2017 and placed into roll-off dumpsters for disposal at Waste Management's Metro landfill in Franklin, Wisconsin. The location of the blue-stained soil areas is provided on Figures 1A and 1B. A confirmatory soil sample from each area, consisting of soil composited from five locations within each area, was collected and submitted to Pace Analytical Services for cyanide analysis. The results of this confirmatory sampling will be provided in a future submittal.

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Tables

Table 1. Analytical Results for Blue-Stained Soil, Concrete Pile and Fines
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

Sample Location / Sample Name:				BRICK FINES	CONCRETE (CEMENT) FINES	NORTH CN PILE	PILE 16 EAST ON SLOPE (Crushed Concrete)	PILE 16 NORTH ON TOP (Crushed Concrete)	PILE 16 SOUTH ON TOP (Crushed Concrete)	PILE 16 WEST ON SLOPE (Crushed Concrete)
Sample Depth (feet):		**Industrial Direct Contact Soil RCLs:**	*Soil-to-Groundwater Pathways RCL :*	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
Sample Date:				10/31/2017	10/31/2017	10/31/2017	10/23/2017	10/23/2017	10/23/2017	10/23/2017
Analyte	Reporting Units									
VOCs										
1,1,1,2-Tetrachloroethane	mg/kg	**12.3**	*0.0534*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,1,1-Trichloroethane	mg/kg	**640**	*0.1402*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/kg	**3.6**	*0.0002*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,1,2-Trichloroethane	mg/kg	**7.01**	*0.0032*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,1-Dichloroethane	mg/kg	**22.2**	*0.4834*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,1-Dichloroethene	mg/kg	**1,190**	*0.005*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,1-Dichloropropene	mg/kg	**NS**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg	**934**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg	**0.109**	*0.0519*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/kg	**113**	*0.408*	<0.0476 U	<0.0476 U	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg	**219**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/kg	**0.092**	*0.0002*	<0.0912 U	<0.0912 U	--	--	--	--	--
1,2-Dibromoethane	mg/kg	**0.221**	*0.0000282*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,2-Dichlorobenzene	mg/kg	**376**	*1.168*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,2-Dichloroethane	mg/kg	**2.87**	*0.0028*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,2-Dichloropropane	mg/kg	**1.78**	*0.0033*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg	**182**	*1.3821*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,3-Dichlorobenzene	mg/kg	**297**	*1.1528*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,3-Dichloropropane	mg/kg	**1,490**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
1,4-Dichlorobenzene	mg/kg	**16.4**	*0.144*	<0.0250 U	<0.0250 U	--	--	--	--	--
2,2-Dichloropropane	mg/kg	**191**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
2-Chlorotoluene	mg/kg	**907**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
4-Chlorotoluene	mg/kg	**253**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
4-Isopropyltoluene	mg/kg	**162**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
Benzene	mg/kg	**7.07**	*0.0051*	<0.0250 U	*0.0297 J*	--	--	--	--	--
Bromobenzene	mg/kg	**679**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
Bromochloromethane	mg/kg	**906**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
Bromodichloromethane	mg/kg	**1.83**	*0.0003*	<0.0250 U	<0.0250 U	--	--	--	--	--
Bromoform	mg/kg	**113**	*0.0023*	<0.0250 U	<0.0250 U	--	--	--	--	--
Bromomethane	mg/kg	**43**	*0.0051*	<0.0699 U	<0.0699 U	--	--	--	--	--
Carbon Tetrachloride	mg/kg	**4.03**	*0.0039*	<0.0250 U	<0.0250 U	--	--	--	--	--
Chlorobenzene	mg/kg	**761**	*0.1358*	<0.0250 U	<0.0250 U	--	--	--	--	--
Chloroethane	mg/kg	**2,120**	*0.2266*	<0.0670 U	<0.0670 U	--	--	--	--	--
Chloroform	mg/kg	**1.98**	*0.0033*	<0.0464 U	<0.0464 U	--	--	--	--	--
Chloromethane	mg/kg	**669**	*0.0155*	<0.0250 U	<0.0250 U	--	--	--	--	--
cis-1,2-Dichloroethene	mg/kg	**2,340**	*0.0412*	<0.0250 U	<0.0250 U	--	--	--	--	--
cis-1,3-Dichloropropene	mg/kg	**1,210**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
Dibromochloromethane	mg/kg	**38.9**	*0.032*	<0.0250 U	<0.0250 U	--	--	--	--	--
Dibromomethane	mg/kg	**143**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
Dichloromethane	mg/kg	**1,150**	*0.0026*	<0.0250 U	<0.0250 U	--	--	--	--	--
Ethylbenzene	mg/kg	**35.4**	*1.57*	<0.0250 U	<0.0250 U	--	--	--	--	--
Freon 12	mg/kg	**530**	*3.0863*	<0.0250 U	<0.0250 U	--	--	--	--	--
Hexachlorobutadiene	mg/kg	**7.19**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
Isopropyl ether	mg/kg	**2,260**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
Isopropylbenzene	mg/kg	**268**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
Methyl-tert-butyl-ether	mg/kg	**282**	*0.027*	<0.0250 U	<0.0250 U	--	--	--	--	--
n-Butylbenzene	mg/kg	**108**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
n-Propylbenzene	mg/kg	**264**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
sec-Butylbenzene	mg/kg	**145**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
Styrene	mg/kg	**867**	*0.22*	<0.0250 U	<0.0250 U	--	--	--	--	--
tert-Butylbenzene	mg/kg	**183**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
Tetrachloroethene	mg/kg	**145**	*0.0045*	<0.0250 U	<0.0250 U	--	--	--	--	--
Toluene	mg/kg	**818**	*1.1072*	0.122	0.169	--	--	--	--	--
trans-1,2-Dichloroethene	mg/kg	**1,850**	*0.0626*	<0.0250 U	<0.0250 U	--	--	--	--	--
trans-1,3-Dichloropropene	mg/kg	**1,510**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
Trichloroethene	mg/kg	**8.41**	*0.0036*	<0.0250 U	<0.0250 U	--	--	--	--	--
Trichlorofluoromethane	mg/kg	**1,230**	*4.4775*	<0.0250 U	<0.0250 U	--	--	--	--	--
Vinyl Chloride	mg/kg	**2.08**	*0.0001*	<0.0250 U	<0.0250 U	--	--	--	--	--
Xylene, o	mg/kg	**434**	*NS*	<0.0250 U	<0.0250 U	--	--	--	--	--
Xylenes, m + p	mg/kg	**260**	*3.96*	<0.0500 U	<0.0500 U	--	--	--	--	--

Table 1. Analytical Results for Blue-Stained Soil, Concrete Pile and Fines
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

Sample Location / Sample Name:		Industrial Direct Contact Soil RCLs:	Soil-to-Groundwater Pathways RCL :	BRICK FINES	CONCRETE (CEMENT) FINES	NORTH CN PILE	PILE 16 EAST ON SLOPE (Crushed Concrete)	PILE 16 NORTH ON TOP (Crushed Concrete)	PILE 16 SOUTH ON TOP (Crushed Concrete)	PILE 16 WEST ON SLOPE (Crushed Concrete)
Sample Depth (feet):				0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
Sample Date:				10/31/2017	10/31/2017	10/31/2017	10/23/2017	10/23/2017	10/23/2017	10/23/2017
Analyte	Reporting Units									
PAHs										
1-Methylnaphthalene	mg/kg	**72.7**	*NS*	0.183 J	<0.908 U	--	0.0048 J	<0.0085 U	0.0067 J	<0.0042 U
2-Methylnaphthalene	mg/kg	**3,010**	*NS*	0.316 J	<1.130 U	--	0.0061 J	<0.0106 U	0.0097 J	<0.0052 U
Acenaphthene	mg/kg	**45,200**	*NS*	0.0937 J	3.170	--	0.0136	0.0171 J	0.0105 J	0.0074 J
Acenaphthylene	mg/kg	**NS**	*NS*	0.280	<0.744 U	--	0.0036 J	0.0095 J	0.0222	<0.0034 U
Anthracene	mg/kg	**100,000**	*196.9492*	1.050	7.370	--	0.0381	0.0777	0.0497	0.0174 J
Benzo(a)anthracene	mg/kg	**20.8**	*NS*	2.500	12.800	--	0.0762	0.300	0.149	0.0393
Benzo(a)pyrene	mg/kg	**2.11**	*0.47*	*2.000*	***10.400***	--	0.0694	0.295	0.143	0.0364
Benzo(b)fluoranthene	mg/kg	**21.1**	*0.4793*	*2.580*	*10.100*	--	0.0743	0.262	0.154	0.0328
Benzo(g,h,i)perylene	mg/kg	**NS**	*NS*	1.440	6.040	--	0.0326	0.165	0.0811	0.0145
Benzo(k)fluoranthene	mg/kg	**211**	*NS*	2.030	9.670	--	0.0639	0.280	0.124	0.0402
Chrysene	mg/kg	**2,110**	*0.1446*	*3.310*	*13.300*	--	0.0875	*0.321*	*0.178*	0.0475
Dibenz(a,h)anthracene	mg/kg	**2.11**	*NS*	0.538	**2.120**	--	0.0146	0.0659	0.0320	0.0067 J
Fluoranthene	mg/kg	**30,100**	*88.8778*	5.470	41.100	--	0.194	0.760	0.406	0.109
Fluorene	mg/kg	**30,100**	*14.8299*	0.199 J	3.690	--	0.0179	0.0221 J	0.0161	0.0085 J
Indeno(1,2,3-cd)pyrene	mg/kg	**21.1**	*NS*	1.270	5.600	--	0.0346	0.169	0.0840	0.0162
Naphthalene	mg/kg	**24.1**	*0.6582*	0.226 J	0.234 J	--	--	--	--	--
Naphthalene	mg/kg	**24.1**	*0.6582*	0.647 J	<1.900 U	--	<0.0087 U	<0.0178 U	0.0311	0.0126 J
Phenanthrene	mg/kg	**NS**	*NS*	2.940	29.300	--	0.133	0.254	0.225	0.0763
Pyrene	mg/kg	**22,600**	*54.5455*	4.020	28.900	--	0.162	0.619	0.323	0.0877
PCBs										
PCB, Total	mg/kg	**NS**	*NS*	0.0501 J	0.153	--	<0.0258 U	<0.0264 U	<0.0263 U	<0.0260 U
PCB-1016	mg/kg	**28**	*NS*	<0.0291 U	<0.0282 U	--	<0.0258 U	<0.0264 U	<0.0263 U	<0.0260 U
PCB-1221	mg/kg	**0.883**	*NS*	<0.0291 U	<0.0282 U	--	<0.0258 U	<0.0264 U	<0.0263 U	<0.0260 U
PCB-1232	mg/kg	**0.792**	*NS*	<0.0291 U	<0.0282 U	--	<0.0258 U	<0.0264 U	<0.0263 U	<0.0260 U
PCB-1242	mg/kg	**0.972**	*NS*	<0.0291 U	<0.0282 U	--	<0.0258 U	<0.0264 U	<0.0263 U	<0.0260 U
PCB-1248	mg/kg	**0.975**	*NS*	<0.0291 U	0.0423 J	--	<0.0258 U	<0.0264 U	<0.0263 U	<0.0260 U
PCB-1254	mg/kg	**0.988**	*NS*	<0.0291 U	0.0599	--	<0.0258 U	<0.0264 U	<0.0263 U	<0.0260 U
PCB-1260	mg/kg	**1**	*NS*	0.0501 J	0.0507 J	--	<0.0258 U	<0.0264 U	<0.0263 U	<0.0260 U
Inorganics										
Arsenic, Total [1]	mg/kg	**3.0**	*0.584*	***27.8***	7.7	***9.2***	2.1	2.8	2.8	2.4
Barium, Total	mg/kg	**100,000**	*164.8*	106	157	--	18.9	30.0	36.1	31.4
Cadmium, Total	mg/kg	**985**	*0.752*	*2.3*	0.58 J	--	<0.092 U	0.44 J	0.14 J	<0.10 U
Chromium, Total	mg/kg	**NS**	*360,000*	36.4	16.3	--	5.5	8.2	10.8	8.3
Lead, Total	mg/kg	**800**	*27*	*247*	*214*	--	5.8	10.7	6.9	8.6
Mercury, Total	mg/kg	**3.13**	*0.208*	*0.52*	0.10	--	<0.011 U	<0.011 U	<0.012 U	<0.010 U
Selenium, Total	mg/kg	**5,840**	*0.52*	*3.4*	*2.1*	--	0.33 J	*1.2*	0.48 J	0.32 J
Silver, Total	mg/kg	**5,840**	*0.8491*	0.30 J	0.14 J	--	<0.090 U	0.16 J	<0.10 U	<0.098 U
Cyanide, Reactive	mg/kg	**195**	*4.04*	--	--	<0.43 U	--	--	--	--
Cyanide, Total	mg/kg	**195**	*4.04*	*8.8*	0.92	3.6	--	--	--	--
Other										
Percent Moisture	%	**NS**	*NS*	14.0	11.4	6.1	3.1	5.4	5.0	3.7

[O:MDM/ECK 12/15/17][C:JFK 12/15/17]

Notes
BOLD = result exceeds Industrial Soil Direct Contact RCL
Italic Underline = result exceeds Soil-to-Groundwater Pathway RCL
-- = Analysis not performed
< = Concentration is less than reported limit
U = Concentration was not detected above the reported limit
J = Estimated concentration
RCL = NR720 Soil Residual Contaminant Level (WDNR) (March 2017)
Groundwater Pathway RCLs are based on a Dilution Factor of 2.
1. Arsenic Background Threshold Value (BTV) of 8.3 mg/kg was used for screening results.

BTEX = Benzene, Toluene, Ethylbenzene and Xylene
GEO = Geotechnical Property
PAH = Polycyclic Aromatic Hydrocarbon
PCB = Polychlorinated Biphenyl
SVOC = Semi-Volatile Organic Compound
VOC = Volatile Organic Compound
mg/kg = milligrams per kilogram (ppm)
NS = No Standard

Table 2. Sampling Locations and Rationale
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

Sampling Location	Northing[1]	Easting[1]	Visual Observations				COC Sampling	Target Depth (feet)[2]	Actual Depth (feet)	Comments[3]
			NAPL	Cyanide	Peat Layer	Top of Native Clay				
Installed Borings as Proposed in the EE/CA Sampling Plan for the Former Coke Production Area										
CG-SB60	377,635.83	2,559,451.04	X	X	X	X		20	20	Evaluation of sheen on northern portion of property noted in S33GP (5' bgs) and S34GP (6' bgs).
CG-SB61	377,613.83	2,559,494.72	X	X	X	X	X	20	20	Evaluation of sheen on northern portion of property noted in S33GP (5' bgs) and S34GP (6' bgs). Document soil conditions within the direct contact zone.
CG-SB62	377,529.09	2,559,561.39	X	X	X	X		20	20	Further assessment of blue staining observed by NRT in 2017 on interior foundation of office building (approximately 10' to 12' bgs).
CG-SB63	377,490.01	2,559,582.41	X	X	X	X		20	20	Further assessment of blue staining observed by NRT in 2017 on interior foundation of office building (approximately 10' to 12' bgs).
CG-SB64	377,445.01	2,559,560.40	X	X	X	X		20	20	Further assessment of blue staining observed by NRT in 2017 on interior foundation of office building (approximately 10' to 12' bgs).
CG-SB65	377,489.02	2,559,507.85	X	X	X	X	X	20	20	Further assessment of blue staining observed by NRT in 2017 on interior foundation of office building (approximately 10' to 12' bgs). Document soil conditions within the direct contact zone.
CG-SB66	377,316.67	2,559,691.36	X	X	X	X		25	25	Assessment/confirmation of sheen in area north of SB-A-01 (odor and sheen observed in SB-A-01 at 7' to 8' bgs).
CG-SB67	377,311.98	2,559,487.71	X	X	X	X		40	20	Assessment/confirmation of sheen extent for sheen and odor observed in CG-SB04 (8' to 9' bgs).
CG-SB68	377,308.86	2,559,416.36	X	X	X	X		40	25	Evaluation of northern ovens for potential NAPL or cyanide.
CG-SB69	377,284.90	2,559,602.30	X	X	X	X	X	25	25	Assessment/confirmation of sheen extent south of SB-A-01 (odor and sheen at 7' to 8' bgs) and west of CG-SB05 (sheen and staining at 6' to greater than 8' bgs). COC assessment to help provide documentation of soil conditions within the direct contact zone across the site.
CG-SB70	377,180.21	2,559,421.57	X	X	X	X		25	25	Evaluation of northern ovens for potential NAPL or cyanide.
CG-SB71	377,227.09	2,559,747.09	X	X	X	X		25	25	Assessment/confirmation of sheen and staining limits northwest of odor, sheen, staining and NAPL blebs observed in MW-22 and MW-22D (8' to 18' bgs, with some odors 0' to 8' bgs).
CG-SB72	377,120.14	2,559,744.48	X	X	X	X		25	25	Assessment/confirmation of sheen and NAPL blebs extent in area north/west of SB-A-03 (solidified coal tar in test pit from 0.5' to 6' bgs), CG-SB07 (elevated PID 4' to 4.9' bgs), CG-SB07B (strong odor, sheen and staining 8' to greater than 13' bgs) and CG-SB41 (staining, blebs and odor 3' to 16' bgs).
CG-SB73	377,045.32	2,559,820.18	X	X	X	X		25	25	Assessment/confirmation of sheen and NAPL blebs extent in area south/east of SB-A-03 (solidified coal tar in test pit from 0.5' to 6' bgs), CG-SB07 (elevated PID 4' to 4.9' bgs), CG-SB07B (strong odor, sheen and staining 8' to greater than 13' bgs) and CG-SB41 (staining, blebs and odor 3' to 16' bgs).
CG-SB74	377,034.47	2,559,642.23	X	X	X	X	X	25	25	Assessment/confirmation of NAPL west/southwest of CG-SB31 (sheen on water in boring at 7' bgs) and CG-TT03 (sheen on water in test pit at 7' bgs). COC assessment to help provide documentation of soil conditions within the direct contact zone across the site.
CG-SB75	377,000.61	2,559,429.55	X	X	X	X	X	25	25	Evaluation of northern ovens for potential NAPL or cyanide. Document soil conditions within the direct contact zone.
CG-SB76	376,945.32	2,559,594.31	X	X	X	X		25	25	Assessment/confirmation of NAPL east of SB-A-21 (apparent coal tar 2-2.5' bgs).
CG-SB77	376,957.47	2,559,754.47	X	X	X	X		25	25	Assessment/confirmation of NAPL south of CG-SB41 (staining, blebs and odor 3' to 16' bgs) and west of CS-SB22 (sheen and moderate odor 9' to 9.5' bgs).

Table 2. Sampling Locations and Rationale
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

Sampling Location	Northing[1]	Easting[1]	Visual Observations				COC Sampling	Target Depth (feet)[2]	Actual Depth (feet)	Comments[3]
			NAPL	Cyanide	Peat Layer	Top of Native Clay				
CG-SB78	376,839.15	2,559,554.29	X	X	X	X		25	0	Assessment/confirmation of NAPL east of CG-SB45 (intermittent staining, blebs and odor 12' to 21' bgs) and NAPL staining, odor 42' to 43' bgs) and CG-SB45NW (odor 11' to 20' and NAPL 15' to 17' bgs) and west of S04GP (oily material 4' to 8' bgs) and CG-SB44 (staining, blebs and/or odor 12' to 25' bgs).
CG-SB79	376,847.83	2,559,431.46	X	X	X	X		25	25	Evaluation of northern ovens for potential NAPL or cyanide.
CG-SB80	376,817.89	2,559,608.98	X	X	X	X		30	30	Assessment/confirmation of NAPL east of CG-SB45 (intermittent staining, blebs and odor 12' to 21' bgs and NAPL staining, odor 42' to 43' bgs) and CG-SB45NW(odor 11' to 20' and NAPL 15' to 17' bgs) and west of S04GP (oily material 4' to 8' bgs) and CG-SB44 (staining, blebs and/or odor 12' to 25' bgs).
CG-SB81	376,741.50	2,559,526.51	X	X	X	X		45	25	Evaluation and confirmation of NAPL, particularly NAPL observed at 42' to 43' bgs in CG-SB45 (intermittent staining, blebs and odor 12' to 21' bgs and NAPL staining, odor 42' to 43' bgs).
CG-SB82	376,607.04	2,559,619.40	X	X	X	X		30	25	Evaluation/confirmation of NAPL northwest of CG-SB46 (petroleum odor 10' to 13' bgs and odors, sheen and NAPL blebs 15' to 16' bgs).
CG-SB83	376,569.28	2,559,506.55	X	X	X	X		25	25	Evaluation of southern ovens for potential NAPL or cyanide.
CG-SB84	376,565.37	2,559,387.19	X	X	X	X	X	25	20	Evaluation of southern ovens for potential NAPL or cyanide. Document soil conditions within the direct contact zone.
CG-SB85	376,519.80	2,559,733.11	X	X	X	X		25	15	Evaluation/confirmation of NAPL southeast of CG-SB46 (petroleum odor 10' to 13' bgs and odors, sheen and NAPL blebs 15' to 16' bgs).
CG-SB86	376,538.46	2,559,601.60	X	X	X	X		25	25	Evaluation of NAPL presence/extent northwest of CG-SB47 (odor, staining and/or sheen 5' to 20' bgs) and northeast of CG-SB16 (odors and staining 18' to 20.5' bgs, elevated PID 20' to 23.9' bgs).
CG-SB87	376,480.73	2,559,645.00	X	X	X	X		25	15	Evaluation of NAPL presence/extent north of CG-SB38 (odors 8' to 20' bgs and sheen, staining and odors 21' to greater than 22.7' bgs) and south of SB-A-17 (staining, elevated FID and odors in test pit 2' to 5' bgs).
CG-SB88	376,442.54	2,559,505.25	X	X	X	X		25	25	Evaluation of southern ovens for potential NAPL or cyanide.
CG-SB89	376,405.65	2,559,602.03	X	X	X	X		25	25	Evaluation of NAPL extent southeast of SB-A-15 (staining, odor and elevated FID in test pit 4' to 6' bgs) and southwest of CG-SB38 (odors 8' to 20' bgs and sheen, staining and odors 21' to greater than 22.7' bgs).
CG-SB90	376,410.86	2,559,398.04	X	X	X	X		25	20	Evaluation of southern ovens for potential NAPL or cyanide.
CG-SB91	376,352.70	2,559,507.85	X	X	X	X		25	25	Evaluation of southern ovens for potential NAPL or cyanide.
CG-SB92	376,278.91	2,559,401.08	X	X	X	X		25	20	Evaluation of southern ovens for potential NAPL or cyanide.
CG-SB93	376,294.97	2,559,582.07	X	X	X	X		25	25	Evaluation of NAPL presence/extent southeast of CG-SB18 (odor and staining 4' to 6' bgs and odor and sheen 8' to 13' bgs).
CG-SB94	376,271.10	2,559,675.39	X	X	X	X		25	25	Evaluation of NAPL presence/extent north of MW-26D (staining and odor 5' to 6' bgs and staining, sheen and elevated PID from 10' to 15' bgs).
CG-SB95	376,253.30	2,559,715.75	X	X	X	X		25	25	Evaluation of NAPL presence/extent east of MW-26D (staining and odor 5' to 6' bgs and staining, sheen and elevated PID from 10' to 15' bgs) and north of CG-SB37 (odors 4' to 6' and elevated PID 4' to greater than 9.8' bgs).
CG-SB96	376,229.00	2,559,511.32	X	X	X	X	X	25	25	Evaluation of southern ovens for potential NAPL or cyanide. Document the soil conditions within the direct contact zone.
CG-SB97	376,209.90	2,559,661.93	X	X	X	X		25	25	Evaluation of NAPL presence/extent south of MW-26D (staining and odor 5' to 6' bgs and staining, sheen and elevated PID from 10' to 15' bgs) and north of CG-SB21 (free product, sheen, odor 12' bgs).

Table 2. Sampling Locations and Rationale
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

Sampling Location	Northing[1]	Easting[1]	Visual Observations				COC Sampling	Target Depth (feet)[2]	Actual Depth (feet)	Comments[3]
			NAPL	Cyanide	Peat Layer	Top of Native Clay				
CG-SB98	376,173.44	2,559,592.05	X	X	X	X		40	25	Evaluation of NAPL presence/extent west of S09GP (oily staining 5' to 6' bgs) and east of CG-SB49 (odor 0' to 4' bgs; staining, elevated PID and NAPL 4' to 14' bgs; elevated PID 14' to 16' bgs 38' to 40' bgs).
CG-SB99	376,164.76	2,559,443.61	X	X	X	X		25	7	Evaluation of southern ovens for potential NAPL or cyanide. Blue-stained concrete from oven foundations and limited NAPL was observed along the oven foundations in this area by NRT in 2017.
CG-SB100	376,135.68	2,559,418.87	X	X	X	X		25	20	Evaluation of southern ovens for potential NAPL or cyanide. Blue-stained concrete from oven foundations and limited NAPL was observed along the oven foundations in this area by NRT in 2017.
CG-SB101	376,145.23	2,559,726.17	X	X	X	X		25	25	Evaluate presence/extent of NAPL east of CG-SB21 (free product, sheen, odor 12' bgs).
CG-SB102	376,067.11	2,559,471.83	X	X	X	X		25	25	Assessment/confirmation of NAPL and cyanide evaluation. Blue-stained concrete from oven foundations and limited NAPL was observed along the oven foundations in this area by NRT in 2017.
CG-SB103	376,037.16	2,559,729.20	X	X	X	X	X	25	25	Assessment of former oil house. Document soil conditions within the direct contact zone.
CG-SB104	376,035.42	2,559,704.03	X	X	X	X		25	20	Assessment of former oil house.
CG-SB105	376,031.52	2,559,678.42	X	X	X	X		25	25	Assessment of former oil house.
CG-SB106	375,982.90	2,559,716.18	X	X	X	X		25	25	Assessment of former oil house and potential NAPL north of CG-SB36 (observed sheen a 6' bgs).
CG-SB107	375,950.35	2,559,424.95	X	X	X	X		25	25	Evaluation of NAPL extent southeast of MW-27 (odor and sheen 10' to 12' bgs) and northwest of CG-SB26 (sheen and odor 9').
CG-SB108	375,886.98	2,559,682.76	X	X	X	X		25	25	Evaluation of NAPL nature/presence/extent west of SB-A-25 (oily sludge, oil and sheen 5' to 8').
CG-SB109	375,889.59	2,559,796.48	X	X	X	X		25	25	Evaluation of NAPL nature/presence/extent east of SB-A-25 (oily sludge, oil and sheen 5' to 8').
CG-SB110	375,805.82	2,559,671.91	X	X	X	X		25	25	Evaluation of NAPL presence/extent northeast of CG-SB51 (sheen at 5' to 7').
CG-SB111	375,796.71	2,559,778.68	X	X	X	X		25	25	Evaluation of NAPL presence/extent west of SB-B-37 (odor, staining and elevated PID 4' to 6.1'; elevated PID 8 to greater than 9.8' bgs).
Additional "Step Out" Borings Installed in the Coke Production Area										
CG-SB112	377,594.82	2,559,514.70	X	X	X	X		To Native Soil	20	Evaluation of NAPL identified on the northern portion of the property to assess whether sheen identified in CG-SB62 (5' to 8' bgs and 9.5' to 10.5' bgs) and CG-SB65 (9.5' to 9.6' bgs and 10' to 12' bgs) are related to sheen observed historically on northern portion of the property at boring locations S33GP (5' bgs) and S34GP (6' bgs).
CG-SB113	377,544.10	2,559,467.05	X	X	X	X		To Native Soil	15	Further evaluation of southern extent of sheen identified in CG-SB65 (9.5' to 9.6' bgs and 10' to 12' bgs).
CG-SB114	376,774.15	2,559,757.37	X	X	X	X		To Native Soil	15	Evaluation of eastern extent of the NAPL impacts on northern portion of property near the former tar tanks.
CG-SB115	376,715.06	2,559,744.20	X	X	X	X		To Native Soil	20	Evaluation of eastern extent of the NAPL impacts on northern portion of property east of the former boiler house.
CG-SB116	376,638.48	2,559,714.04	X	X	X	X		To Native Soil	20	Evaluation of eastern extent of the NAPL impacts on northern portion of property east of the former boiler house.
CG-SB117	376,051.70	2,559,532.79	X	X	X	X		To Native Soil	20	Evaluation of the extent of NAPL impacts in area south/southeast of southern ovens.
CG-SB118	375,954.31	2,559,502.06	X	X	X	X		To Native Soil	20	Evaluation of the extent of NAPL impacts in area south/southeast of southern ovens.
CG-SB119	375,875.66	2,559,441.64	X	X	X	X		To Native Soil	20	Evaluation of southern extent of NAPL impacts south of southern ovens.

Table 2. Sampling Locations and Rationale
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Milwaukee, Wisconsin
Docket No: V-W-17-C-010

Sampling Location	Northing[1]	Easting[1]	Visual Observations				COC Sampling	Target Depth (feet)[2]	Actual Depth (feet)	Comments[3]
			NAPL	Cyanide	Peat Layer	Top of Native Clay				
CG-SB120	376,177.40	2,559,410.74	X	X	X	X		To Native Soil	20	Evaluation of western/northwestern extent of NAPL impacts in area of southern ovens.
CG-SB121	376,291.50	2,559,508.41	X	X	X	X		To Native Soil	25	Evaluation of extent of NAPL impacts east of southern ovens.
CG-SB122	375,944.96	2,559,702.91	X	X	X	X		To Native Soil	20	Evaluation of NAPL impacts in area north of the former oil house.
CG-SB123	377,131.65	2,559,644.63	X	X	X	X		To Native Soil	25	Evaluation of extent of NAPL impacts in area west of the former tar tank on the northern portion of property.
CG-SB124	376,914.55	2,559,684.84	X	X	X	X		To Native Soil	20	Evaluation of extent of NAPL impacts in area southwest of the former tar tank on the northern portion of property.
CG-SB125	376,694.95	2,559,681.67	X	X	X	X		To Native Soil	20	Evaluation of NAPL extent in area north of the former boiler house.
CG-SB126	376,370.92	2,559,654.11	X	X	X	X		To Native Soil	20	Evaluation of NAPL extent in area of the former boiler house.
CG-SB127	375,923.91	2,559,598.71	X	X	X	X		To Native Soil	20	Evaluation of NAPL extent In area southeast of southern ovens. Assessment of whether NAPL impacts observed in area of CG-SB116 and CG-SB117 may be connected with impacts observed at CG-SB108.
CG-SB128	376,864.43	2,559,727.76	X	X	X	X		To Native Soil	20	Evaluation of extent of NAPL in area southeast of CG-SB124 and southwest of CG-SB77. Boring to assess area between NAPL impacts encountered at CG-SB77 and CG-SB115.
CG-SB129	376,248.11	2,559,604.41	X	X	X	X		To Native Soil	20	Further evaluation of extent on NAPL impacts east of the southern ovens.
CG-SB130	375,752.82	2,559,707.71	X	X	X	X		To Native Soil	15	Evaluation of extent of NAPL impacts south of CG-SB110 and SG-SB111.
CG-SB131	376,293.55	2,559,485.80	X	X	X	X		To Native Soil	20	Evaluation of extent of NAPL impacts immediately east of the southern portion of the southern ovens. Boring was placed as close as possible to the eastern foundation of the southern ovens.
CG-SB132	377,570.51	2,559,539.98	X	X	X	X		To Native Soil	20	Evaluation of extent of NAPL impacts north of NAPL observed in CG-SB62 (limited sheen from 5' to 8' bgs and 9.5' to 10.5' bgs).
Installed Test Pits as Proposed in the EE/CA Sampling Plan for the Former Coke Production Area										
CG-TT18	377,229.64	2,559,560.23	X	X				12	6	Evaluation of blue staining and surficial tar observed by NRT in 2017.
CG-TT19	377,201.86	2,559,504.68	X	X				12	6	Evaluation of blue staining observed by NRT in 2017.
CG-TT20	377,131.38	2,559,728.63	X	X				12	6	Evaluation of partial tank on ground surface and surficial tar observed by NRT in 2017.
CG-TT21	377,124.08	2,559,571.34	X	X				12	6	Evaluation of NAPL presence/extent north of CG-SB30A (sheen and odor 5' bgs) and south of CG-SB05 (sheen, staining and odor 6' to 7' bgs).
CG-TT22	377,083.98	2,559,711.71	X	X				12	6	Evaluation of surficial tar observed by NRT in 2017.
CG-TT23	377,036.93	2,559,468.91	X	X				12	12	Evaluation of blue staining observed by NRT in 2017.
CG-TT24	376,768.44	2,559,565.09	X	X				12	6	Evaluation of presence/extent of NAPL northeast of CG-SB45 (intermittent staining, blebs and odor 12' to 21' bgs and NAPL staining, odor 42' to 43' bgs).
CG-TT25	376,710.72	2,559,705.28	X	X				12	6	Evaluation of presence/extent of NAPL southeast of SB-A-14 (odor, staining and elevated PID 0' to 2' bgs and 4' to 6' bgs In test pit) and northwest of SB-A-24 (apparent solidified coal tar 4' to 5' bgs).
CG-TT26	376,704.64	2,559,585.06	X	X				12	6	Surficial coal tar observed north/northeast of byproducts building.
CG-TT27	376,660.37	2,559,677.07	X	X				12	6	Evaluation of presence/extent of NAPL southeast of SB-A-14 (odor, staining and elevated PID 0' to 2' bgs and 4' to 6' bgs In test pit) and northwest of SB-A-24 (apparent solidified coal tar 4' to 5' bgs).
CG-TT28	376,661.67	2,559,576.81	X	X				12	6	Evaluation of potential impacts associated with piping with coal tar observed south/southeast of byproducts building by NRT in 2017.

Table 2. Sampling Locations and Rationale
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

Sampling Location	Northing[1]	Easting[1]	Visual Observations				COC Sampling	Target Depth (feet)[2]	Actual Depth (feet)	Comments[3]
			NAPL	Cyanide	Peat Layer	Top of Native Clay				
CG-TT29	375,860.06	2,559,714.09	X	X				12	6	Evaluation of presence/extent of NAPL north/northwest of SB-A-25 (oily sludge, odor and sheen 5' to 8' bgs).
Installed Borings as Proposed in the EE/CA Sampling Plan for the Former Coal Storage Area										
CS-SB35	376,996.90	2,559,845.87	X	X	X	X		25	25	Evaluation of presence/extent of NAPL east of CS-SB-22 (sheen and moderate odor 9' to 9.5' bgs) and north of SB-B06 (black/free oily material and odor 2' to 5' bgs).
CS-SB36	376,947.42	2,559,902.12	X	X	X	X	X	25	25	Evaluation of presence/extent of NAPL east of SB-B06 (black/free oily material and odor 2' to 5' bgs). Document soil conditions within the direct contact zone.
CS-SB37	376,848.46	2,559,824.00	X	X	X	X		25	25	Evaluation of geology (peat surface/thickness and top of clay surface).
CS-SB38	376,794.81	2,559,791.19	X	X	X	X	X	25	6.5	Evaluation of geology (peat surface/thickness and top of clay surface) and NAPL extent east of S04GP (oily material 4' to 8' bgs). Document soil conditions within the direct contact zone.
CS-SB39	376,751.58	2,559,854.21	X	X	X	X		25	15	Evaluation of geology (peat surface/thickness and top of clay surface).
CS-SB40	376,766.17	2,560,106.81	X	X	X	X	X	30	20	Evaluation of NAPL presence/extent northwest of CS-MW23D (staining 9' to 12' bgs). Document soil conditions within the direct contact zone.
CS-SB41	376,743.77	2,560,139.10	X	X	X	X		30	20	Evaluation of NAPL presence/extent east of CS-MW23D (staining 9' to 12' bgs)
CS-SB42	376,697.94	2,560,028.17	X	X	X	X		35	15	Evaluation of geology (peat surface/thickness and top of clay surface).
CS-SB43	376,631.79	2,559,958.37	X	X	X	X	X	35	15	Evaluation of geology (peat surface/thickness and top of clay surface). Document soil conditions within the direct contact zone.
CS-SB44	376,571.37	2,559,912.54	X	X	X	X		35	15	Evaluation of geology (peat surface/thickness and top of clay surface).
CS-SB45	376,389.08	2,559,984.42	X	X	X	X	X	35	10.5	Boring within footprint of former Pile 16. Document soil conditions within the direct contact zone.
CS-SB46	375,900.72	2,560,131.12	X	X	X	X	X	20	20	Evaluation of NAPL presence/extent northeast of MW-28D (NAPL blebs 8.5' to 9.5' bgs). Document soil conditions within the direct contact zone.
CS-SB47	375,864.78	2,560,105.07	X	X	X	X		20	20	Evaluation of NAPL presence/extent east of MW-28D (NAPL blebs 8.5' to 9.5' bgs).
CS-SB48	375,808.53	2,559,969.14	X	X	X	X		20	20	Evaluation of NAPL presence/extent west of MW-28D (NAPL blebs 8.5' to 9.5' bgs) and SB-B-32 (staining 4' to 8' bgs).
CS-SB49	375,821.55	2,560,105.07	X	X	X	X		20	20	Evaluation of NAPL presence/extent southeast of MW-28D (NAPL blebs 8.5' to 9.5' bgs).
CS-SB50	376,179.96	2,560,085.69					X	4	4	Document soil conditions within the direct contact zone.
Additional "Step Out" Borings Installed in the Former Coal Storage Area										
CS-SB51	375,865.77	2,560,080.18	X	X	X	X		20	20	Assessment of the extent of NAPL impacts north of CS-SB49.
CS-SB52	375,819.96	2,560,051.96	X	X	X	X		25	25	Assessment of the extent of NAPL impacts west of CS-SB49.
CS-SB53	375,829.79	2,559,860.17	X	X	X	X		20	20	Assessment of the extent of NAPL impacts east of CG-SB111.
Installed Borings as Proposed in the EE/CA Sampling Plan for the Former Foundry/Tannery Area (Southern Portion of the Site)										
FT-SB38	375,744.81	2,559,455.94	X	X	X	X		25	20	NAPL nature/presence/extent east of FT-SB26 (odor 0' to 4' bgs, staining 3' to 4' bgs).
FT-SB39	375,149.38	2,559,875.16	X	X	X	X	X	25	25	Evaluation of soil quality adjacent to river. Document soil conditions within the direct contact zone.
FT-SB40	374,844.52	2,559,758.49	X	X	X	X	X	25	25	Evaluation of soil quality adjacent to river. Document soil conditions within the direct contact zone.
FT-SB41	374,820.76	2,559,443.16					X	4	4	Document soil conditions within the direct contact zone.
FT-SB42	374,931.17	2,559,597.32					X	4	4	Document soil conditions within the direct contact zone.
FT-SB43	375,070.76	2,559,412.43					X	4	4	Document soil conditions within the direct contact zone.
FT-SB44	375,093.67	2,559,710.87					X	4	4	Document soil conditions within the direct contact zone.

Table 2. Sampling Locations and Rationale
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

Sampling Location	Northing[1]	Easting[1]	Visual Observations				COC Sampling	Target Depth (feet)[2]	Actual Depth (feet)	Comments[3]
			NAPL	Cyanide	Peat Layer	Top of Native Clay				
FT-SB45	375,373.36	2,559,718.85					X	4	4	Document soil conditions within the direct contact zone.
FT-SB46	375,424.06	2,559,894.55					X	4	4	Document soil conditions within the direct contact zone.
FT-SB47	375,459.47	2,559,429.96					X	4	4	Document soil conditions within the direct contact zone.
FT-SB48	375,639.33	2,559,695.24					X	4	4	Document soil conditions within the direct contact zone.
FT-SB49	375,676.14	2,559,586.91					X	4	4	Document soil conditions within the direct contact zone.
Additional "Step Out" Boring Installed in the Former Foundry/Tannery Area (Southern Portion of the Site)										
FT-SB50	375,750.74	2,559,411.22	X	X	X	X		25	25	Evaluation of extent of NAPL impacts west of FT-SB26.
Installed Test Pits as Proposed in the EE/CA Sampling Plan for the Former Foundry/Tannery Area (Southern Portion of the Site)										
FT-TT08	375,241.57	2,559,357.71	X	X				12	12	Evaluation of NAPL presence/extent in area near FT-SB32 (tar-like material with sheen and possible NAPL (1.5' to 4.5')).
FT-TT09	374,655.64	2,559,552.50	X	X				12	12	Evaluation of surficial tar observed by NRT in 2017.
FT-TT10	374,647.82	2,559,516.57	X	X				12	12	Evaluation of surficial tar observed by NRT in 2017.

1. Northing and Easting provided in coordinate system NAD_1927_StatePlane_Wisconsin_South_FIPS_4803. Test pit coordinates are taken from the center of the test pits.
2. Constituents of Concern (COC) for soil are polycyclic aromatic hydrocarbons (PAH), arsenic and cyanide.
3. Bolded and shaded boring locations identify borings that were added to the scope of work as step out borings, consistent with the EE/CA Support Sampling Plan, October 24, 2017.
4. Target depth based on depth of clay for nearby borings for borings that will be used for peat layer and top of clay observations (if available), 12 feet for test pits based on proposed equipment limitations, and 4 feet for borings that are meant for direct contact zone soil quality only. Depths were adjusted in the field based on observations (clay layer targeted for non-COC borings, test pits installed into water table or to a depth of 12 feet bgs, whichever was encountered first).
5. Free product/sheen/staining/odor/elevated PID documentation for borings CG-SB01 through CG-SB59; CS-SB01 through CS-SB34; FT-SB01 through FT-SB37 and non CG,CS and FT borings from Table 4.2 of the Milwaukee Solvay Coke and Gas Site Remedial Investigation/Feasibility Study Group RI Report (Arcadis, 2016).

Table 3. NAPL Observations
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

Boring ID	Depth Interval (feet)	Description of NAPL Indicator	Category of Indicator
Former Coke and Gas Production Area (Locations Completed in and prior to 2008) [1]			
CG-SB04	8-9	Heavy sheen, odors	Sheen
CG-SB05	6-7	Slight odor, sheen, staining	Staining
CG-SB07B	8-13.2	Strong tar odor, sheen, staining	Staining
CG-SB09A	5.5-10	Slight tar odor, sheen	Sheen
CG-SB09B	7-18	Slight tar odor, sheen at 9.3+	Sheen
	12-12.6	Sheen	Sheen
CG-SB16	18-20.5	Strong odors, tar staining	Staining
CG-SB18	4-6.1	Tar odor, staining	Staining
	8-13	Sheen, slight odor	Sheen
CG-SB20	6-6.7	Sheen, staining	Staining
CG-SB21	12-12.3	Slight tar odor, sheen, free product	NAPL
CG-SB23	6-6.8	Strong tar and petroleum odor, staining	Staining
CG-SB23	9-10.2	Staining	Staining
CG-SB26	9-9.1	Sheen, slight odor	Sheen
CG-SB30A	5-5.3	Sheen, odor	Sheen
CG-SB30B	4.5-6.2	Strong odors, sheen, staining	Staining
CG-SB31	6.7-7	Sheen	Sheen
CG-SB32	6.6-7.1	Sheen	Sheen
CG-SB36	6-6.5	Sheen	Sheen
CG-SB37	4-6.1	Strong odor, staining	Staining
	21-22.7	Sheen, staining, odors	Staining
CG-SB38	21-22.7+	Sheen, staining, odors	Staining
MW-07	8-9.1	Sheen, moderate odors, staining	Staining
MW-07 (well screen)	NA	NAPL Blebs	NAPL Blebs
MW-07 (well development)	NA	0.5 gallon of NAPL recovered during development of MW-07	NAPL
CG-TT03 (East of Rubble Pile)	6-9	Tar staining/NAPL and odor	NAPL
CG-TT03A	7	Sheen on water. Perched water at 7 ft	Sheen
CG-TT09	NA	Sheen on water	Sheen
CG-TT12	NA	Sheen and DNAPL on water	NAPL
CG-TT13	NA	Sheen on water	Sheen
CG-TT14	NA	Sheen on water	Sheen
CG-TT16	NA	Sheen on water	Sheen
S04GP	4-8	Oily material	NAPL
S08GP	4	Oily, stained material at 4 ft, odor detected, refusal at 4 ft	Staining
S09GP	4-5	Oily sheen	Sheen
SB-A-01	7-8	Coal tar odor and oily sheen	Sheen
SB-A-03	0.5-6	Solidified coal tar	Hard Tar
SB-A-12	4-5	Stained	Staining
SB-A-14	0-2	Strong odor, stained	Staining
	4-6	Strong odor, stained	Staining
SB-A-15	4-6	Stained	Staining
SB-A-17	2-5	Stained, strong odor	Staining
SB-A-19	2-6	Stained	Staining
SB-A-21	2-2.5	Apparent coal tar	NAPL
SB-A-23	4-5	Apparent solidified coal tar	Hard Tar
SB-A-24	4-5	Apparent solidified coal tar, sheen	Hard Tar
SB-A-25	5-8	Oily sludge, sweet oil odor, sheen	Sludge/Possible NAPL
S33GP	5	Oily sheen noted at 5 ft, odor detected	Sheen
S34GP	6	Oily sheen noted at 6 ft, odor detected	Sheen
Former Coke and Gas Production Area (Locations Completed in 2012 and 2015) [1]			
CG-SB41	2-5	Black staining, black taffy like tar at 4 ft, moderate MGP-like odor	Hard Tar/Blebs
	5-13	Black staining, little NAPL blebs, strong odor, elevated PID (159 ppm)	NAPL Blebs
	13-16	Sheen in water, little NAPL blebs with trace blebs at 15.5-16 ft	NAPL Blebs
CG-SB42	15-16	Trace sheen and moderate NAPL like odor	Sheen
	25-26	Moderate sheen, no odor	Sheen
CG-SB43	10-15	Little NAPL blebs to blebs throughout, sheen, moderate staining at 11-15 ft	NAPL Blebs

Table 3. NAPL Observations
Milwaukee Solvay Coke and Gas Site
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CG-SB44	14-16	Little NAPL blebs throughout, sheen and coal-tar like odor	NAPL Blebs
	16-18	Moderate NAPL throughout, sheen, strong odor	NAPL
	18-21	Coated with NAPL/coal tar material	NAPL
CG-SB45	12-14	Faint to moderate odor (MGP like), green staining	Staining
	14-15	Moderate NAPL blebs (30% of pore space NAPL), sheen, odor, staining	NAPL Blebs
	17-18	Little black staining, MGP like odor, sheen	Staining
	20-21	Trace black staining at 21 ft	Staining
	42-43	Moderate NAPL staining, odor	Staining
CG-SB45NW	15-17	NAPL impacts at 17.2-17.3 ft, sheen with blebs	NAPL Blebs
CG-SB46	15-16	Petroleum like and MGP like odor, trace NAPL blebs, little sheen	NAPL Blebs
CG-SB47	5-7	Moderate petroleum odor, trace sheen from 5-7 ft	Sheen
	10-15	Elevated PID (87.4 ppm), approximately 5mm of fine to medium sand lenses at 11.5 ft with odor and trace sheen	Sheen
	15-20	Elevated PID (88.3, 581, 101 ppm), little dark staining and petroleum-like odor at 17-17.5 ft	Staining
CG-SB48	10-15	Staining and odor at 10-14 ft, elevated PID (225, 60, 72.4 ppm)	Staining
	15-17	Sheen, odor, elevated PID (57.3 ppm)	Sheen
CG-SB49	4-14	Staining, partially saturated to saturated NAPL	NAPL
CG-SB50	7-13	Sheen at 7-8 ft and 10-13 ft	Sheen
CG-SB51	4-8.5	Sheen at 5-7 ft	Sheen
CG-SB58	5-6	Strong odor, sheen (possible NAPL)	NAPL
CG-MW22SE	0-5	Some odor, staining at 4-5 ft	Staining
	5-8	Some sheen, some odor	Sheen
	8-10	Sheen, NAPL blebs	NAPL Blebs
MW-22	12-13	Staining, some odor	Staining
	15-17	Sheen and NAPL blebs, staining, odor	NAPL Blebs
	17-18	Some odor and staining at 17-18 ft	Staining
MW-22D	8-9	Staining, odor	Staining
	13-15	Sheen, odor and some NAPL blebs	NAPL Blebs
	15-18	Staining, odor	Staining
CG-MW24D	12-12.5	Sheen	Sheen
	15-17	Some staining, some odor	Staining
MW-26D	5-6	Staining, odor	Staining
	10-14	Staining at 11-12 ft	Staining
	14-15	Possible sheen at 15 ft	Sheen
MW-27	10-12	Staining, some sheen, odor	Staining
CG-MW27D	10-15	Sheen, odor, trace NAPL blebs	NAPL Blebs
MW-28D	8.5-9.5	Sheen, NAPL blebs	NAPL Blebs
Former Coal Storage Area (Locations Completed in and prior to 2008) [1]			
CS-SB22	9-10.7	Sheen, moderate petroleum odor at 9-9.5 ft	Sheen
S25GP	6	Oily water observed at 6 ft bgs	Sheen
SB-B-06	2-5	Black, with free oily material, pungent, aromatic odor	NAPL
SB-B-26	2-4	Black-stained, with concrete and gravel	Staining
SB-B-32	4-8	Dark stained	Staining
SB-B-37	2-8	Dark stained, sheen visible, elevated PID (up to 100 ppm)	Staining
Former Coal Storage Area (Locations Completed in 2012) [1]			
CS-SB27	5-6	Very faint sweet odor, possible black staining	Staining
CS-MW23D	9-12	Staining	Staining
MW-28D	8.5-9.5	Sheen and NAPL blebs	NAPL Blebs
Former Furnace and Tannery Area (Locations Completed in 2012 and 2015) [1]			
FT-SB26	3-4	Staining, odor	Staining
FT-SB32 [2]	1.5-4.5	Tar-like material with sheen (possible NAPL)	NAPL
EE/CA Borings (Completed in 2017)			
CG-SB61	12-13	Sheen (5-25%) from 12-13 ft	Sheen
CG-SB62	5-8	Sheen (5-15%) from 5-8 ft, odor 5-8 ft	Sheen
	9.5-10.5	Sheen 9.5 to 10.5 ft, odor	Sheen
CG-SB65	9.5-9.6	Sheen at 9.5 to 9.6 ft and 10 to 12 ft	Sheen
	10-12	Sheen at 9.5 to 9.6 ft and 10 to 12 ft	Sheen
CG-SB66	10-15	Sheen (5-25%) from 10 to 15 ft	Sheen
CG-SB76	6.5-7	Odor, sheen (10-50%)	Sheen
CG-SB77	8-10	Sheen (75-100%) from 8 to 9.5 ft, odor from 8 to 10 ft	Sheen
CG-SB80	7.5-8	Sheen (25-50%) at 7.5 to 8.0 ft, odor	Sheen
	16-17	Oil staining (50-75%) from 16 to 17 ft, free product in pore spaces, odor	Staining

Table 3. NAPL Observations
Milwaukee Solvay Coke and Gas Site
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CG-SB81	11-12	Sheen (75-100%), oil staining (25-50%) from 11 to 12 ft, free product in pore spaces	Staining
	17.5-18	Sheen (75-100%) from 17.5 to 18 ft	Sheen
CG-SB82	16-17	Oil coating (50-80%), emulsified (2-25%) 1-2cm	NAPL Blebs
	17-17.5	NAPL impacted 17 - 17.5 ft	NAPL
CG-SB86	11-12	Sheen (10-30%) at 11 to 12 ft, odor 11 to 12 ft, moist	Sheen
CG-SB88	13.5-14	Sheen (10-30%) from 13.5 to 14.0 ft, odor	Sheen
CG-SB89	15-17.5	Sheen (50-75%) and oil coating (10-25%) from 15 to 17.5 ft, trace free product	Coating
CG-SB90	16.7-17	Sheen (10-25%) at 16.7 to 17.0 ft, odor	Sheen
CG-SB91	12.5-13.5	Sheen (50-75%) from 12.5 to 13.5 ft, odor	Sheen
CG-SB94	16-18.5	Sheen (10-50%) from 16 to 18.5 ft, odor	Sheen
CG-SB95	7-11	Sheen (10-50%) from 7 to 11 ft, oil staining (50-75%) from 11 to 12 ft, odor	Sheen
	11-12	Sheen (10-50%) from 7 to 11 ft, oil staining (50-75%) from 11 to 12 ft, odor	Staining
CG-SB96	8.5-14	Sheen throughout, odor, oil staining	Staining
CG-SB97	9-9.5	Emulsified product (5-15%, 1-3 mm) from 9 to 9.5 ft	NAPL Blebs
	9.5-13.8	Sheen (10-50%) from 9.5 to 13.8 ft	Sheen
CG-SB98	7.5-10	Strong odor and sheen (40-80%) from 7.5 to 10 ft	Sheen
CG-SB99	5.4-6	Sheen at 5.4 to 6.0 ft, odor	Sheen
CG-SB100	9-13	Sheen(20-40%) from 9 to 12 ft, oil staining (50-75%) from 12 to 13 ft, odor	Staining
	13-13.3	Oil staining from 13 to 13.3 ft, odor	Staining
CG-SB101	16-17.5	Sheen (10-25%) from 16 to 17.5 ft	Sheen
CG-SB102	9-13	Sheen (10-25%) with odor at 9 to 13 ft	Sheen
CG-SB103	7.5-14	Sheen (80-100%), strong odor	Sheen
CG-SB104	3.7-3.9	Sheen (75-100%) on wood with odor	Sheen
CG-SB105	9.3-9.6	Sheen at 9.3 to 9.6 ft, odor	Sheen
	12.5-13	Sheen and oil staining at 12.5 to 13 ft	Staining
	13-13.2	Some oil staining 13 to 13.2 ft, odor	Staining
CG-SB106	10-12.5	Odor, sheen (50-75%) and oil staining (50-75%) from 10 to 12.5 ft	Staining
CG-SB106	12.5-14	Odor, oil staining (10-25%) from 12.5 to 14 ft	Staining
CG-SB107	11-12.5	Sheen on wood from 11 to 12.5 ft, oil coating (10-25%) and emulsified (10-25%) from 11 to 12.5 ft	NAPL Blebs
CG-SB108	8.5-12.5	Sheen (80-100%), oil staining, odor	Staining
CG-SB109	11.5-13.8	Odor, sheen (50-75%) and oil coating (10-25%)	Coating
	13.8-14	Sheen and oil coating from 13.8 to 14 ft	Coating
CG-SB110	6-6.9	Wood chips from 6.0 to 6.9 ft with sheen (50-100%) and emulsified NAPL (5-15%) fluid	NAPL Blebs
CG-SB111	11.1-11.8	Oil coated (15-30%) from 11.1 to 11.8 ft, strong odor	Coating
CG-SB113	6.2-6.5	Sheen with strong odor at 6.2 to 6.5 ft	Sheen
	9-10	Strong odor, sheen	Sheen
CG-SB115	5-10	Sheen on outside of core	Sheen
CG-SB121	7.5-13	Oil wetted with strong odor from 7.5 to 13 ft	Wetted
CG-SB123	9.8-10	Gravel from 9.8 to 10 ft with sheen and odor	Sheen
	10-17.5	Sheen (50-75%), oil staining (0-20%), odor	Staining
CG-SB124	5-9	Slight sheen and odor from 5 to 9 ft, wet	Sheen
CG-SB126	8.5-13.6	Sheen (25-50%) with odor	Sheen
CG-SB127	9.5-13.7	Sheen (25-50%) and odor at 9.5 ft	Sheen
CG-SB128	6.5-8.7	Slight sheen (5-10%), wet	Sheen
CG-SB129	7-8.7	Sheen at 7 ft, slight odor from 5 to 10 ft	Sheen
	8.7-8.9	Sheen (5-10%)	Sheen
	8.9-14.5	Sheen (20-30%), slight odor	Sheen
CG-SB131	12-14.2	Sheen (10-20%) and odor at 12 ft	Sheen
	14.2-14.5	Woodchips, sheen (5-10%), odor	Sheen
	14.5-17	Sheen (20-35%), odor	Sheen
	17-17.8	Sheen (5-10%), odor	Sheen
CG-TT28	3-6	Oil Coated, strong odor, sheen on water @6 ft	Staining
CS-SB35	13-14	Emulsified (10-25% 1-3 cm), oil coated (10-50%), odor	NAPL Blebs
CS-SB49	12.8-14.1	Some sheen (25-50%) form 12.8 to 14.1	Sheen
FT-TT08 [2]	0-4	Surficial NAPL and oil staining, odor	NAPL Blebs
FT-TT09 [2]	0-2	Surficial NAPL, slight odor	NAPL Blebs
FT-TT10 [2]	0-2	Surficial NAPL, slight odor	NAPL Blebs

1. Observations for borings installed prior to 2017 taken from RI/FS Group RI Report (Arcadis 2016).
2. NAPL removed as investigative derived waste as part of Site investigation activities.

Table 4. Soil Analytical Results for Constituents of Concern
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

Sample Name	Field Sample ID	Sample Depth (feet)	Sample Date	Benzene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs	Arsenic, Total [1]	Cyanide, Total	Percent Moisture
				BTEX	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	Metal	Inorganic-Cyanide	GEO
			Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
			Industrial Direct Contact Soil RCLs:	**7.07**	**45,200**	**NS**	**100,000**	**20.8**	**2.11**	**21.1**	**NS**	**211**	**2,110**	**2.11**	**30,100**	**30,100**	**21.1**	**24.1**	**NS**	**22,600**	**NS**	**3**	**195**	**NS**
			Soil-to-Groundwater Pathways RCL:	*0.0051*	*NS*	*NS*	*196.9492*	*NS*	*0.47*	*0.4793*	*NS*	*NS*	*0.1446*	*NS*	*88.8778*	*14.8299*	*NS*	*0.6582*	*NS*	*54.5455*	*NS*	*0.584*	*4.04*	*NS*
			Probable Effects Concentration (PEC) Screening Criteria [2]																		22.8	33		
CG-SB103 (0-2)	CG-SB103 (0-2)	0 - 2	10/26/2017	*0.194*	0.0294 J	0.355	0.170	0.279	0.214	0.308 J	0.244	0.240 J	*0.514*	0.0808	0.432	0.0831	0.167	*0.908*	0.947	0.380	NA	***9.4***	0.60	16.8
CG-SB65(2-4)	CG-SB65 (2-4)	2 - 4	11/1/2017	*0.564*	0.0800 J	0.162	0.419	1.370	*1.570*	*1.320 J*	0.918	1.260 J	*1.440*	0.303	2.880	0.0873 J	0.899	*0.803*	1.560	2.360	NA	6.6	1.3	17.1
CG-SB69 (2-4)	CG-SB69 (2-4)	2 - 4	11/8/2017	*1.270*	0.0898 J	0.319	0.616	0.796	*0.846*	*0.687 J*	1.430	0.587 J	*0.906*	0.265	2.050	0.150 J	0.799	*1.930*	1.530	1.680	NA	***40.5***	1.3	12.6
CG-SB74 (0-2)	CG-SB74 (0-2)	0 - 2	11/7/2017	<0.0250 U	<0.0967 U	0.563	1.590	1.410	*1.280*	*1.810 J*	1.210	1.590 J	*2.210*	0.404	2.930	0.142 J	1.100	*0.927*	2.810	2.340	NA	***12.1***	1.2	19.7
CG-SB75 (2-4)	CG-SB75 (2-4)	2 - 4	11/7/2017	*0.0455 J*	<0.450 U	1.170 J	3.840	7.540	***5.960***	*5.840 J*	3.160	6.000 J	*8.920*	1.030	14.200	0.678 J	3.020	*1.880 J*	8.140	11.100	NA	***10***	*5.7*	14.0
CG-SB84(2-4)	CG-SB84 (2-4)	2 - 4	11/1/2017	*0.0445 J*	0.0499 J	0.0885 J	0.587	1.920	*2.000*	*2.030 J*	1.100	2.140 J	*2.290*	0.525	2.690	0.0688 J	1.170	*0.688*	3.040	2.190	NA	***8.7***	*4.4 J*	13.6
CG-SB96 (2-4)	CG-SB96 (2-4)	2 - 4	10/26/2017	*5.450*	6.160 J	54.400	95.700	**115.000**	***110.000***	***95.000 J***	68.200	92.700 J	*118.000*	**24.100**	*327.000*	*66.300*	**63.900**	***258.000***	350.000	*238.000*	*NA*	***10.7***	*5.4*	15.0
CS-SB36(0-2)	CS-SB36 (0-2)	0 - 2	11/1/2017	*0.316*	4.870	17.800	31.300	**41.100**	***32.900***	***25.700 J***	12.000	30.200 J	*41.700*	**5.270**	*141.000*	*45.100*	13.900	***83.300***	192.000	*93.900*	*NA*	3.5	0.58 UJ	20.4
CS-SB38(0-2)	CS-SB38 (0-2)	0 - 2	11/1/2017	<0.149 U	16.300	3.450	31.500	**26.200**	***17.700***	*18.900 J*	7.570	18.100 J	*28.900*	**3.340**	*98.700*	*15.500*	8.230	*24.000*	119.000	*63.100*	*NA*	5.3	0.76 J	15.9
CS-SB40(2-4)	CS-SB40 (2-4)	2 - 4	11/1/2017	*0.106*	1.450 J	2.720	5.680	7.220	***5.460***	*5.200 J*	2.300	4.920 J	*7.350*	0.878	22.000	5.030	2.470	*7.920*	23.500	14.800	NA	4.4	0.74 J	12.7
CS-SB43 (2-4)	CS-SB43 (2-4)	2 - 4	11/7/2017	<0.0250 U	0.391	<0.0721 U	0.942	1.780	*1.640*	*1.320 J*	1.110	1.620 J	*2.080*	0.292	4.940	0.453	0.945	0.395 J	3.110	3.950	NA	3.7	0.92	8.5
CS-SB45(0-2)	CS-SB45 (0-2)	0 - 2	11/1/2017	*0.0780*	0.256	0.0892 J	0.846	1.260	*1.080*	*0.948 J*	0.438	1.140 J	*1.380*	0.197	3.840	0.421	0.509	*0.715*	3.370	2.820	NA	5.1	0.34 UJ	9.0
CS-SB46(0-2)	CS-SB46 (0-2)	0 - 2	11/1/2017	*0.0815*	0.102 J	0.285	0.682	1.380	*1.440*	*1.380 J*	0.824	1.480 J	*1.600*	0.352	2.730	0.158	0.748	*1.520*	2.250	2.380	19.39	8.1	0.68 J	9.9
CS-SB50(2-4)	CS-SB50 (2-4)	2 - 4	11/1/2017	*0.296*	0.541 J	1.900 J	3.460 J	5.730 J	***4.260 J***	*4.110 J*	1.730 J	3.620 J	*5.950 J*	0.700 J	16.800 J	3.690 J	1.850 J	*7.220*	11.800 J	11.000 J	NA	3.7	0.39 UJ	9.0
CS-SB50(DUP)	CS-SB50 (2-4)-Dup	2 - 4	11/1/2017	*0.283*	0.417	0.901 J	1.830 J	3.100 J	***2.490 J***	*2.320 J*	1.160 J	2.260 J	*3.380 J*	0.474 J	9.250 J	2.260 J	1.210 J	*5.870*	6.950 J	6.260 J	NA	4.6	0.26 J	9.3
FT-SB39 (0-2)	FT-SB39 (0-2)	0 - 2	10/25/2017	<0.0250 U	0.0191	0.0479	0.115	0.336	0.292	0.318 J	0.162	0.270 J	*0.484*	0.0818	0.614	0.0407	0.159	0.426	0.596	0.554	4.54	***8.4***	0.64	14.5
FT-SB40 (0-2)	FT-SB40 (0-2)	0 - 2	10/25/2017	*0.0478 J*	0.0515 J	0.200	0.273	0.787	*0.752*	*1.560 J*	0.485	0.505 J	*1.110*	0.174	1.510	0.0651 J	0.477	*0.819*	1.460	1.200	11.48	***24.0***	1.2	15.1
FT-SB41 (2-3.2)	FT-SB41 (2-3.2)	2 - 3.2	10/25/2017	<0.0250 U	0.0805	0.0451 J	0.231	0.658	*0.634*	*0.874 J*	0.322	0.296 J	*0.701*	0.104	1.370	0.0672 J	0.310	0.225	0.982	1.210	NA	***10.5***	<0.096 U	18.1
FT-SB42 (0-2)	FT-SB42 (0-2)	0 - 2	10/25/2017	<0.0250 U	0.0184	0.0068 J	0.0609	0.256	0.249	0.322 J	0.138	0.118 J	*0.251*	0.0359	0.515	0.0145 J	0.128	<0.0089 U	0.235	0.486	NA	2.4	<0.12 U	5.2
FT-SB43 (0-2)	FT-SB43 (0-2)	0 - 2	10/25/2017	<0.0250 U	0.160	0.0569 J	0.304	0.665	*0.634*	*0.877 J*	0.347	0.327 J	*0.700*	0.0945	1.410	0.115	0.324	0.373	1.350	1.260	NA	***9.8***	*4.1*	12.4
FT-SB44 (0-2)	FT-SB44 (0-2)	0 - 2	10/25/2017	<0.0250 U	<0.0380 U	0.141	0.300	0.743	*0.877*	*0.870 J*	0.581	0.934 J	*1.020*	0.225	1.450	0.0608 J	0.557	0.498	0.761	1.320	NA	***9.0***	0.80	18.2
FT-SB45 (2-4)	FT-SB45 (2-4)	2 - 4	10/26/2017	<0.0250 U	<0.0051 U	<0.0043 U	<0.0075 U	0.0077 J	0.0080 J	0.0070 J	0.0086 J	0.0079 J	0.0090 J	<0.0029 U	0.0213 J	<0.0054 U	0.0070 J	<0.0110 U	0.0179 J	0.0184 J	NA	2.6	<0.13 U	23.6
FT-SB46 (2-3.5)	FT-SB46 (2-3.5)	2 - 3.5	10/25/2017	<0.0250 U	0.0761 J	0.0706 J	0.347	1.710	*2.040*	*1.490 J*	1.340	1.750 J	*1.960*	0.411	4.130	0.0727 J	1.230	0.429	1.520	4.130	22.7	***8.4***	0.41 J	19.3
FT-SB47 (2-4)	FT-SB47 (2-4)	2 - 4	10/26/2017	<0.0250 U	0.0135 J	0.0043 J	0.0489	0.0992	0.0973	0.0813 J	0.0664	0.0743 J	0.106	0.0192	0.247	0.0134 J	0.0573	0.0892	0.223	0.224	NA	***17.5 J***	0.20 J	12.5
FT-SB47 (DUP)	FT-SB47 (2-4)-Dup	2 - 4	10/26/2017	<0.0250 U	<0.0044 U	<0.0038 U	0.0073 J	0.0209	0.0194	0.0159 J	0.0148	0.0160 J	0.0233	0.0047 J	0.0342	<0.0047 U	0.0119	0.0494	0.0668	0.0357	NA	7.3 J	<0.12 U	12.5
FT-SB48 (0-2)	FT-SB48 (0-2)	0 - 2	10/26/2017	<0.0250 U	0.461	0.252 J	1.270	2.110	*1.900*	*1.690 J*	1.230	1.960 J	*2.530*	0.450	5.150	0.456	1.130	*5.310*	4.910	4.970	NA	***96.1***	*4.2*	16.4
FT-SB49 (2-4)	FT-SB49 (2-4)	2 - 4	10/26/2017	*0.131*	<0.381 U	1.860	13.400	11.800	***7.380***	*7.710 J*	3.300	6.370 J	*12.700*	1.460	29.200	3.010	3.340	*3.830*	22.600	19.200	NA	***8.5***	*4.4*	18.4

[O:ECK 11/30/17, C:SGW 12/1/17, U:MDM 12/12/17]

NOTES
BOLD = result exceeds Industrial Soil Direct Contact RCL
Italic Underline = result exceeds Soil-to-Groundwater Pathway RCL
-- = Analysis not performed
< = Concentration is less than reported limit
U = Concentration was not detected above the reported limit
J = Estimated concentration
NS = No Standard
NA = Not applicable (Values not compared to PAH PEC value).
1. Arsenic Background Threshold Value (BTV) of 8.3 mg/kg was used for screening results.
2. Taken from the Wisconsin Department of Natural Resources Consensus-Based Sediment Quality Guidelines (December 2003) - For Screening Purposes Only. See Data Summary Report for further discussion.

RCL = NR720 Soil Residual Contaminant Level (WDNR) (March 2017)
DUP = Quality Control Field Duplicate Sample
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
GEO = Geotechnical Property
PAH = Polycyclic Aromatic Hydrocarbon
mg/kg = milligrams per kilogram (ppm)
Groundwater Pathway RCLs are based on a Dilution Factor of 2.
Shaded borings compared to PECs (See Data Summary Report for further discussion)

Table 5. Groundwater Analytical Results for November 2017
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

			BTEX	BTEX	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH
9-digit code	Sample ID	Sample Date	Benzene	Ethylbenzene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs (Lab Calc)
		Reporting Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
		WI Groundwater ES:	**5**	**700**	**NS**	**NS**	**NS**	**NS**	**3,000**	**NS**	**0.2**	**0.2**	**NS**	**NS**	**0.2**	**NS**	**400**	**400**	**NS**	**100**	**NS**	**250**	**NS**
		WI Groundwater PAL:	0.5	140	NS	NS	NS	NS	600	NS	0.02	0.02	NS	NS	0.02	NS	80	80	NS	10	NS	50	NS
111717042	MW01	11/17/2017	<0.50 U	<0.50 U	<0.0054 U	<0.0045 U	0.040	<0.0045 U	<0.0095 U	<0.0069 U	<0.0096 U	0.0053 J	<0.0062 U	<0.0069 U	<0.012 U	<0.0091 U	0.013 J	<0.0072 U	<0.016 U	<0.017 U	<0.013 U	0.016 J	0.13
111417018	MW01D	11/14/2017	**7.6**	<2.5 U	0.0073 J	0.0082 J	<0.0055 U	0.010 J	<0.0095 U	0.0076 J	<0.0096 U	<0.0052 U	<0.0062 U	<0.0069 U	<0.012 U	<0.0091 U	<0.0097 U	<0.0072 U	<0.016 U	0.035 J	<0.013 U	<0.0070 U	0.091
111017006	MW02	11/10/2017	<0.50 U	<0.50 U	<0.0055 U	<0.0045 U	<0.0056 U	<0.0046 U	<0.0097 U	<0.0070 U	<0.0098 U	<0.0053 U	<0.0063 U	<0.0070 U	<0.012 U	<0.0093 U	<0.0099 U	<0.0074 U	<0.016 U	0.017 J	<0.013 U	<0.0071 U	0.053
111317008	MW03	11/13/2017	<0.50 U	<0.50 U	0.57	0.24	1.2	0.090	0.12	0.016 J	<0.0098 U	0.010 J	<0.0063 U	<0.0071 U	0.023 J	<0.0094 U	0.21	0.57	<0.016 U	2.0	0.63	0.22	5.9
111317009	MW03-Dup	11/13/2017	<0.50 U	<0.50 U	0.52	0.22	1.1	0.077	0.096	0.014 J	<0.0098 U	0.0080 J	<0.0063 U	<0.0070 U	0.015 J	<0.0093 U	0.18	0.54	<0.016 U	1.8	0.59	0.18	5.3
111317010	MW04	11/13/2017	<0.50 U	<0.50 U	<0.0055 U	0.0062 J	0.0057 J	<0.0046 U	<0.0097 U	<0.0070 U	<0.0098 U	<0.0053 U	<0.0063 U	<0.0070 U	<0.012 U	<0.0093 U	<0.0099 U	<0.0074 U	<0.016 U	0.017 J	<0.013 U	<0.0071 U	0.044
111617037	MW05	11/16/2017	<0.50 U	<0.50 U	<0.0055 U	<0.0045 U	<0.0056 U	<0.0046 U	<0.0097 U	0.0098 J	<0.0098 U	0.015 J	0.0092 J	0.011 J	0.024 J	<0.0093 U	0.021 J	<0.0074 U	<0.016 U	<0.017 U	<0.013 U	0.044	0.17
111317011	MW06	11/13/2017	<0.50 U	<0.50 U	<0.0055 U	0.0065 J	0.028	0.0052 J	<0.0097 U	0.017 J	0.019 J	0.035 J	0.020 J	0.019 J	0.040 J	<0.0093 U	0.061	<0.0074 U	0.017 J	<0.017 U	0.013 J	0.059	0.37
111417017	MW08	11/14/2017	<0.50 U	<0.50 U	<0.0054 U	0.0048 J	<0.0055 U	0.022 J	0.020 J	<0.0069 U	<0.0096 U	0.0056 J	<0.0062 U	<0.0069 U	<0.012 U	<0.0091 U	0.011 J	<0.0072 U	<0.016 U	<0.017 U	<0.013 U	0.014 J	0.13
111617036	MW09	11/16/2017	<0.50 U	<0.50 U	<0.0056 U	<0.0046 U	0.022 J	<0.0047 U	<0.0099 U	<0.0071 U	<0.0099 U	<0.0054 U	<0.0064 U	<0.0071 U	<0.012 U	<0.0095 U	<0.010 U	<0.0075 U	<0.017 U	<0.017 U	<0.013 U	<0.0072 U	0.043
111517022	MW10	11/15/2017	<0.50 U	<0.50 U	<0.0055 U	<0.0046 U	<0.0057 U	<0.0047 U	<0.0098 U	<0.0071 U	<0.0098 U	<0.0054 U	<0.0063 U	<0.0071 U	<0.012 U	<0.0094 U	0.012 J	<0.0074 U	<0.016 U	<0.017 U	<0.013 U	0.012 J	0.082
111517023	MW11	11/15/2017	<0.50 U	<0.50 U	<0.0055 U	<0.0046 U	0.23	<0.0047 U	<0.0098 U	<0.0071 U	<0.0098 U	0.0055 J	<0.0063 U	<0.0071 U	0.015 J	<0.0094 U	0.041 J	<0.0074 U	<0.016 U	<0.017 U	0.028 J	0.10	0.44
111617032	MW12	11/16/2017	<0.50 U	<0.50 U	<0.0054 U	<0.0045 U	0.0072 J	<0.0046 U	<0.0096 U	<0.0069 U	<0.0097 U	<0.0053 U	<0.0062 U	<0.0069 U	<0.012 U	<0.0092 U	<0.0098 U	<0.0073 U	<0.016 U	0.15	<0.013 U	<0.0070 U	0.18
111517025	MW13	11/15/2017	<0.50 U	<0.50 U	<0.0053 U	<0.0044 U	<0.0055 U	<0.0045 U	<0.0094 U	<0.0068 U	<0.0095 U	<0.0052 U	<0.0061 U	<0.0068 U	<0.012 U	<0.0090 U	<0.0096 U	<0.0072 U	<0.016 U	<0.017 U	<0.012 U	<0.0069 U	0.033
111617030	MW14	11/16/2017	<0.50 U	<0.50 U	<0.0054 U	<0.0045 U	<0.0056 U	<0.0046 U	<0.0096 U	<0.0069 U	<0.0097 U	<0.0053 U	<0.0062 U	<0.0069 U	<0.012 U	<0.0092 U	0.011 J	<0.0073 U	<0.016 U	0.018 J	<0.013 U	0.0098 J	0.077
111617034	MW17	11/16/2017	<0.50 U	<0.50 U	<0.0057 U	0.0053 J	<0.0058 U	<0.0048 U	<0.010 U	<0.0073 U	<0.010 U	<0.0055 U	0.014 J	<0.0073 U	<0.013 U	<0.0096 U	<0.010 U	<0.0077 U	<0.017 U	<0.018 U	<0.013 U	<0.0074 U	0.041
111617035	MW17	11/16/2017	<0.50 U	<0.50 U	<0.0055 U	<0.0045 U	<0.0056 U	<0.0046 U	<0.0097 U	<0.0070 U	<0.0098 U	<0.0053 U	<0.0063 U	<0.0070 U	<0.012 U	<0.0093 U	<0.0099 U	<0.0074 U	<0.016 U	<0.017 U	<0.013 U	<0.0071 U	0.023
111417015	MW18	11/14/2017	1.1	0.86 J	5.8	5.7	3.6	0.099	0.35	0.026 J	<0.0097 U	0.012 J	<0.0062 U	<0.0069 U	0.026 J	<0.0092 U	0.58	2.2	<0.016 U	68.1	3.3	0.36	22.0
111417019	MW19	11/14/2017	0.58 J	<0.50 U	0.079	0.018 J	0.28	0.11	0.28	0.023 J	<0.0098 U	0.015 J	0.021 J	<0.0071 U	0.027 J	<0.0094 U	0.20	0.088	<0.016 U	0.078 J	0.035 J	0.13	1.4
111017003	MW20	11/10/2017	<0.50 U	<0.50 U	0.014 J	0.0070 J	2.0	0.015 J	0.014 J	<0.0070 U	<0.0098 U	<0.0053 U	<0.0063 U	<0.0070 U	<0.012 U	<0.0093 U	<0.0099 U	<0.0074 U	<0.016 U	0.036 J	<0.013 U	0.0096 J	2.2
111717043	MW21D	11/17/2017	<0.50 U	<0.50 U	<0.0056 U	<0.0046 U	<0.0057 U	<0.0047 U	<0.0099 U	<0.0071 U	<0.0099 U	<0.0054 U	<0.0064 U	<0.0071 U	<0.012 U	<0.0095 U	<0.010 U	<0.0075 U	<0.017 U	<0.017 U	<0.013 U	<0.0072 U	0.014
111017004	MW22	11/10/2017	**72.4**	10.4	25.1	<0.23 U	27.6	0.25 J	<0.48 U	<0.35 U	<0.49 U	<0.27 U	<0.31 U	<0.35 U	<0.60 U	<0.46 U	<0.49 U	6.9	<0.82 U	**330**	2.6 J	<0.35 U	393
111017005	MW22D	11/10/2017	<0.50 U	<0.50 U	0.29	0.011 J	0.24	0.0060 J	<0.0099 U	<0.0071 U	<0.0099 U	<0.0054 U	<0.0064 U	<0.0071 U	<0.012 U	<0.0095 U	<0.010 U	0.026 J	<0.017 U	0.059 J	0.020 J	0.0080 J	0.67
111417020	MW26D	11/14/2017	<0.50 U	<0.50 U	0.014 J	0.0099 J	<0.0057 U	<0.0047 U	<0.0098 U	<0.0071 U	<0.0098 U	<0.0054 U	<0.0063 U	<0.0071 U	<0.012 U	<0.0094 U	<0.010 U	<0.0074 U	<0.016 U	0.046 J	<0.013 U	<0.0071 U	0.074
111417016	MW28D	11/14/2017	<0.50 U	<0.50 U	<0.0055 U	0.0049 J	<0.0057 U	0.0093 J	<0.0098 U	<0.0071 U	<0.0098 U	<0.0054 U	<0.0063 U	<0.0071 U	<0.012 U	<0.0094 U	<0.010 U	<0.0074 U	<0.016 U	<0.017 U	<0.013 U	<0.0071 U	0.035
111617033	MW30	11/16/2017	<0.50 U	<0.50 U	<0.0055 U	0.0054 J	<0.0056 U	<0.0046 U	<0.0097 U	<0.0070 U	<0.0098 U	<0.0053 U	<0.0063 U	<0.0070 U	<0.012 U	<0.0093 U	<0.0099 U	<0.0074 U	<0.016 U	<0.017 U	<0.013 U	<0.0071 U	0.041
111617031	MW31D	11/16/2017	<0.50 U	<0.50 U	0.012 J	0.0077 J	<0.0057 U	<0.0047 U	<0.0099 U	<0.0071 U	<0.0099 U	<0.0054 U	<0.0064 U	<0.0071 U	<0.012 U	<0.0095 U	0.011 J	<0.0075 U	<0.017 U	0.020 J	<0.013 U	0.0079 J	0.084
111517024	MW32D	11/15/2017	<0.50 U	<0.50 U	<0.0055 U	<0.0046 U	<0.0057 U	<0.0047 U	<0.0098 U	<0.0071 U	<0.0098 U	<0.0054 U	<0.0063 U	<0.0071 U	<0.012 U	<0.0094 U	<0.010 U	<0.0074 U	<0.016 U	<0.017 U	<0.013 U	<0.0071 U	0.040
111717041	MW33D	11/17/2017	<0.50 U	<0.50 U	<0.0055 U	0.0052 J	<0.0057 U	0.012 J	0.023 J	0.054	0.042 J	0.067 J	0.036	0.039 J	0.092	0.012 J	0.14 J	<0.0074 U	0.034 J	<0.017 U	0.078	0.12	0.79
111017001	NMW01S	11/10/2017	<0.50 U	<0.50 U	0.013 J	0.0077 J	0.14	<0.0046 U	<0.0097 U	<0.0070 U	<0.0098 U	<0.0053 U	<0.0063 U	<0.0070 U	<0.012 U	<0.0093 U	0.023 J	0.016 J	<0.016 U	<0.017 U	0.060 J	0.019 J	0.31
111017002	NMW01S-Dup	11/10/2017	<0.50 U	<0.50 U	0.013 J	0.0076 J	0.15	<0.0046 U	<0.0097 U	<0.0070 U	<0.0098 U	<0.0053 U	<0.0063 U	<0.0070 U	<0.012 U	<0.0093 U	0.019 J	0.013 J	<0.016 U	<0.017 U	0.066	0.017 J	0.31

Table 5. Groundwater Analytical Results for November 2017
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

			BTEX	BTEX	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH
9-digit code	Sample ID	Sample Date	Benzene	Ethylbenzene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs (Lab Calc)
		Reporting Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
		WI Groundwater ES:	**5**	**700**	**NS**	**NS**	**NS**	**NS**	**3,000**	**NS**	**0.2**	**0.2**	**NS**	**NS**	**0.2**	**NS**	**400**	**400**	**NS**	**100**	**NS**	**250**	**NS**
		WI Groundwater PAL:	0.5	140	NS	NS	NS	NS	600	NS	0.02	0.02	NS	NS	0.02	NS	80	80	NS	10	NS	50	NS
111317013	NMW02D	11/13/2017	<0.50 U	<0.50 U	<0.0056 U	<0.0046 U	<0.0057 U	<0.0047 U	<0.0099 U	<0.0071 U	<0.0099 U	<0.0054 U	<0.0064 U	<0.0071 U	<0.012 U	<0.0095 U	<0.010 U	<0.0075 U	<0.017 U	<0.017 U	<0.013 U	<0.0072 U	0.0052
111317012	NMW02S	11/13/2017	<0.50 U	<0.50 U	0.085	0.044	0.010 J	<0.0046 U	<0.0097 U	<0.0070 U	<0.0098 U	<0.0053 U	<0.0063 U	<0.0070 U	<0.012 U	<0.0093 U	<0.0099 U	<0.0074 U	<0.016 U	0.044 J	0.014 J	<0.0071 U	0.20
111717040	NMW03D	11/17/2017	<0.50 U	<0.50 U	0.054	0.012 J	0.38	0.057	0.11	0.040	0.021 J	0.031 J	0.016 J	0.015 J	0.049 J	<0.0094 U	0.47 J	0.49	<0.016 U	0.18	0.14	0.30	2.4
111717039	NMW03S	11/17/2017	<0.50 U	<0.50 U	0.017 J	<0.0046 U	2.0	0.20	0.20	0.11	0.038 J	0.065 J	0.030 J	0.030 J	0.14	<0.0094 U	2.4 J	0.059	0.028 J	0.024 J	0.046 J	1.7	7.1
111517028	NMW04D	11/15/2017	<0.50 U	<0.50 U	<0.0054 U	<0.0045 U	<0.0056 U	<0.0046 U	<0.0096 U	<0.0069 U	<0.0097 U	<0.0053 U	<0.0062 U	<0.0069 U	<0.012 U	<0.0092 U	<0.0098 U	<0.0073 U	<0.016 U	<0.017 U	<0.013 U	<0.0070 U	0.014
111517026	NMW04S	11/15/2017	<0.50 U	<0.50 U	<0.0056 U	<0.0046 U	<0.0057 U	<0.0047 U	<0.0099 U	<0.0071 U	<0.0099 U	<0.0054 U	<0.0064 U	<0.0071 U	<0.012 U	<0.0095 U	<0.010 U	<0.0075 U	<0.017 U	<0.017 U	<0.013 U	<0.0072 U	0.023
111517027	NMW04S	11/15/2017	<0.50 U	<0.50 U	<0.0055 U	<0.0046 U	<0.0057 U	<0.0047 U	<0.0098 U	<0.0071 U	<0.0098 U	<0.0054 U	<0.0063 U	<0.0071 U	<0.012 U	<0.0094 U	<0.010 U	<0.0074 U	<0.016 U	<0.017 U	<0.013 U	<0.0071 U	0.013

Notes
BOLD = concentration that exceeds WDNR ES
Italic Underline = concentration that exceeds WDNR PAL
-- = Analysis not performed
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NS = No Standard
Lab comments, additional data qualifiers and definitions can be found in associated laboratory reports.
µg/L = micrograms per liter
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
PAH = Polycyclic Aromatic Hydrocarbon
ES = Enforcement Standard
PAL = Preventive Action Limit
PAL and ES from Chapter NR 140 for Groundwater Quality from Wisconsin Admin Code (Feb 2017)

Table 5. Groundwater Analytical Results for November 2017
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

			Metal	Metal	Inorganic -Cyanide	RNA	RNA	RNA	RNA	RNA	RNA	RNA
9-digit code	Sample ID	Sample Date	Arsenic, Total	Iron, Total	Cyanide, Available	Dissolved oxygen	Groundwater, depth to	Oxidation Reduction Potential	pH, Field	Specific Conductance, Field	Temperature, Water	Turbidity, Quantitative
		Reporting Units:	µg/L	µg/L	µg/L	mg/L	feet	millivolts	s.u.	uS/cm	Deg C	NTUs
		WI Groundwater ES:	**10**	**300**	**200**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
		WI Groundwater PAL:	1	15	40	NS	NS	NS	NS	NS	NS	NS
111717042	MW01	11/17/2017	0.66 J	**804**	2.0 J-	0.40	6.71	-184.8	7.70	1132.1	12.11	27.97
111417018	MW01D	11/14/2017	1.7	**7,820**	2.1	0.21	7.52	-63.50	6.97	6833.9	7.75	3.61
111017006	MW02	11/10/2017	0.76 J	**764**	<0.66 U	0.22	7.21	49.50	6.74	848.76	9.13	89.96
111317008	MW03	11/13/2017	4.2	165 J	1.1 J	0.22	6.94	-141.4	9.07	1381.9	11.26	2.57
111317009	MW03-Dup	11/13/2017	4.2	159 J	1.2 J	0.22	6.94	-141.4	9.07	1381.9	11.26	2.57
111317010	MW04	11/13/2017	4.4	**9,950**	1.2 J	0.18	8.60	-107.1	7.08	969.92	12.58	13.58
111617037	MW05	11/16/2017	1.0	**2,080**	<0.33 U	10.90	9.20	-33.3	6.82	1.26	11.15	11.90
111317011	MW06	11/13/2017	1.4	**1,180**	1.3 J	0.18	8.99	-58.0	7.10	770.98	11.99	3.12
111417017	MW08	11/14/2017	0.52 J	**732**	1.1 J	0.13	7.40	-14.4	7.05	2.16	12.70	5.32
111617036	MW09	11/16/2017	0.48 J	<111 U	3.6 J	11.09	11.23	-46.5	6.88	1.66	10.20	1.91
111517022	MW10	11/15/2017	9.8	**892**	3.4	9.83	8.30	206.9	6.98	2.83	14.19	61.67
111517023	MW11	11/15/2017	<0.28 U	**2,140**	3.9	10.42	5.68	184.6	7.27	1.53	12.37	54.55
111617032	MW12	11/16/2017	4.2	**18,300**	<0.33 U	11.15	5.31	-2.2	6.92	1.23	10.83	49.6
111517025	MW13	11/15/2017	5.5	**16,000**	3.5	10.28	5.94	243.0	7.05	1.30	12.77	29.06
111617030	MW14	11/16/2017	0.84 J	<111 U	<0.33 U	11.44	7.94	-29.2	7.27	1.39	10.58	1.18
111617034	MW17	11/16/2017	0.76 J	<111 U	<0.33 U	11.19	10.81	70.3	7.05	1.59	9.78	2.83
111617035	MW17	11/16/2017	0.83 J	<111 U	<0.33 U	11.19	10.81	70.3	7.05	1.59	9.78	2.83
111417015	MW18	11/14/2017	**16.7**	<111 U	2.0	0.11	7.10	-125.0	9.84	611.36	9.87	17.56
111417019	MW19	11/14/2017	2.6	**5,900**	3.1	0.15	6.35	-81.0	6.98	1842.3	12.32	7.57
111017003	MW20	11/10/2017	0.28 J	125 J	1.6 J	0.11	6.23	-95.3	7.82	1575.8	9.41	1.22
111717043	MW21D	11/17/2017	1.2	**18,900**	3.1 J-	0.35	10.63	-28.0	7.46	1263.8	10.25	3.07
111017004	MW22	11/10/2017	0.46 J	**3,770**	1.2 J	0.17	7.10	-78.4	7.01	932.03	8.80	10.94
111017005	MW22D	11/10/2017	0.66 J	**23,900**	1.7 J	0.11	9.29		6.76	2602.6	9.59	471.56
111417020	MW26D	11/14/2017	2.9	**27,200**	2.9	0.49	10.84	-48.5	6.54	1893.7	11.11	1.48
111417016	MW28D	11/14/2017	0.43 J	**18,200**	1.7 J	0.12	8.12	-93.6	6.87	966.47	11.07	0.00
111617033	MW30	11/16/2017	0.65 J	142 J	<0.33 U	11.79	4.73	35.3	6.76	1.40	8.73	5.71
111617031	MW31D	11/16/2017	1.0	<111 U	6.1 J	11.63	9.82	-50.3	7.40	1.25	10.15	0.68
111517024	MW32D	11/15/2017	0.50 J	**4,030**	2.2	10.67	5.91	222.9	7.16	1.19	11.83	70.09
111717041	MW33D	11/17/2017	0.51 J	**2,140**	2.2 J-	0.25	12.28	-98.2	7.44	1517.0	12.05	1.07
111017001	NMW01S	11/10/2017	2.4	**41,400**	1.8 J	0.09	7.47	119.2	6.71	2981.1	11.85	31.59
111017002	NMW01S-Dup	11/10/2017	2.4	**41,300**	2.4 J	0.09	7.47	119.2	6.71	2981.1	11.85	31.59

Table 5. Groundwater Analytical Results for November 2017
Milwaukee Solvay Coke and Gas Site
Milwaukee, Wisconsin
Docket No: V-W-17-C-010

			Metal	Metal	Inorganic -Cyanide	RNA	RNA	RNA	RNA	RNA	RNA	RNA
9-digit code	Sample ID	Sample Date	Arsenic, Total	Iron, Total	Cyanide, Available	Dissolved oxygen	Groundwater, depth to	Oxidation Reduction Potential	pH, Field	Specific Conductance, Field	Temperature, Water	Turbidity, Quantitative
		Reporting Units:	µg/L	µg/L	µg/L	mg/L	feet	millivolts	s.u.	uS/cm	Deg C	NTUs
		WI Groundwater ES:	**10**	**300**	**200**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
		WI Groundwater PAL:	1	15	40	NS	NS	NS	NS	NS	NS	NS
111317013	NMW02D	11/13/2017	2.7	**23,000**	2.0	0.17	10.81	-102.2	6.94	1951.5	11.04	14.37
111317012	NMW02S	11/13/2017	3.1	<111 U	0.99 J	0.18	9.01	-133.4	8.82	857.49	12.27	25.73
111717040	NMW03D	11/17/2017	8.0	**67,800**	3.7 J-	0.22	10.74	-101.9	6.60	1872.8	9.99	49.16
111717039	NMW03S	11/17/2017	5.4	**2,910**	1.6 J-	0.12	8.88	-75.4	7.09	1591.0	10.20	3.28
111517028	NMW04D	11/15/2017	<0.28 U	**3,360**	2.3 J	10.74	8.88	244.3	7.70	2.22	12.03	9.89
111517026	NMW04S	11/15/2017	3.5	<111 U	2.1	10.11	8.68	255.1	6.96	1.25	13.45	13.75
111517027	NMW04S	11/15/2017	3.5	<111 U	<0.33 U	10.11	8.68	255.1	6.96	1.25	13.45	13.75

[O:ECK 12/12/17]

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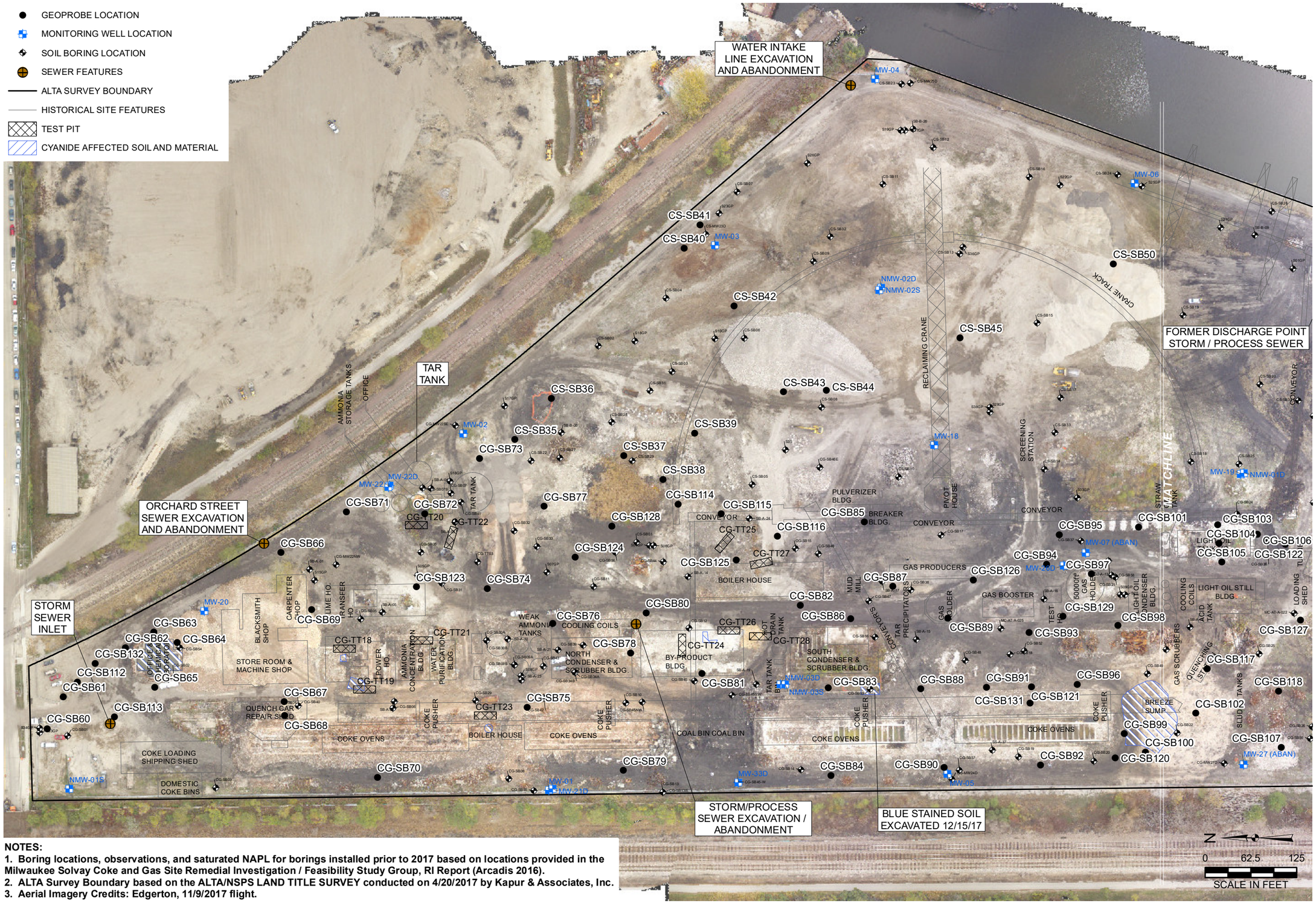
Figures



NOTES:

1. Boring locations, observations, and saturated NAPL for borings installed prior to 2017 based on locations provided in the Milwaukee Solvay Coke and Gas Site Remedial Investigation / Feasibility Study Group, RI Report (Arcadis 2016).
2. ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.
3. Aerial Imagery Credits: Edgerton, 11/9/2017 flight.

DRAWN BY/DATE: TDC 12/14/17
REVIEWED BY/DATE: JFK 12/14/17
APPROVED BY/DATE: JFK 12/21/17

SOIL BORING LOCATIONS AND SITE FEATURES

NORTH

DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 1A

Natural Resource Technology
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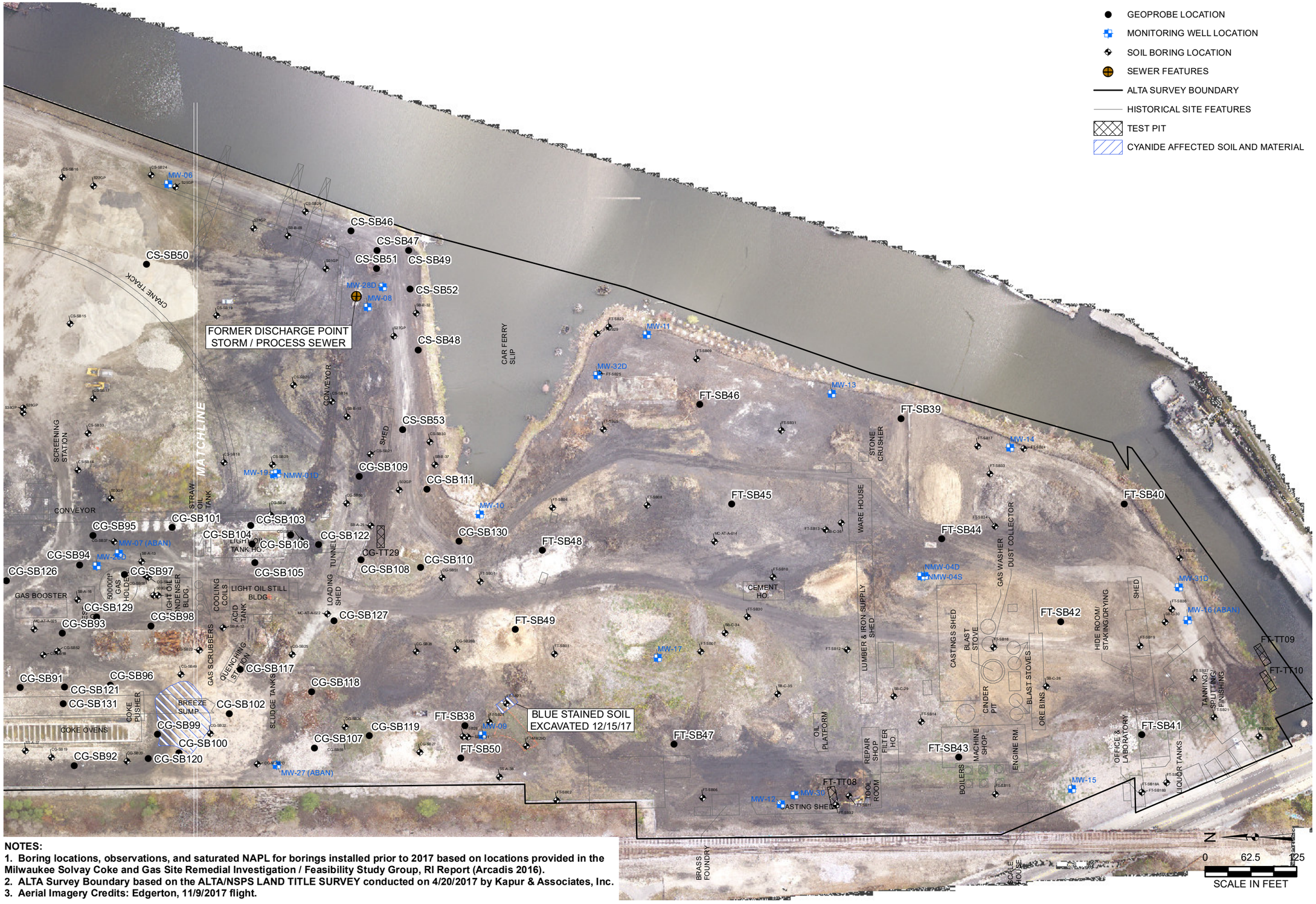
Y:\Mapping\Projects\21\2133\MXD\Data Summary Report\Figure 1. Soil Boring Locations and Site Features.mxd Author: cushmatd Date/Time: 12/21/2017, 1:43:21 PM



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DRAWN BY/DATE: TDC 12/14/17
REVIEWED BY/DATE: JFK 12/14/17
APPROVED BY/DATE: JFK 12/21/17

SOIL BORING LOCATIONS AND SITE FEATURES SOUTH

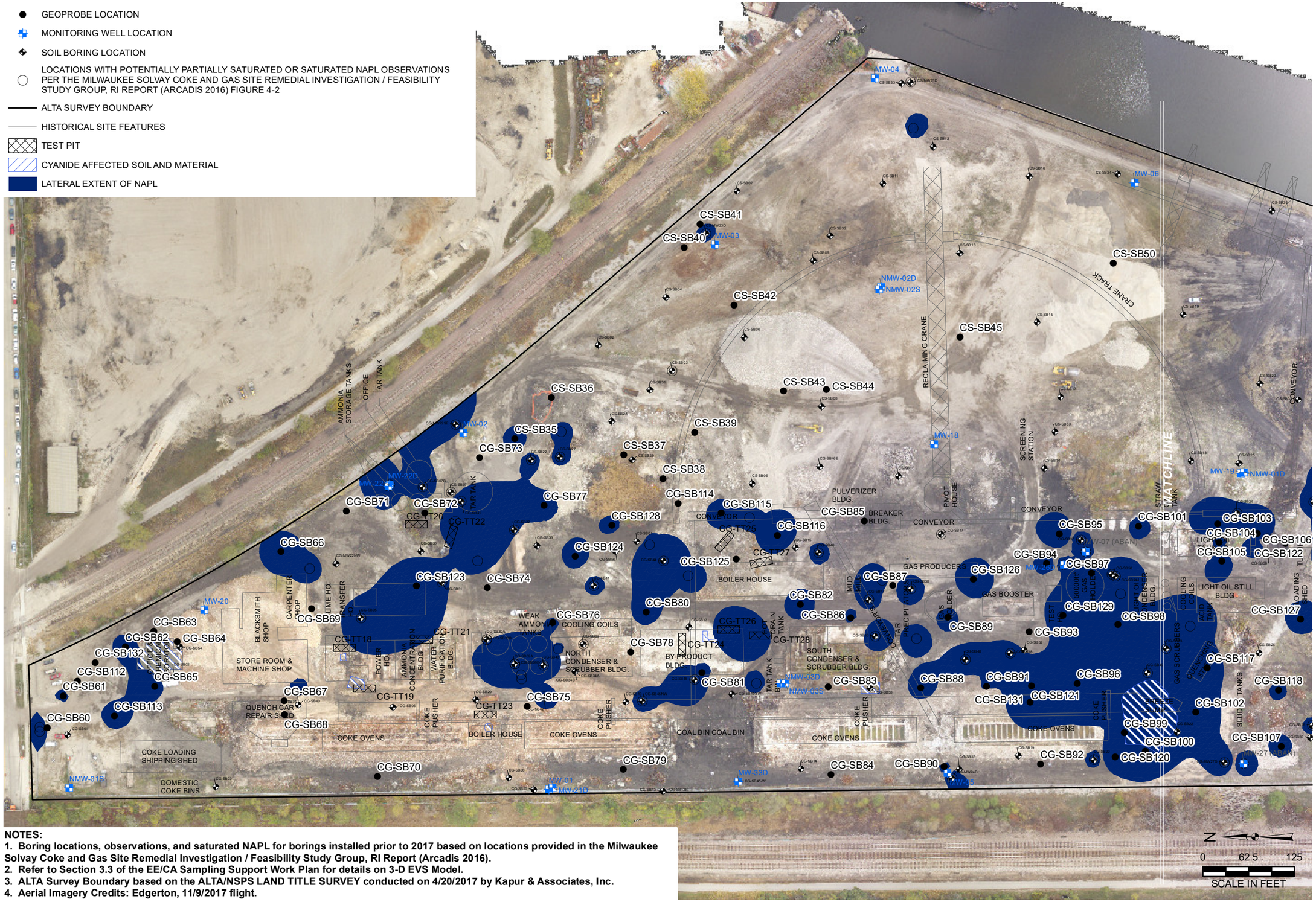
DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 1B

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\21\2133\MXD\Data Summary Report\Figure 1_Soil Boring Locations and Site Features.mxd Author: cushmatd Date/Time: 12/21/2017, 1:42:06 PM



NOTES:

1. Boring locations, observations, and saturated NAPL for borings installed prior to 2017 based on locations provided in the Milwaukee Solvay Coke and Gas Site Remedial Investigation / Feasibility Study Group, RI Report (Arcadis 2016).
2. Refer to Section 3.3 of the EE/CA Sampling Support Work Plan for details on 3-D EVS Model.
3. ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.
4. Aerial Imagery Credits: Edgerton, 11/9/2017 flight.

DRAWN BY/DATE: TDC 12/14/17
REVIEWED BY/DATE: JFK 12/14/17
APPROVED BY/DATE: JFK 12/21/17

EXTENT OF NAPL - NORTH

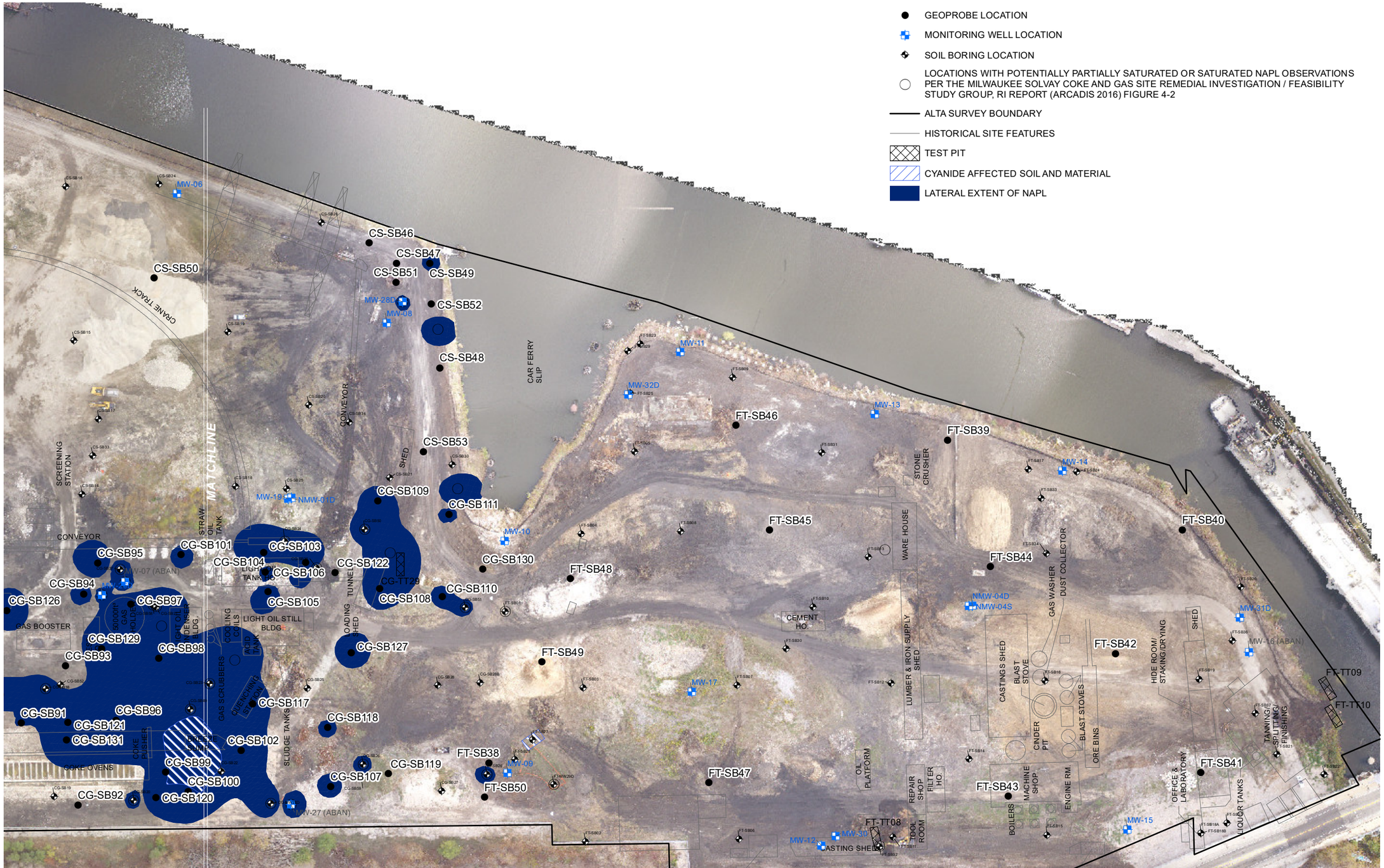
DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 2A

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\21\2133\MXD\Data Summary Report\Figure 2_Extent of NAPL.mxd Author: cushmatd: Date/Time: 12/21/2017, 2:31:45 PM



NOTES:

1. Boring locations, observations, and saturated NAPL for borings installed prior to 2017 based on locations provided in the Milwaukee Solvay Coke and Gas Site Remedial Investigation / Feasibility Study Group, RI Report (Arcadis 2016).
2. Refer to Section 3.3 of the EE/CA Sampling Support Work Plan for details on 3-D EVS Model.
3. ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.
4. Aerial Imagery Credits: Edgerton, 11/9/2017 flight.

DRAWN BY/DATE: TDC 12/14/17
REVIEWED BY/DATE: JFK 12/14/17
APPROVED BY/DATE: JFK 12/21/17

EXTENT OF NAPL - SOUTH

DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 2B

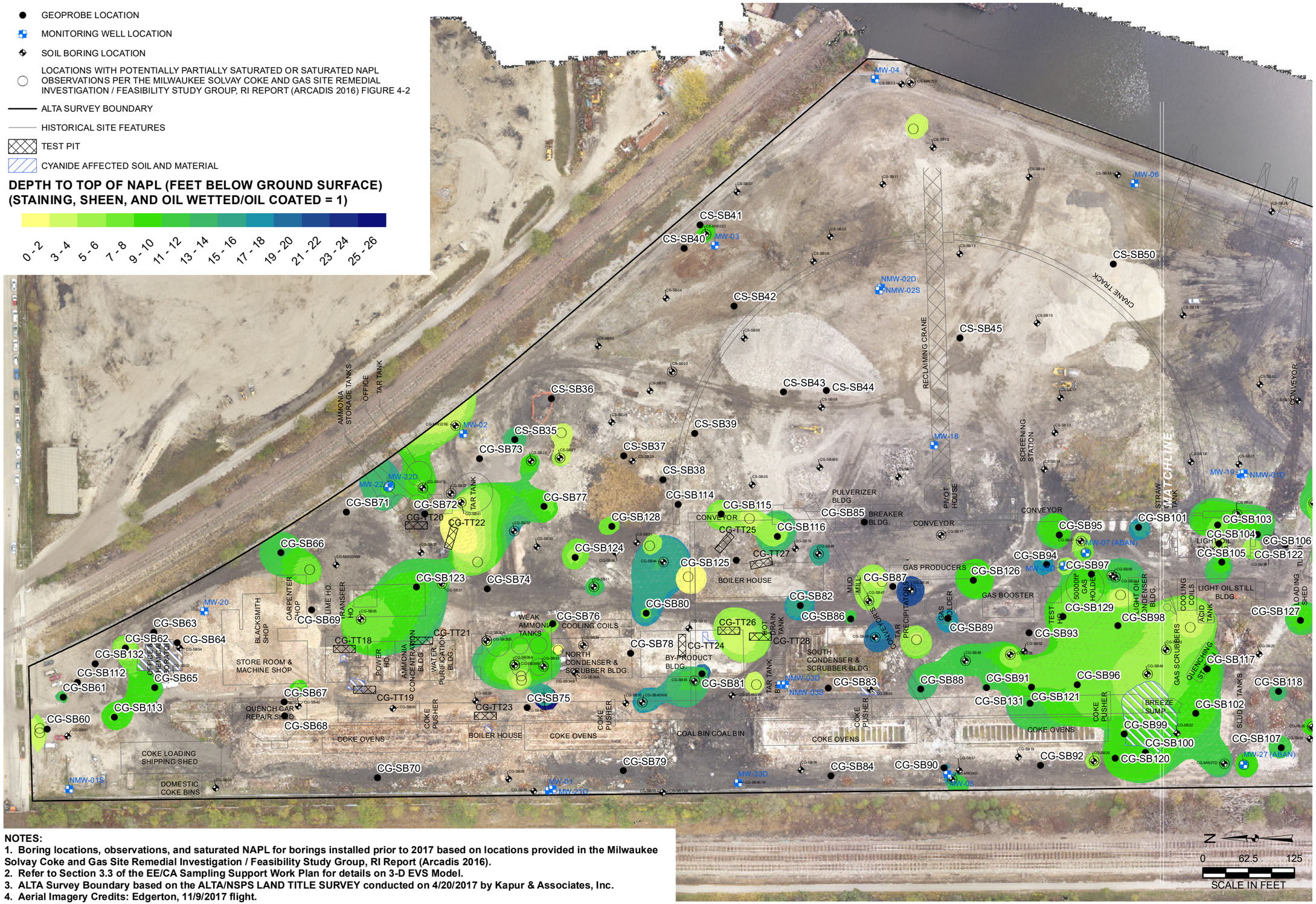
Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\2121133\MXD\Data Summary Report\Figure 2_Extent of NAPL.mxd Author: cushmald: Date/Time: 12/21/2017, 2:30:57 PM

- GEOPROBE LOCATION
- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- LOCATIONS WITH POTENTIALLY PARTIALLY SATURATED OR SATURATED NAPL OBSERVATIONS PER THE MILWAUKEE SOLVAY COKE AND GAS SITE REMEDIAL INVESTIGATION / FEASIBILITY STUDY GROUP, RI REPORT (ARCADIS 2016) FIGURE 4-2
- ALTA SURVEY BOUNDARY
- HISTORICAL SITE FEATURES
- TEST PIT
- CYANIDE AFFECTED SOIL AND MATERIAL

DEPTH TO TOP OF NAPL (FEET BELOW GROUND SURFACE) (STAINING, SHEEN, AND OIL WETTED/OIL COATED = 1)

0 - 2 | 3 - 4 | 5 - 6 | 7 - 8 | 9 - 10 | 11 - 12 | 13 - 14 | 15 - 16 | 17 - 18 | 19 - 20 | 21 - 22 | 23 - 24 | 25 - 26



NOTES:

1. Boring locations, observations, and saturated NAPL for borings installed prior to 2017 based on locations provided in the Milwaukee Solvay Coke and Gas Site Remedial Investigation / Feasibility Study Group, RI Report (Arcadis 2016).
2. Refer to Section 3.3 of the EE/CA Sampling Support Work Plan for details on 3-D EVS Model.
3. ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.
4. Aerial Imagery Credits: Edgerton, 11/9/2017 flight.

DRAWN BY/DATE: TDC 12/14/17
REVIEWED BY/DATE: JFK 12/14/17
APPROVED BY/DATE: JFK 12/21/17

DEPTH TO TOP OF NAPL - NORTH

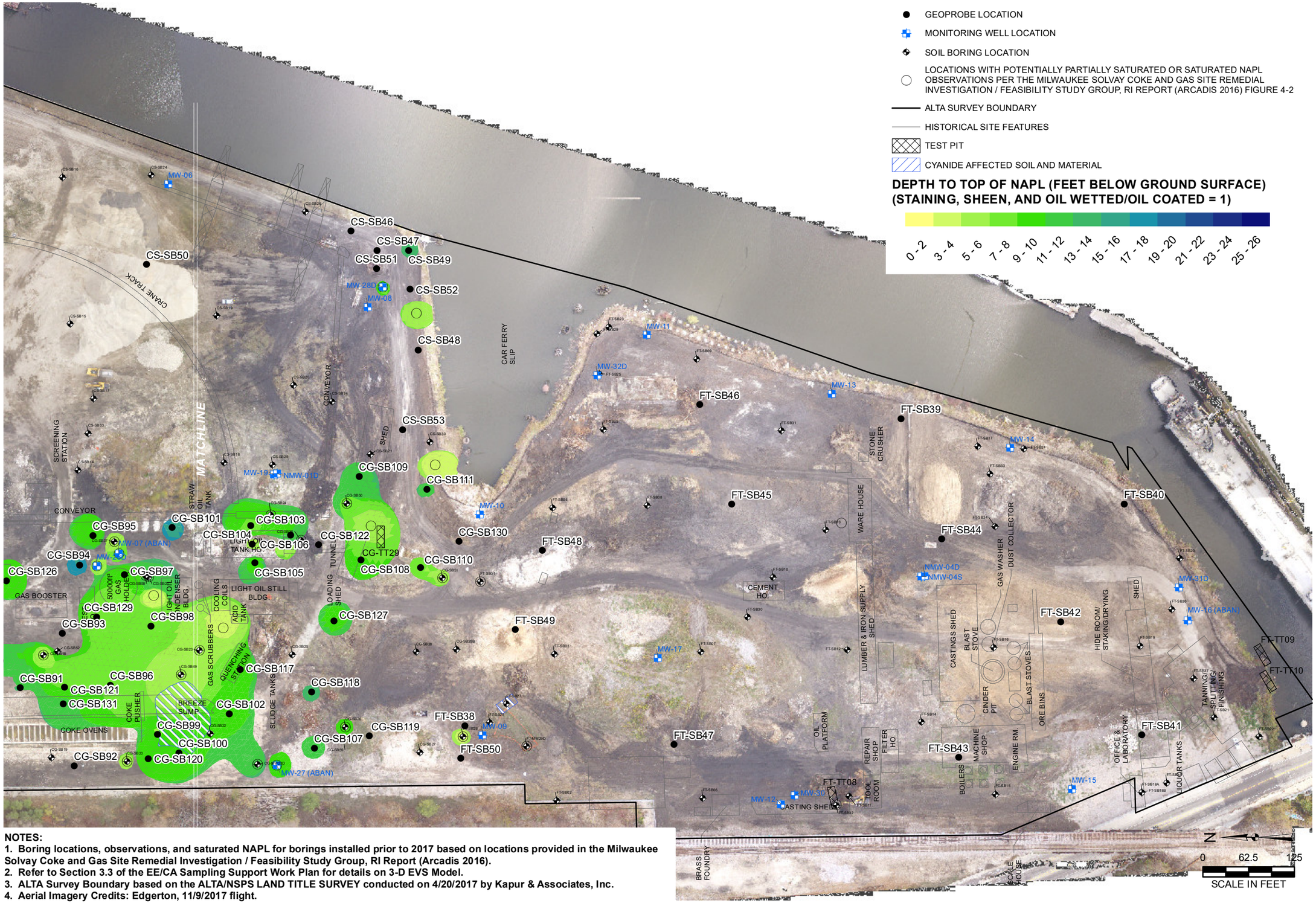
DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 3A

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\21\2133\MXD\Data Summary Report\Figure 3_Depth to Top of NAPL.mxd Author: cushmatd Date/Time: 12/21/2017, 2:37:00 PM



NOTES:
1. Boring locations, observations, and saturated NAPL for borings installed prior to 2017 based on locations provided in the Milwaukee Solvay Coke and Gas Site Remedial Investigation / Feasibility Study Group, RI Report (Arcadis 2016).
2. Refer to Section 3.3 of the EE/CA Sampling Support Work Plan for details on 3-D EVS Model.
3. ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.
4. Aerial Imagery Credits: Edgerton, 11/9/2017 flight.

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REVIEWED BY/DATE: JFK 12/14/17
APPROVED BY/DATE: JFK 12/21/17

DEPTH TO TOP OF NAPL - SOUTH

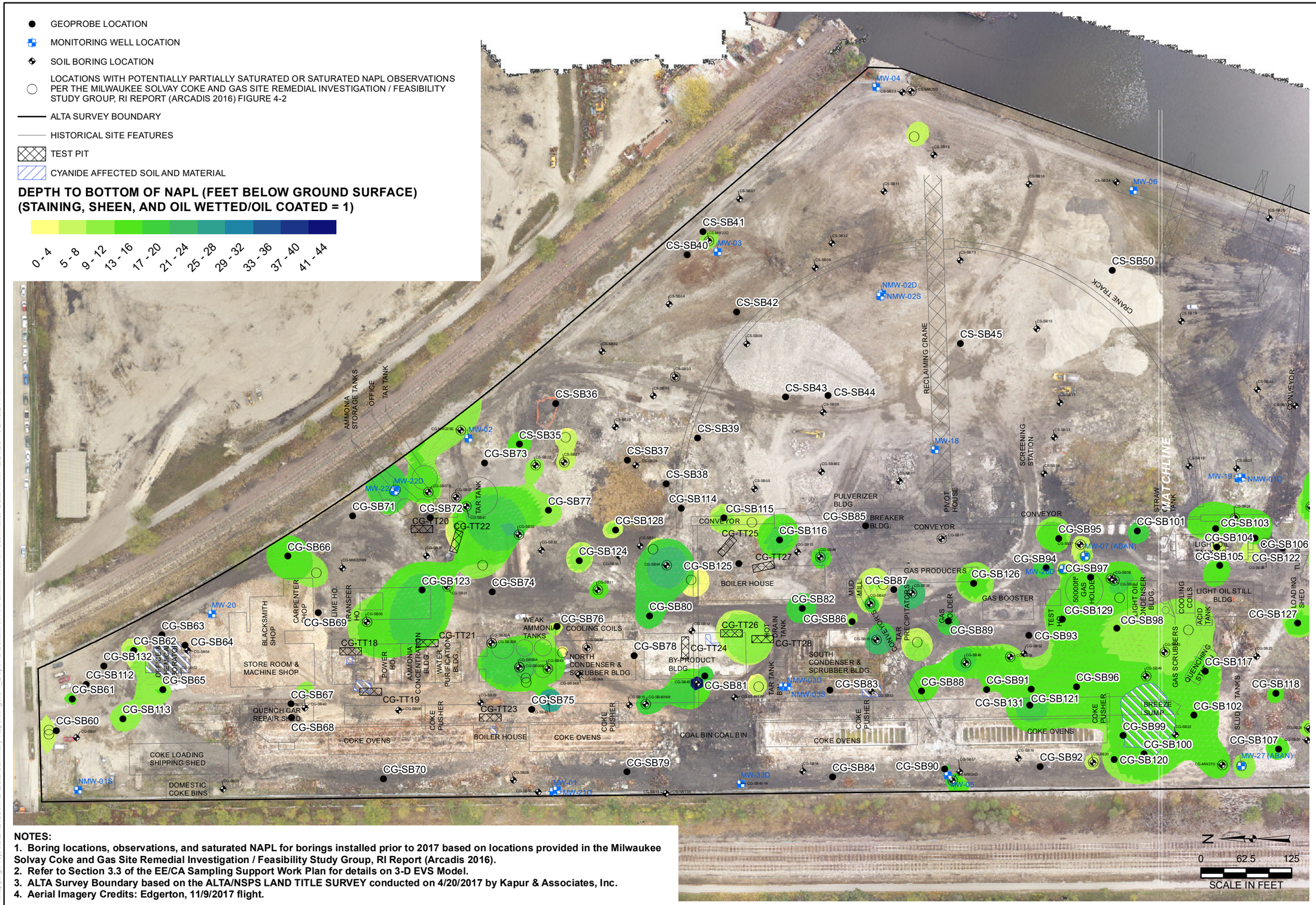
DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 3B

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\212133\MXD\Data Summary Report\Figure 3. Depth to Top of NAPL.mxd Author: cushmald: Date/Time: 12/21/2017, 2:34:15 PM



NOTES:

1. Boring locations, observations, and saturated NAPL for borings installed prior to 2017 based on locations provided in the Milwaukee Solvay Coke and Gas Site Remedial Investigation / Feasibility Study Group, RI Report (Arcadis 2016).
2. Refer to Section 3.3 of the EE/CA Sampling Support Work Plan for details on 3-D EVS Model.
3. ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.
4. Aerial Imagery Credits: Edgerton, 11/9/2017 flight.

DRAWN BY/DATE: TDC 12/14/17
REVIEWED BY/DATE: JFK 12/14/17
APPROVED BY/DATE: JFK 12/21/17

DEPTH TO BOTTOM OF NAPL - NORTH

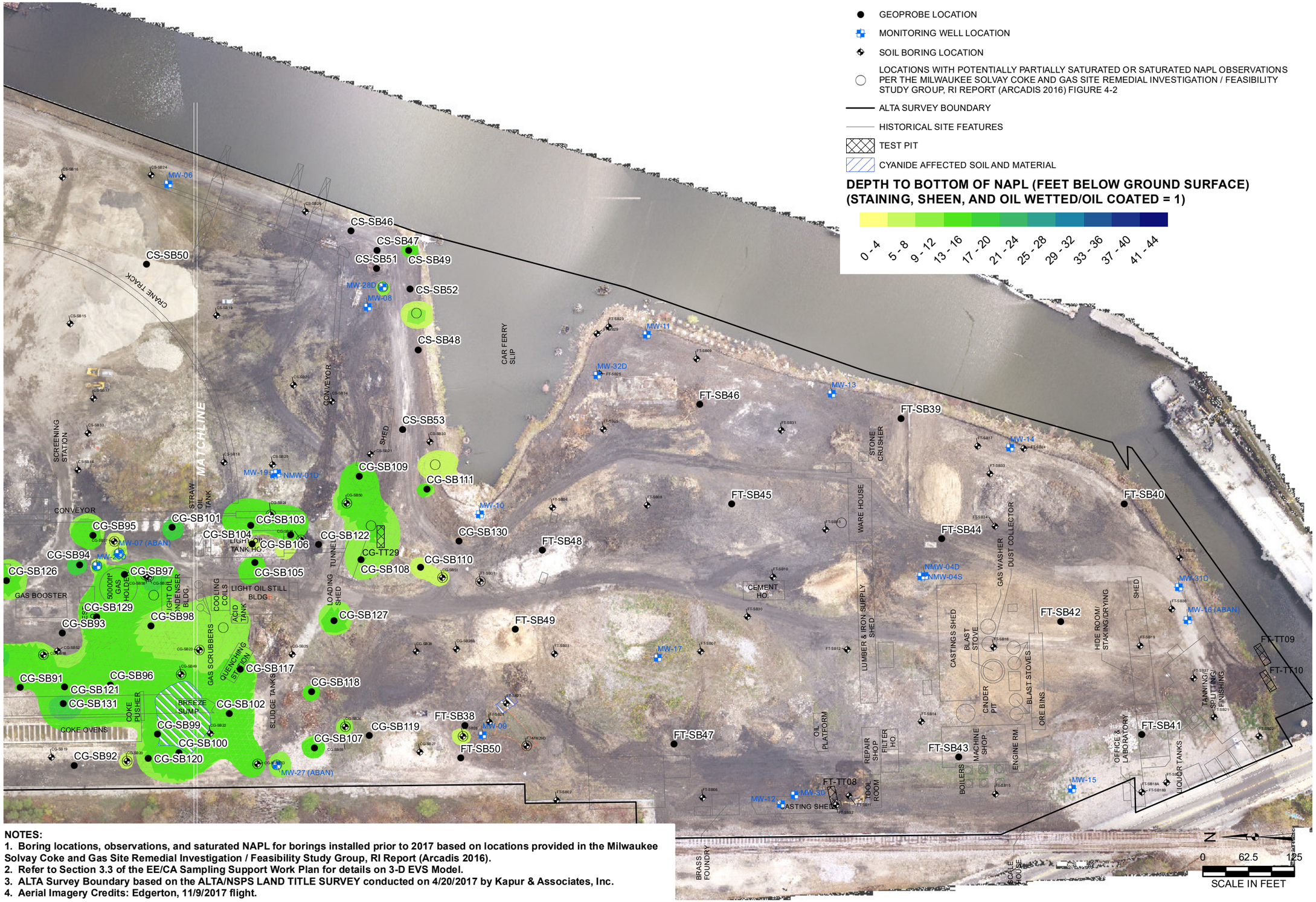
DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 4A

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\21\2133\MXD\Data Summary Report\Figure 4_Depth to Bottom of NAPL.mxd Author: cushmatd Date/Time: 12/21/2017 2:40:21 PM



NOTES:

1. Boring locations, observations, and saturated NAPL for borings installed prior to 2017 based on locations provided in the Milwaukee Solvay Coke and Gas Site Remedial Investigation / Feasibility Study Group, RI Report (Arcadis 2016).
2. Refer to Section 3.3 of the EE/CA Sampling Support Work Plan for details on 3-D EVS Model.
3. ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.
4. Aerial Imagery Credits: Edgerton, 11/9/2017 flight.

DRAWN BY/DATE: TDC 12/14/17
REVIEWED BY/DATE: JFK 12/14/17
APPROVED BY/DATE: JFK 12/21/17

DEPTH TO BOTTOM OF NAPL - SOUTH

DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 4B

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\2121133\MXD\Data Summary Report\Figure 4. Depth to Bottom of NAPL.mxd Author: cushmatd Date/Time: 12/21/2017 2:39:39 PM

NOTES:

1. ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.
2. Aerial Imagery Credits: Edgerton, 11/9/2017 flight.

DRAWN BY/DATE: TDC 12/14/17
REVIEWED BY/DATE: JFK 12/14/17
APPROVED BY/DATE: JFK 12/20/17

BORING LOCATIONS WHERE BLUE STAINING WAS OBSERVED NORTH

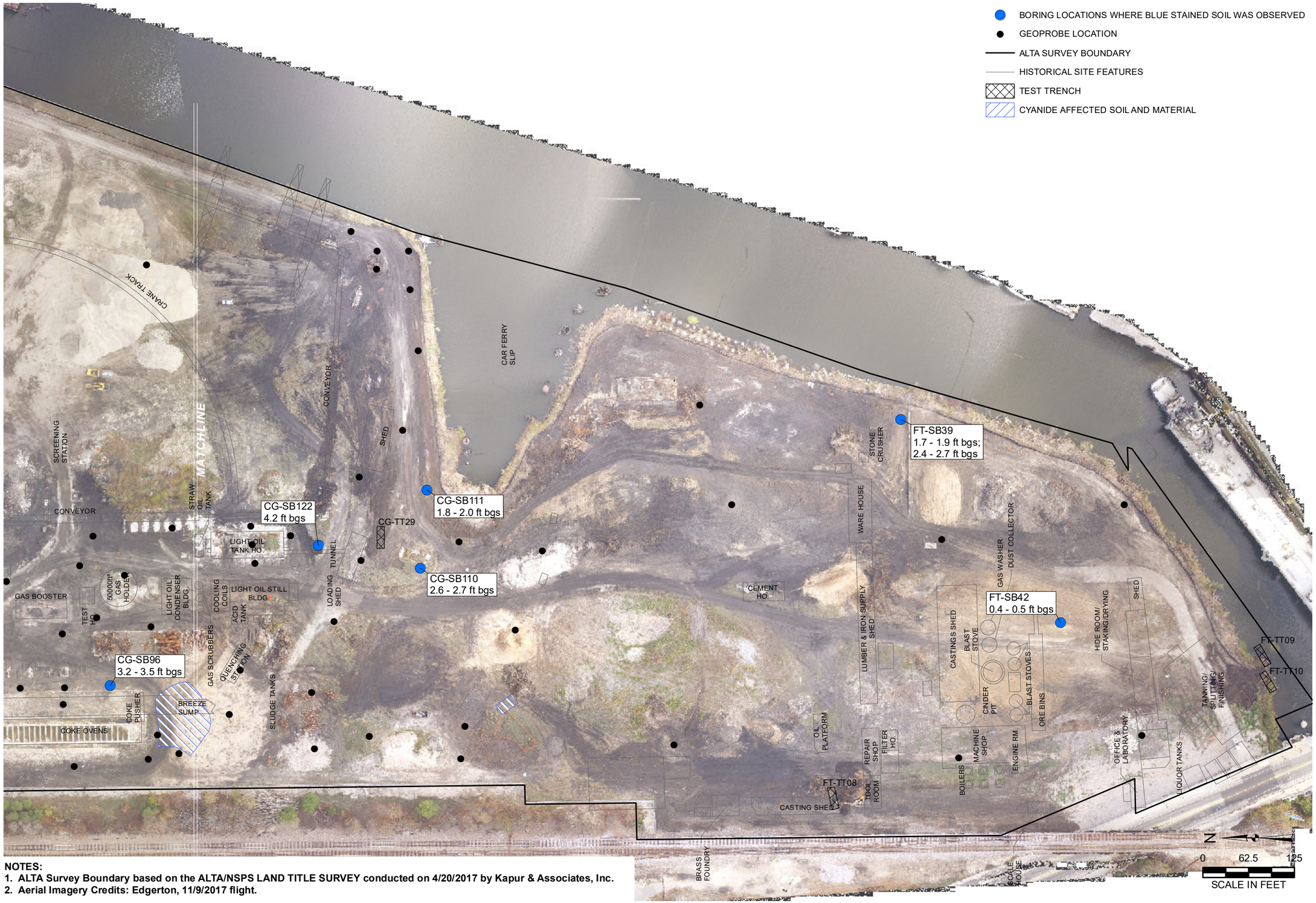
DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 5A

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\212133\MXD\Data Summary Report\Figure 5_Boring Locations Where Blue Staining was Observed.mxd Author: cushmatd Date/Time: 12/21/2017, 1:47:15 PM



NOTES:

1. ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.
2. Aerial Imagery Credits: Edgerton, 11/9/2017 flight.

DRAWN BY/DATE: TDC 12/14/17
REVIEWED BY/DATE: JFK 12/14/17
APPROVED BY/DATE: JFK 12/20/17

BORING LOCATIONS WHERE BLUE STAINING WAS OBSERVED SOUTH

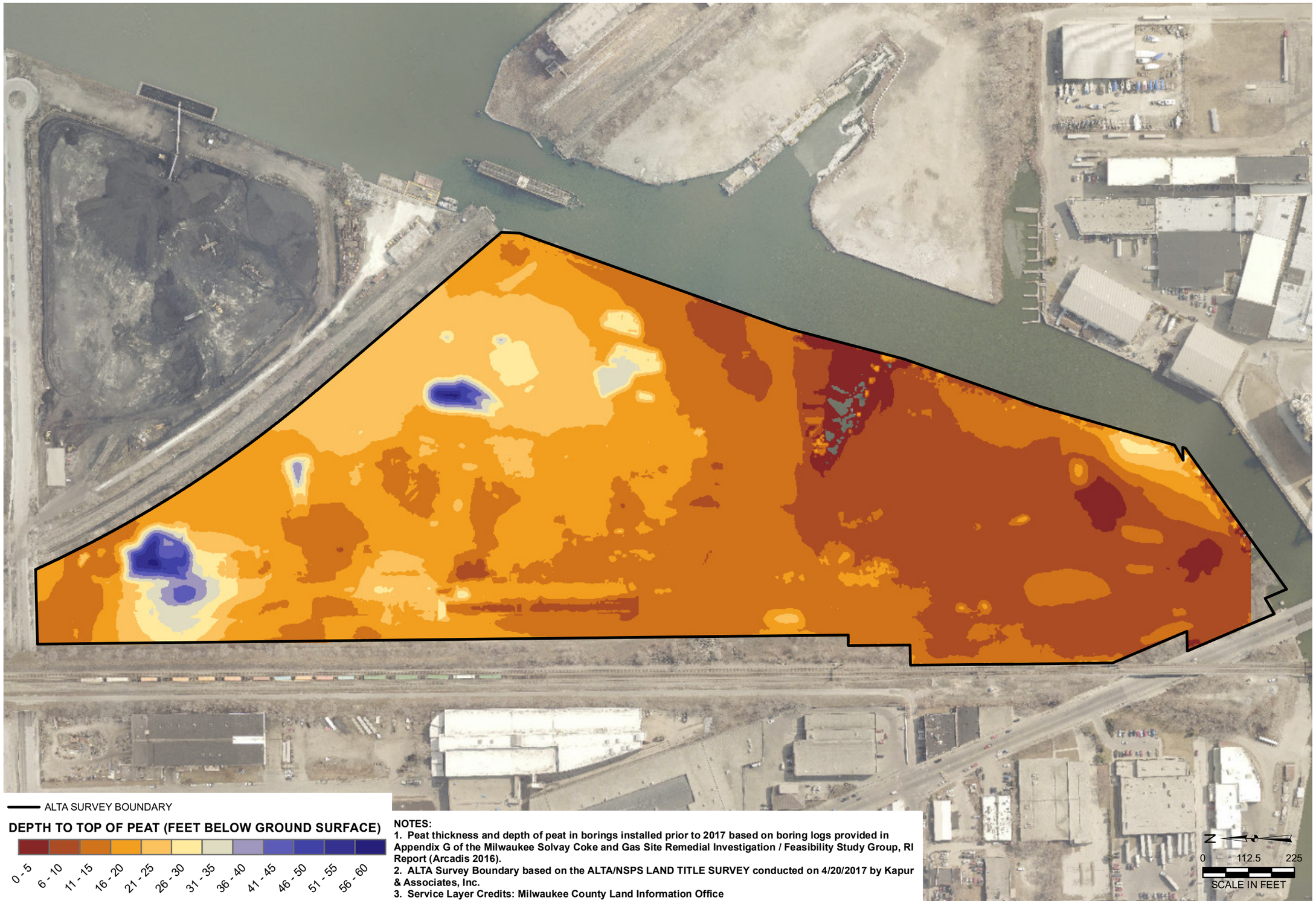
DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 5B

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\212133\MXD\Data Summary Report\Figure 5_Boring Locations Where Blue Staining was Observed.mxd Author: cushmatd Date/Time: 12/21/2017, 1:47:46 PM



NOTES:
1. Peat thickness and depth of peat in borings installed prior to 2017 based on boring logs provided in Appendix G of the Milwaukee Solvay Coke and Gas Site Remedial Investigation / Feasibility Study Group, RI Report (Arcadis 2016).
2. ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.
3. Service Layer Credits: Milwaukee County Land Information Office

DRAWN BY/DATE:
TDC 12/14/17
REVIEWED BY/DATE:
JFK 12/14/17
APPROVED BY/DATE:
JFK 12/20/17

DEPTH TO TOP OF PEAT LAYER

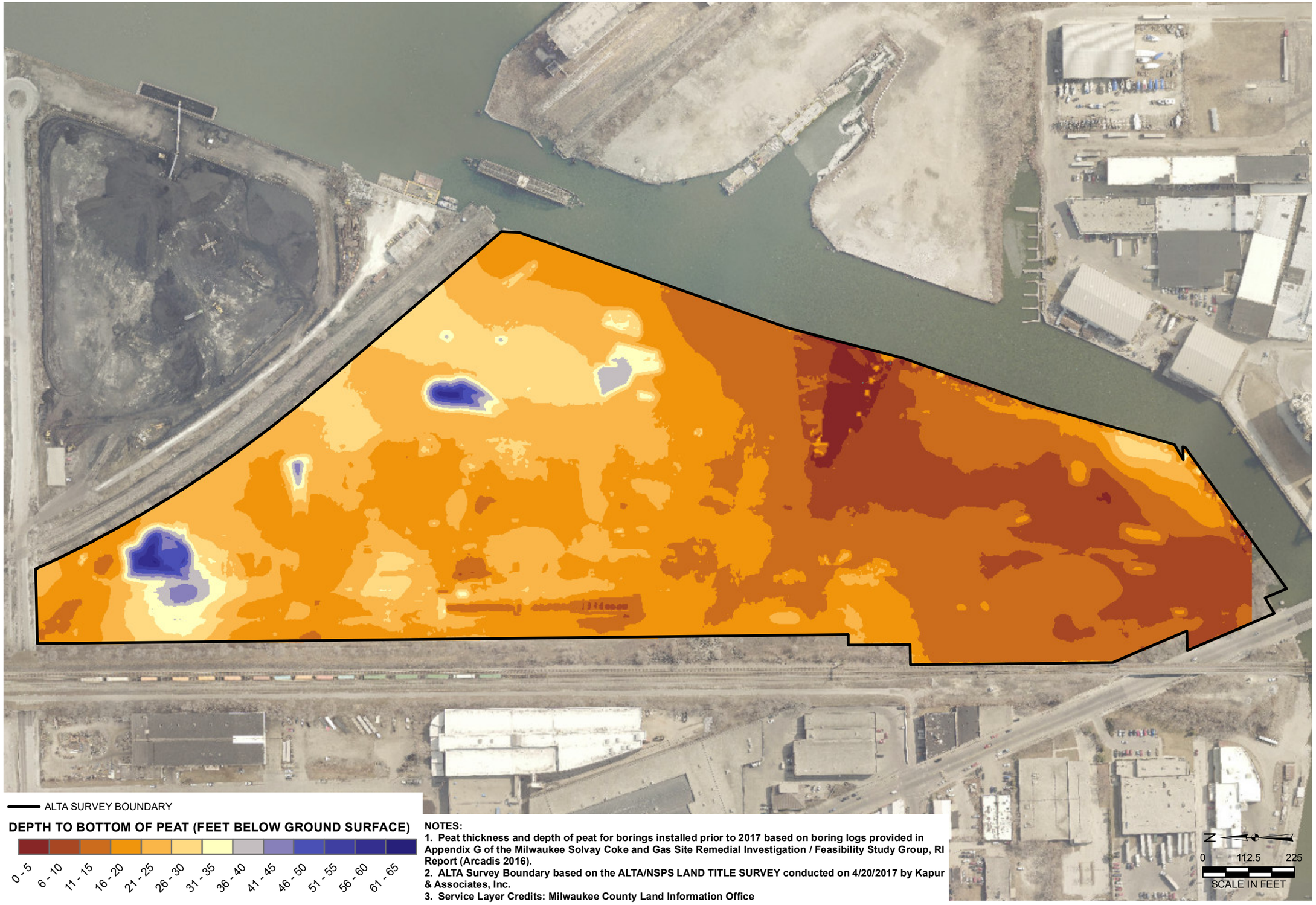
DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 6

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\21\2133\MXD\Data Summary Report\Figure 6_Depth to Top of Peat Layer.mxd Author: cushmatd: Date/Time: 12/20/2017, 3:24:07 PM



NOTES:
1. Peat thickness and depth of peat for borings installed prior to 2017 based on boring logs provided in Appendix G of the Milwaukee Solvay Coke and Gas Site Remedial Investigation / Feasibility Study Group, RI Report (Arcadis 2016).
2. ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.
3. Service Layer Credits: Milwaukee County Land Information Office

DRAWN BY/DATE:
TDC 12/14/17
REVIEWED BY/DATE:
JFK 12/14/17
APPROVED BY/DATE:
JFK 12/20/17

DEPTH TO BOTTOM OF PEAT LAYER

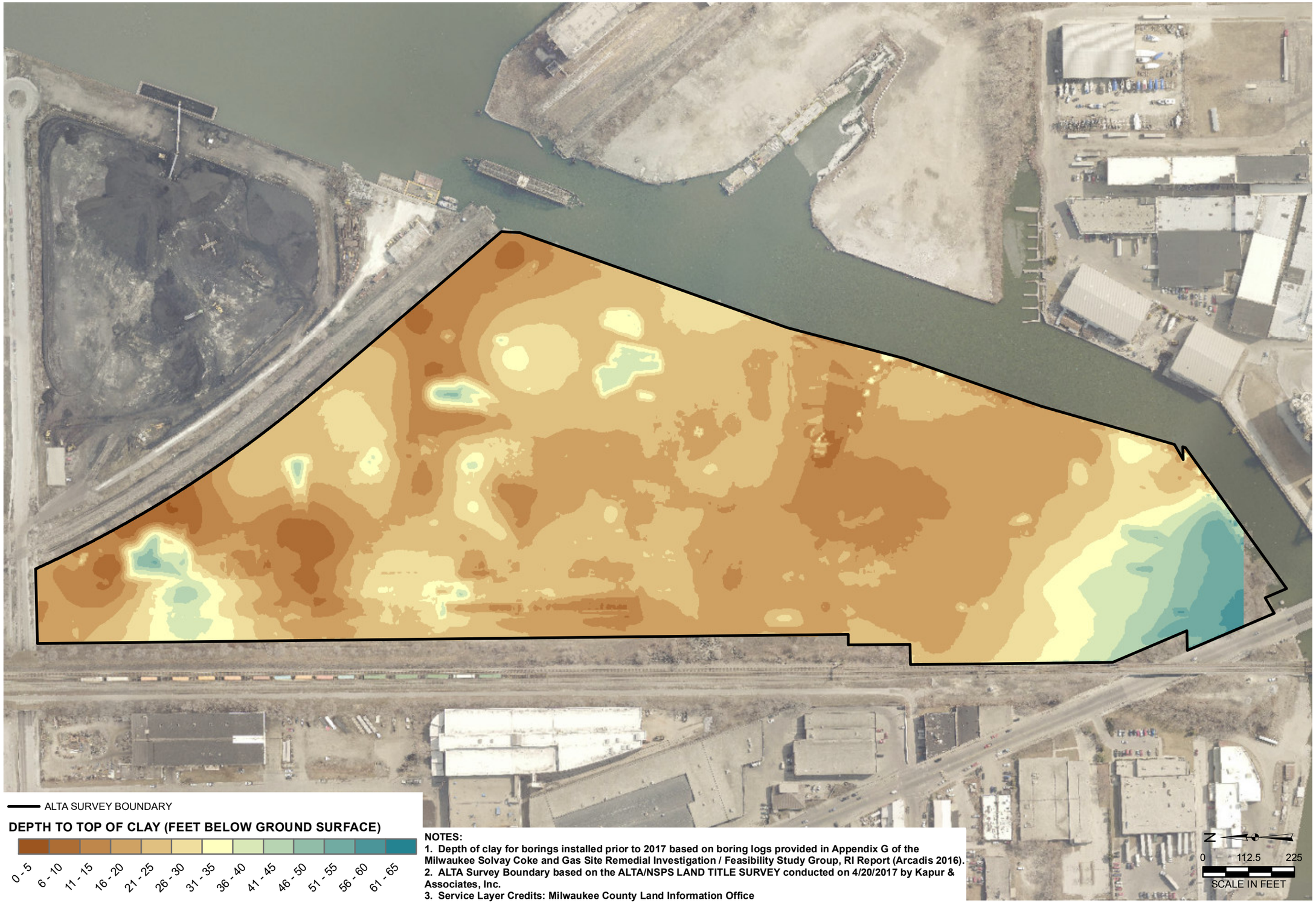
DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 7

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\2\2133\MXD\Data Summary Report\Figure 7_Depth to Bottom of Peat Layer.mxd Author: cushmatd Date/Time: 12/20/2017, 3:29:54 PM



NOTES:

1. Depth of clay for borings installed prior to 2017 based on boring logs provided in Appendix G of the Milwaukee Solvay Coke and Gas Site Remedial Investigation / Feasibility Study Group, RI Report (Arcadis 2016).
2. ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.
3. Service Layer Credits: Milwaukee County Land Information Office

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TDC 12/14/17
REVIEWED BY/DATE:
JFK 12/14/17
APPROVED BY/DATE:
JFK 12/20/17

DEPTH TO TOP OF NATIVE CLAY LAYER

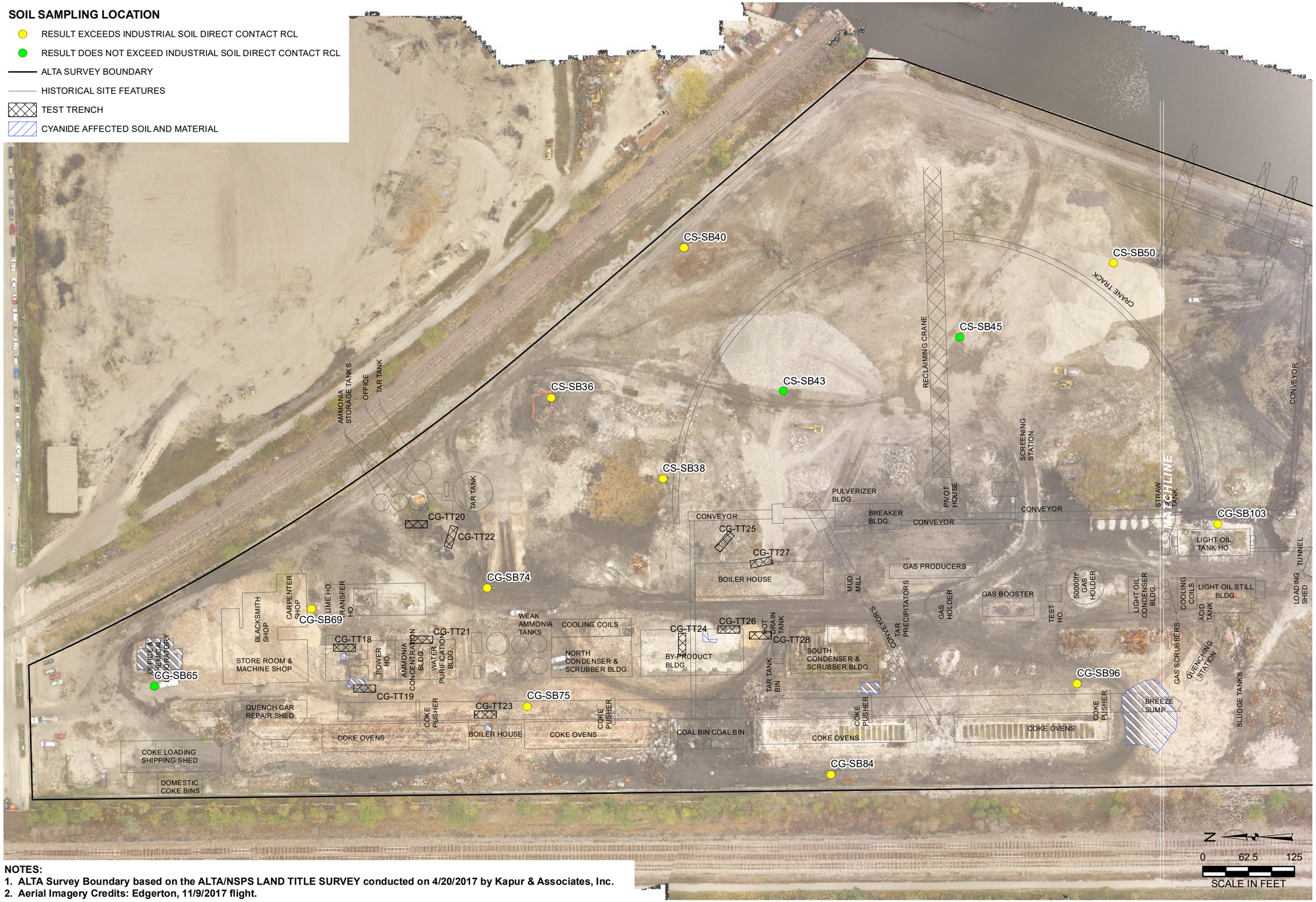
DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 8

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\21\2133\MXD\Data Summary Report\Figure 8_Depth to Top of Native Clay.mxd Author: cushmald: Date/Time: 12/20/2017, 3:33:33 PM



NOTES:

1. **ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.**
2. **Aerial Imagery Credits: Edgerton, 11/9/2017 flight.**

DRAWN BY/DATE:
TDC 12/14/17
REVIEWED BY/DATE:
JFK 12/14/17
APPROVED BY/DATE:
JFK 12/20/17

COC SAMPLING LOCATIONS - NORTH

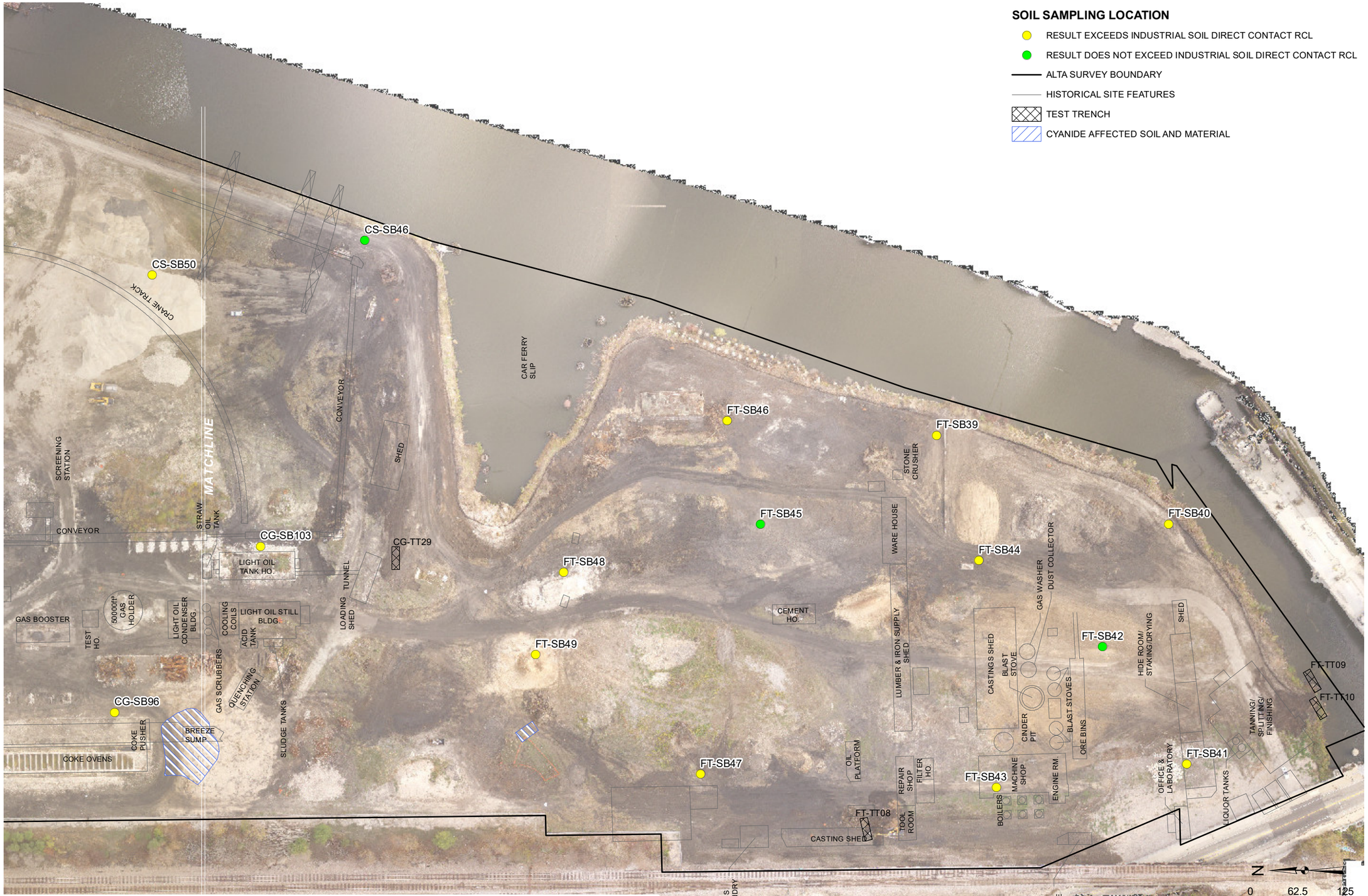
DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 9A

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\212133\MXD\Data Summary Report\Figure 9_COC Sampling Locations.mxd Author: cushmald: Date/Time: 12/21/2017, 1:50:22 PM



NOTES:

1. **ALTA Survey Boundary based on the ALTA/NSPS LAND TITLE SURVEY conducted on 4/20/2017 by Kapur & Associates, Inc.**
2. **Aerial Imagery Credits: Edgerton, 11/9/2017 flight.**

DRAWN BY/DATE: TDC 12/14/17
REVIEWED BY/DATE: JFK 12/14/17
APPROVED BY/DATE: JFK 12/20/17

COC SAMPLING LOCATIONS - SOUTH

DATA SUMMARY REPORT
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

PROJECT NO: 2133

FIGURE NO: 9B

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\21\2133\MXD\Data Summary Report\Figure 9_COC Sampling Locations.mxd Author: cushmatd: Date/Time: 12/21/2017, 1:50:43 PM

Attachment A

Analytical Reports – Asbestos Sampling

EMSL Analytical, Inc.

4140 Litt Drive Hillside, IL 60162

Tel/Fax: (773) 313-0099 / (773) 313-0139

http://www.EMSL.com / chicagolab@emsl.com

EMSL Order: 261710545
Customer ID: NRTC78
Customer PO:
Project ID:

Attention: Andrew Cawrse
Natural Resource Technology, Inc.
234 W. Florida Street
5th Floor
Milwaukee, WI 53204
Project: 2133/3.0

Phone: (414) 837-3607
Fax: (414) 837-3608
Received Date: 11/15/2017 8:25 AM
Analysis Date: 11/16/2017
Collected Date:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
FORMER TANK 1-1 *261710545-0001*	FORMER TANK PIPE COVERING	Black Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
FORMER TANK 1-2 *261710545-0002*	FORMER TANK PIPE COVERING	Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
FORMER TANK 1-3 *261710545-0003*	FORMER TANK PIPE INSULATION	Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
FORMER TANK 1-4 *261710545-0004*	FORMER TANK PIPE INSULATION	Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected

Analyst(s)
Christine Stouffer (4)

James Hahn, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Hillside, IL NVLAP Lab Code 200399-0

Initial report from: 11/16/2017 09:48:36

EMSL Analytical, Inc.

4140 Litt Drive Hillside, IL 60162

Tel/Fax: (773) 313-0099 / (773) 313-0139

http://www.EMSL.com / chicagolab@emsl.com

EMSL Order: 261710993
Customer ID: NRTC78
Customer PO:
Project ID:

Attention: Andrew Cawrse
Natural Resource Technology, Inc.
234 W. Florida Street
5th Floor
Milwaukee, WI 53204
Project: 2133/3.0

Phone: (414) 837-3607
Fax: (414) 837-3608
Received Date: 12/01/2017 9:30 AM
Analysis Date: 12/04/2017
Collected Date:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
Pipe Wrap *261710993-0001*	North ovens pipe wrap	Black Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
Gasket 1 *261710993-0002*	Misc gasket	Black Non-Fibrous Homogeneous		70% Non-fibrous (Other)	30% Chrysotile
Gasket 2 *261710993-0003*	Misc gasket	Black Non-Fibrous Homogeneous		70% Non-fibrous (Other)	30% Chrysotile

Analyst(s)
Christine Stouffer (3)

James Hahn, Laboratory Manager
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Hillside, IL NVLAP Lab Code 200399-0

Initial report from: 12/04/2017 09:53:02

Attachment B

Boring Logs

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB100

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/2/2017	11/2/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 375,751 N, 2,559,411 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36		0	0 - 13' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace stone and crushed tan brick, trace coke, sheen(20-40%) from 9 to 12 ft, oil staining (50-75%) from 12 to 13 ft, odor, loose, moist, wet at 12 ft.	(FILL) (SP)g			0						
			1											
			2											
			3					0						
			4											
2 CS	60 33		5											
			6					0.2						
			7					0.95						
			8											
			9											
3 CS	60 48		10											
			11					2.6						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB100

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					(FILL) (SP)g									
			13	13 - 14.9' **PEAT (AMORPHOUS):** PT, 10YR4/4, oil staining from 13 to 13.3 ft, odor, soft, moist.				10.2						
			14		PT									
4 CS	60 57		15	14.9 - 16' **POORLY-GRADED SAND:** SP, 10YR6/1, trace fine gravel, loose, wet.	SP									
			16	16 - 20' **SANDY LEAN CLAY:** s(CL), 10YR6/1, grades to 10YR5/4, hard, moist.				2.3						
			17											
			18		s(CL)									
			19					0.2						
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB101

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/3/2017	11/3/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,145 N, 2,559,726 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 32		0	0 - 6' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace crushed red and tan bricks, trace roots from 0 to 0.5 ft, trace clay, loose, moist.	(FILL) (SP)g			0						
			1											
			2					0						
			3											
			4											
2 CS	60 48		5											
			6	6 - 7.5' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR4/3, very soft, moist.	(FILL) (CL)g			0						
			7					0						
			8	7.5 - 9' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR7/1 with 10YR2/2 and 10YR7/1 sand, well graded fine to coarse gravel, loose, dry.	(FILL) (GW)s			0.95						
			9	9 - 10' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, some wood, odor, loose, moist.	(FILL) SP									
3 CS	60 33		10	10 - 17.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded gravel, low odor, low sheen (10-25%) from 16 to 17.5 ft, wet.	(FILL) (SP)g			0.25						
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB101

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10 - 17.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded gravel, low odor, low sheen (10-25%) from 16 to 17.5 ft, wet. *(continued)*	(FILL) (SP)g									
			13					2.7						
			14											
4 CS	60 55		15											
			16					9						
			17											
				17.5 - 19' **FILL, SILT WITH GRAVEL:** (ML)g, 10YR5/2, trace shells, very soft, moist to wet.	(FILL) (ML)g									
			18					6.7						
			19	19 - 22' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.	PT									
5 CS	60 54		20											
			21					0.3						
			22	22 - 25' **SILT WITH GRAVEL:** (ML)g, 10YR5/2, trace shells, very soft, moist to wet.	(ML)g									
			23											
			24					0.2						
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB102

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/2/2017	11/2/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,067 N, 2,559,472 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 42			0 - 0.2' **FILL, WOOD:** CL/ML, wood chips, some organic silt, moist, loose.	(FILL) CL/ML (FILL)									
			1	0.2 - 0.5' **STONE**,10YR8/1, well graded crushed stone, loose, dry.				1.55						
				0.5 - 13' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, some coarse sand, 10YR4/6 at 4.6 to 5 ft, sheen (10-25%) with odor at 9 to 13 ft, some wood chips 12.5 to 12 ft, loose, moist, wet at 7 ft.										
			2											
			3					3.45						
			4											
2 CS	60 24		5											
			6		(FILL) (SP)g			5.8						
			7					21.25						
			8											
			9											
3 CS	60 55		10											
			11					1.45						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
K Unkel	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB102

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					(FILL) (SP)g									
			13	13 - 17.5' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, wet.				1.75						
			14											
4 CS	60 36		15		PT									
			16					4						
			17					8.15						
			18	17.5 - 22.5' **POORLY-GRADED SAND:** SP, 10YR6/1, trace well graded fine to coarse gravel, loose, wet.										
			19											
5 CS	60 55		20		SP									
			21											
			22					0.15						
			23	22.5 - 25' **SANDY LEAN CLAY:** s(CL), 10YR6/1, soft, wet.										
			24		s(CL)			0						
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB103

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/26/2017	10/26/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,037 N, 2,559,729 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 40			0 - 0.5' **FILL, ORGANIC SOIL:** OL/OH, 10YR2/2, trace roots, trace fine gravel, loose, moist.	(FILL) OL/OH									
			1	0.5 - 1' **FILL, SILTY CLAY** CL/ML, 10YR4/2, grades to 10YR2/2, trace fine gravel, firm, moist.	(FILL) CL/ML			0						
			2	1 - 5.2' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR3/1, trace red brick, loose, dry.				0						
			3		(FILL) (GW)s									
			4											
2 CS	60 36		5	5.2 - 7.5' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR3/1, trace red brick, trace wood, loose, dry.										
			6		(FILL) (GW)s			0.8						
			7											
			8	7.5 - 14' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR2/2, sheen (80-100%), no free product, no staining, strong odor, loose, wet.				54.6						
			9											
			10		(FILL) (GW)s									
3 CS	60 36		11					10.1						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB103

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				7.5 - 14' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR2/2, sheen (80-100%), no free product, no staining, strong odor, loose, wet. *(continued)*	(FILL) (GW)s			4.05						
			13											
			14	14 - 18.5' **PEAT (AMORPHOUS):** PT, 10YR4/2, soft, moist.										
4 CS	60 26		15											
			16		PT			1.15						
			17					0.2						
			18											
				18.5 - 19' **WOOD:** odor.										
			19	19 - 25' **SANDY SILT:** s(ML), 10YR5/1, trace clay, trace shells, firm, moist.										
5 CS	60 24		20											
			21					0						
			22		s(ML)			0						
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB104

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/9/2017	11/9/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,035 N, 2,559,704 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 31			0 - 1' **FILL, CONCRETE** 10YR7/1, crushed concrete, common sand, loose, wet.	(FILL)									
			1	1 - 9' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace clay, trace fine gravel, wood at 3.7 to 3.9 ft, sheen (75-100%) on wood with odor, tight, wet.				0						
			2					6.15						
			3											
			4											
2 CS	60 27		5		(FILL) SP									
			6					0						
			7					0						
			8											
			9	9 - 16' **PEAT (AMORPHOUS):** PT, 10YR4/4, wood piling in peat from 12 to 16 ft, soft, moist.										
3 CS	60 43		10		PT									
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB104

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9 - 16' **PEAT (AMORPHOUS):** PT, 10YR4/4, wood piling in peat from 12 to 16 ft, soft, moist. *(continued)*				0						
			13					0						
			14		PT									
4 CS	60 30		15											
			16	16 - 20' **SANDY LEAN CLAY:** s(CL), 10YR5/1, firm, moist.				0						
			17					0						
			18		s(CL)									
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB105

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/27/2017	10/27/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,032 N, 2,559,678 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 32		1	0 - 7.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace crushed red and tan brick, loose, moist.	(FILL) (SP)g			0						
			2					0						
			3											
			4											
2 CS	60 46		5											
			6					0						
			7					0						
			8	7.5 - 13' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 5YR5/6 grades to 10YR2/2, poorly graded fine gravel, trace crushed red and tan brick, sheen at 9.3 to 9.6 ft, odor, sheen and oil staining at 12.5 to 13 ft, some wood chips at 12.5 to 13 ft, loose, moist.	(FILL) (SP)g			1.5						
			9											
3 CS	60 48		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB105

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					(FILL) (SP)g			0						
			13	13 - 17.5' **PEAT (AMORPHOUS):** PT, 10YR4/4, some oil staining 13 to 13.2 ft, odor, soft, moist.				0						
			14											
4 CS	60 48		15		PT									
			16					0						
			17					0						
			18	17.5 - 22' **POORLY-GRADED SAND:** SP, 10YR5/1, trace shells, loose, wet.				0						
			19					0						
5 CS	60 18		20		SP									
			21					0						
			22	22 - 25' **LEAN CLAY:** CL, 10YR5/1, trace shells and gravel, hard, moist.										
			23		CL									
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB106

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/27/2017	10/27/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,983 N, 2,559,716 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 30		1	0 - 4.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, loose, dry.	(FILL) (SP)g			0						
			2					0						
			3											
			4											
2 CS	60 46		5	4.5 - 7.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR5/2, poorly graded fine gravel, loose, dry.	(FILL) (SP)g			41.7						
			6											
			7											
			8	7.5 - 12.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR5/2, poorly graded fine gravel, odor, sheen (50-75%) and oil staining (50-75%) from 10 to 12.5 ft, loose, wet.				7.15						
			9											
3 CS	60 38		10		(FILL) (SP)g									
			11					12.45						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB106

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			13	12.5 - 17' **PEAT (AMORPHOUS):** PT, 10YR4/4, odor, oil staining (10-25%) from 12.5 to 14 ft, soft, moist.	PT			4.85						
			14											
4 CS	60 48		15											
			16					3.8						
			17	17 - 24.5' **CLAYEY SAND:** SC, 10YR5/1, some white shells, sand seam from 23 to 24 ft, very soft, moist.	SC									
			18					1.65						
			19											
5 CS	60 36		20											
			21					3.2						
			22											
			23											
			24											
			25	24.5 - 25' **SANDY LEAN CLAY:** s(CL), 10YR5/1, hard, moist.	s(CL)									

25' End of Boring.

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB107

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/27/2017	10/27/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,950 N, 2,559,425 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36		1	0 - 12.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, some wood, trace crushed tan brick, trace slag and coke, some 10YR5/6 mottling, sheen on wood from 11 to 12.5 ft, oil coating (10-25%) and emulsified (10-25%) from 11 to 12.5 ft, loose, moist to wet.				0					
			2					0						
			3					0						
			4											
2 CS	60 24		5											
			6		(FILL) (GP)s			0						
			7					0						
			8											
			9											
3 CS	60 42		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB107

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
								0						
				12.5 - 14.5' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.										
			13					0						
					PT									
			14											
				14.5 - 25' **POORLY-GRADED SAND:** SP, 10YR5/1, trace shells, some fine gravel, loose, moist to wet.										
4 CS	60 48		15											
			16					0						
			17					0						
			18					0						
			19					0						
					SP									
5 CS	60 58		20											
			21					0						
			22					0						
			23					0						
			24					0						
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB108

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/27/2017	10/27/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,887 N, 2,559,683 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36		1	0 - 8.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR3/2, well graded coarse gravel, trace slag and crushed red brick, trace coke, loose, moist.	(FILL) (SP)g			0						
			2					0						
			3					0						
			4											
2 CS	60 18		5											
			6					0						
			7					0						
			8											
			9	8.5 - 12.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR3/2, well graded coarse gravel, trace slag and crushed red brick, trace coke, sheen (80-100%), oil staining, odor, nonviscous, very soft, moist.	(FILL) (SP)g									
3 CS	60 48		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
K Unkel	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB108

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
								0						
				12.5 - 14.7' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.										
			13					0						
					PT									
			14											
			15	14.7 - 17' **POORLY-GRADED SAND:** SP, 10YR7/2, very soft, wet.										
4 CS	60 54													
			16		SP			0						
			17	17 - 25' **LEAN CLAY:** CL, 10YR7/2, low plasticity, hard, moist.				0						
			18					0						
			19					0						
5 CS	60 28		20											
			21		CL			0						
			22					0						
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB109

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/7/2017	11/7/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,890 N, 2,559,796 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 35		1	0 - 11.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace coke and slag, crushed red brick, loose, dry to moist, wet at 8ft.				0						
			2					0						
			3											
			4											
2 CS	60 30		5		(FILL) (SP)g									
			6					0						
			7					0						
			8											
			9											
3 CS	60 40		10											
			11					0						
			12		(FILL) s(ML)									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB109

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				11.5 - 13.8' **FILL, SANDY SILT:** s(ML), 10YR2/2, trace gravel, odor, sheen (50-75%) and oil coating (10-25%), very soft, wet. *(continued)*	(FILL) s(ML)			0						
			13					0						analytical sample taken 11-14 feet bgs
			14	13.8 - 15.5' **PEAT (AMORPHOUS):** PT, 10YR4/4, sheen and oil coating from 13.8 to 14 ft (same as above), soft, moist.	PT									
4 CS	60 39		15											
				15.5 - 22' **SANDY SILT:** s(ML), 10YR6/3, some shells, soft, moist.										
			16					0						
			17					0						
			18					0						
			19		s(ML)									
5 CS	60 40		20											
			21					0						
			22	22 - 25' **LEAN CLAY:** CL, 10YR6/2, low plasticity, firm, moist.				0						
			23		CL			0						
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB110

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/25/2017	10/25/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,806 N, 2,559,672 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 44		1	0 - 5' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace organics, trace coke and crushed tan brick, trace crushed concrete, some bluish sand from 2.6 to 2.7 ft, loose, moist.	(FILL) SP			0						
			2											
			3					0.05						
			4											
2 CS	60 15		5	5 - 10.9' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR4/1, poorly graded coarse to fine gravel, wood chips from 6.0 to 6.9 ft with sheen (50-100%) and emulsified NAPL (5-15%) fluid, odor, moist to wet.	(FILL) (SP)g			0						
			6											
			7											
			8					4.5						
			9											
3 CS	60 34		10											
			11	10.9 - 12.3' **PEAT (AMORPHOUS):** PT, 10YR3/2, soft, moist.	PT			1.75						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB110

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				12.3 - 15.9' **WELL-GRADED SAND:** SW, 10YR6/1, fine to coarse sand, loose, moist to wet.										
			13					0.8						
			14		SW									
4 CS	60 50		15											
			16	15.9 - 16.6' **SANDY LEAN CLAY:** s(CL), 10YR5/1, very soft, moist.	s(CL)			0.2						
			17	16.6 - 25' **SANDY LEAN CLAY:** s(CL), 10YR5/1, sand seam from 17.3 to 17.6 ft, firm, moist.										
			18					0						
			19											
5 CS	60 60		20											
			21		s(CL)			0						
			22											
			23					0.05						
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB111

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/25/2017	10/25/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,797 N, 2,559,779 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 39		1	0 - 10' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace coke and wood chips, some bluish sand at 1.8 to 2 ft, loose, dry until 6.5 ft the moist.				0						
			2					0						
			3					0						
			4											
2 CS	60 36		5		(FILL) (SP)g									
			6					0						
			7					0.25						
			8											
			9											
3 CS	60 25		10	10 - 11.7' **PEAT (AMORPHOUS):** PT, 10YR3/2, oil coated (15-30%) from 11.1 to 11.7 ft, strong odor, moist.	PT			4.55						
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
K Unkel	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB111

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				11.7 - 17.5' **POORLY-GRADED SAND:** SP, 10YR6/2, NAPL (same as above) from 11.7 to 11.8 ft, low odor, loose, wet. *(continued)*				12.7						
			13											
			14											
4 CS	60 44		15		SP									
			16					1.45						
			17											
			18	17.5 - 25' **SANDY LEAN CLAY:** s(CL), 10YR6/2, trace fine gravel, trace 10YR6/8 mottling, hard to firm, moist.				0.2						
			19											
5 CS	60 42		20											
			21		s(CL)			0						
			22											
			23					0						
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB112

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/14/2017	11/14/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 377,595 N, 2,559,515 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 37			0 - 1' **FILL, CLAYEY SILT** ML/CL, 10YR3/1, fine to coarse sand, fine to coarse gravel, moist.	(FILL) ML/CL									
			1	1 - 2' **FILL, SILT:** ML, 10YR5/4, clay, fine to coarse gravel (10-30%).	(FILL) ML			0						
			2	2 - 2.4' **FILL, POORLY-GRADED GRAVEL:** GP, 10YR8/1 and 10YR3/1, 10-20% sand, dry.	(FILL) GP			0						
			3	2.4 - 5' **FILL, SILT:** ML, 10YR3/1, 10-15% gravel, 10-15% clay, moist.	(FILL) ML			0						
			4											
2 CS	60 30		5	5 - 10' **FILL, SILT:** ML, 10YR3/1, 10-15% gravel, 10-15% clay, clay content increases with depth, wet to moist.										
			6					0						
			7		(FILL) ML			0						
			8											
			9											
3 CS	60 5		10	10 - 15' **FILL, SILTY CLAY** CL/ML, 10YR5/1, very soft, wet.				0						
			11		(FILL) CL/ML									
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB112

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10 - 15' **FILL, SILTY CLAY** CL/ML, 10YR5/1, very soft, wet. *(continued)*	(FILL) CL/ML									
			13											
			14											
			15	15 - 20' **PEAT (AMORPHOUS):** PT, 10YR4/1, 10-15% shells,30-50% organics, moist.										
4 CS	60 24		16					0						
			17		PT			0						
			18											
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB113

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/14/2017	11/14/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 377,544 N, 2,559,467 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 39			0 - 0.8' **FILL, CONCRETE** some gravel.	(FILL)									
			1	0.8 - 4.5' **FILL, POORLY-GRADED GRAVEL WITH SILT:** GP-GM, 10YR3/1, silty gravel to gravelly silt, fine to coarse gravel, 0-5% wood, moist.	(FILL) GP-GM			0						
			2					0						
			3					0						
			4											
				4.5 - 5' **FILL, SILTY CLAY** CL/ML, 10YR5/1, low plasticity, moist.	(FILL) CL/ML									
2 CS	60 38		5	5 - 9' **FILL, GRAVELLY SILT:** (ML)g, 10YR3/1, silty gravel to gravelly silt, fine to coarse gravel, 10-20% organics, sheen with strong odor at 6.2 to 6.5 ft, 0-5% wood, thin layer of wood at 7.5 ft, moist.	(FILL) (ML)g			0						
			6											
			7					0.05						
			8					1.75						
			9	9 - 10' **FILL, SILT:** ML, 10-15% gravel, strong odor, sheen, 10YR3/1.	(FILL) ML									
3 CS	60 39		10	10 - 15' **PEAT (AMORPHOUS):** PT, 10YR4/1, organics (30-50%), moist.	PT			0						
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB113

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10 - 15' **PEAT (AMORPHOUS):** PT, 10YR4/1, organics (30-50%), moist. *(continued)*	PT			0						
			13					0						
			14											
			15	15' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB114

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/14/2017	11/14/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,774 N, 2,559,757 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 40		1	0 - 2.8' **FILL, POORLY-GRADED SAND:** SP, 10YR2/1, poorly graded black sand, small slag pieces, 7.5YR7/4 brick pieces at top, moist.	(FILL) SP			0						
			2					0						
			3	2.8 - 5' **BRICK** - 7.5YR7/4 brick pieces, wet.	(FILL)			0						
			4											
2 CS	60 0		5	5 - 10' **NO RECOVERY**.										
			6											
			7											
			8											
			9											
3 CS	60 22		10	10 - 12' **FILL, WELL-GRADED SAND:** SW, 10YR4/1, well graded sand.	(FILL) SW			0						
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB114

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			13	12 - 14' **FILL, LEAN CLAY:** CL, 7.5YR6/4, soft, moist, medium to high plasticity.	(FILL) CL									
			14	14 - 15' **PEAT (FIBROUS):** PT, 10YR5/2, fibrous on top, but then becomes mostly soft (clay, shells, thick layer on top).	PT									
			15	15' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB115

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/14/2017	11/14/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,715 N, 2,559,744 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 30			0 - 0.8' **FILL, WELL-GRADED GRAVEL:** GW, crushed brick and gravel, dry.	(FILL) GW									
			1	0.8 - 1.2' **FILL, CONCRETE**.	(FILL)			0						
				1.2 - 5' **FILL, POORLY-GRADED SAND:** SP, 10YR2/1, black sand, small slag pieces, fine, dry.										
			2					0						
			3		(FILL) SP									
			4											
2 CS	60 30		5	5 - 10' **FILL, WELL-GRADED GRAVEL:** GW, GRAVEL - 10YR3/2, well graded gravel, 5-25% clay, wet, trace wood, 20-30% poorly graded sand, clay content increases with depth, sheen on outside of core.										
			6					0						
			7		(FILL) GW			0						
			8											
			9											
3 CS	60 24		10	10 - 11' **FILL, LEAN CLAY:** CL, soft, 10YR5/2, moist, 0-10% fine gravel.	(FILL) CL									
			11	11 - 11.5' **WELL-GRADED GRAVEL:** GW, 10YR3/2, well graded gravel, 5-25% clay, wet, trace wood, 20-30% poorly graded sand, clay content	GW CL			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB115

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				increases with depth. 11.5 - 15' **LEAN CLAY:** CL, soft, 10YR5/2, moist, 0-10% fine gravel. *(continued)*				0						
			13											
					CL									
			14											
			15	15 - 20' **LEAN CLAY:** CL, soft, 10YR5/2 grades to 10YR4.3 at bottom, moist, 0-10% fine to coarse gravel.										
4 CS	60 23													
			16					0						
			17											
					CL									
			18											
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB116

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/14/2017	11/14/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,638 N, 2,559,714 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 35		1	0 - 0.2' **FILL, WOOD:** WOOD, with gravel pieces.	(FILL) WOOD									
				0.2 - 0.5' **FILL, POORLY-GRADED SAND:** SP, black sand, 10YR2/1. dry.	(FILL) SP									
				0.5 - 1' **FILL, CONCRETE**.	(FILL)			0						
			2	1 - 5' **FILL, POORLY-GRADED SAND:** SP, poorly graded sand, 10-30% gravel, fine with coarse sand layers, more coarse sand near bottom, black sand, 10YR2/1 with some 10YR6/2 layers.				0						
			3		(FILL) SP									
			4											
2 CS	60 29		5	5 - 7.5' **FILL, CLAYEY GRAVEL:** GC, moist to wet, 10YR3/2, well graded gravel, trace sheen in wet area.										
			6		(FILL) GC			0						
			7					0						
			8	7.5 - 10' **FILL, GRAVELLY LEAN CLAY:** (CL)g, soft, moist, 10YR3/2.										
			9		(FILL) (CL)g									
3 CS	60 48		10	10 - 15' **FILL, CLAYEY GRAVEL:** GC, well graded gravel, wet, sheen throughout, faint odor, 10YR3/2, ceramic and glass pieces.										
			11		(FILL) GC			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB116

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10 - 15' **FILL, CLAYEY GRAVEL:** GC, well graded gravel, wet, sheen throughout, faint odor, 10YR3/2, ceramic and glass pieces. *(continued)*	(FILL) GC			0						
			13					0						
			14					0						
4 CS	60 41		15	15 - 17.5' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, well graded sand and gravel, saturated, 10YR3/2, sheen along, fine to coarse sand, 10-20% silty clay, faint to strong odor.	(FILL) (GW)s									
			16					0.75						
			17											
			18	17.5 - 18' **FILL, SILTY CLAY** CL/ML, soft, 10YR5/2, trace sand and organics, faint to strong odor.	(FILL) CL/ML			0.85						
			19	18 - 20' **PEAT (AMORPHOUS):** PT, 10YR4/2, organics, moist.	PT									
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB117

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/13/2017	11/13/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,052 N, 2,559,533 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 40			0 - 9.2' **FILL, SILTY SAND:** SM, 10YR2/2, gravel, trace coal, grey green gravel at 9 ft.	(FILL) SM									
			1					0						
			2											
			3					0						
			4											
2 CS	60 32		5					0						
			6											
			7					0						
			8											
			9					22.55						
				9.2 - 13.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, moist to wet, sheen, odor.	(FILL) (SP)g									
3 CS	60 45		10											
			11					13.25						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB117

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9.2 - 13.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, moist to wet, sheen, odor. *(continued)*	(FILL) (SP)g			14.5						
			13											
				13.5 - 15' **PEAT (AMORPHOUS):** PT, 10YR4/6, dry.	PT									
			14											
			15											
4 CS	60 52			15 - 20' **POORLY-GRADED SAND:** SP, 10YR5/1, wet.	SP			0						
			16											
			17					0						
			18											
			19					0						
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB118

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/13/2017	11/13/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,954 N, 2,559,502 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 16			0 - 12.5' **FILL, POORLY-GRADED SAND:** SP, 10YR3/2, trace silt and gravel, trace coke, wood chips at 4.8 ft, moist at 10 ft.										
			1					0						
			2											
			3					0						
			4											
2 CS	60 20		5					0						
			6		(FILL) SP									
			7					0						
			8											
			9					0						
3 CS	60 32		10											
			11					1.15						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
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NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB118

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				12.5 - 13.4' **FILL, POORLY-GRADED SAND:** SP, 10YR2/1, trace gravel, sheen, slight odor.	(FILL) SP			0.1						
			13	13.4 - 14' **FILL, SILTY CLAY** CL/ML, 10YR2/1, trace wood chips.	(FILL) CL/ML									
			14	14 - 14.8' **PEAT (AMORPHOUS):** PT, 10YR4/6, dry.	PT									
4 CS	60 55		15	14.8 - 19.5' **SANDY LEAN CLAY:** s(CL), 10YR5/1, moist to wet.				0						
			16											
			17		s(CL)			0						
			18											
			19					0						
			20	19.5 - 20' **POORLY-GRADED SAND:** SP, 10YR5/1, moist.	SP									
				20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB119

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/13/2017	11/13/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,876 N, 2,559,442 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 18		1	0 - 8.7' **FILL, SILTY SAND:** SM, 10YR2/2, trace gravel, wood chips at 5 ft, brick at 7.5 ft, trace coal.	(FILL) SM			0						
			2											
			3											
			4											
2 CS	60 30		5					0						
			6											
			7					0						
			8											
			9	8.7 - 10.9' **FILL, LEAN CLAY:** CL, 10YR4/4, trace sand.	(FILL) CL									
3 CS	60 40		10											
			11	10.9 - 14' **FILL, POORLY-GRADED GRAVEL:** GP, trace sand, wet.	(FILL) GP			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB119

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10.9 - 14' **FILL, POORLY-GRADED GRAVEL:** GP, trace sand, wet. *(continued)*	(FILL) GP			0						
			13											
			14	14 - 15.5' **PEAT (AMORPHOUS):** PT, 10YR4/6, dry.	PT			0						
4 CS	60 50		15											
			16	15.5 - 19.3' **POORLY-GRADED SAND:** SP, 10YR5/1, trace gravel, moist.	SP									
			17											
			18											
			19											
				19.3 - 20' **SANDY LEAN CLAY:** s(CL), 10YR5/1, moist.	s(CL)									
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB120

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/13/2017	11/13/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,177 N, 2,559,411 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 30		1	0 - 8.5' **FILL, SILTY SAND:** SM, 10YR2/2, trace gravel, trace bricks.	(FILL) SM			0						
			2											
			3											
			4											
2 CS	60 30		5					0						
			6											
			7					0.3						
			8											
			9	8.5 - 12.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, slight sheen, odor, moist to wet.	(FILL) (SP)g									
3 CS	60 50		10											
			11					0.9						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB120

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				12.5 - 14.5' **PEAT (AMORPHOUS):** PT, 10YR4/6, dry.	PT			0						
			13											
			14											
				14.5 - 20' **LEAN CLAY:** CL, 10YR6/1, moist.	CL									
4 CS	60 50		15					0						
			16											
			17					0						
			18											
			19					0						
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB121

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/14/2017	11/14/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,292 N, 2,559,508 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 35		0	0 - 5' **FILL, POORLY-GRADED SAND:** SP, 10YR4/1, poorly graded black sand, trace fine gravel and wood pieces, trace organics, moist.	(FILL) SP			0 0.05						
2 CS	60 28		5	5 - 13' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, mix of 10YR4/4 and 10YR6/4, mainly coarse, trace organics, oil wetted with strong odor from 7.5 to 13 ft, moist, wet at 10ft.	(FILL) (GP)s			6.5 12.75						
3 CS	60 48		10					0						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB121

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					(FILL) (GP)s			0						
			13	13 - 20.5' **PEAT (AMORPHOUS):** PT, 10YR3/2, organics, moist.				0						
			14					0						
3 CS	60 13		15											
			16					0						
			17		PT									
			18											
			19											
5 CS	60 60		20											
			21	20.5 - 21.5' **LEAN CLAY:** CL, soft, 10-30% sand, increase with depth, moist.	CL									
			22	21.5 - 25' **CLAYEY SAND:** SC, 10YR5/1, shells on top, soft, moist.										
			23		SC									
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB122

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/13/2017	11/13/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,945 N, 2,559,703 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 38		1	0 - 3.9' **FILL, COAL:** COAL, black.	(FILL) COAL			0						
			2											
			3					0						
			4	3.9 - 8.5' **FILL, POORLY-GRADED SAND:** SP, 10YR6/4, trace gravel, piece of blue stained concrete at 4.2 ft, moist at 7 ft.	(FILL) SP									
2 CS	60 27		5					0						
			6											
			7					0						
			8											
			9	8.5 - 12.5' **FILL, SILTY CLAY** CL/ML, 10YR2/2, trace gravel and wood chips, moist.	(FILL) CL/ML									
3 CS	60 30		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB122

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			13	12.5 - 14.7' **PEAT (AMORPHOUS):** PT, 10YR4/6, dry.	PT									
			14											
4 CS	60 45		15	14.7 - 15.5' **SILTY CLAY** CL/ML, 10YR3/2, shells, dry.	CL/ML									
			16	15.5 - 20' **POORLY-GRADED SAND:** SP, 10YR5/1, shell, wet.	SP			0						
			17											
			18											
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB123

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/15/2017	11/15/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 377,132 N, 2,559,645 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 27			0 - 0.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR5/4.	(FILL) (GP)s									
			1	0.5 - 0.7' **FILL, WOOD:** WOOD, wood chips.	(FILL) WOOD									
				0.7 - 8' **FILL, POORLY-GRADED SAND:** SP, 10YR2/1, trace gravel and brick, wet at 8 ft.				0						
			2											
			3											
			4		(FILL) SP									
2 CS	60 32		5					0						
			6											
			7					0						
			8	8 - 9.8' **FILL, SILTY CLAY** CL/ML, 10YR2/2, moist.										
			9		(FILL) CL/ML									
3 CS	60 28		10	9.8 - 10' **FILL, SANDY SILT:** s(ML), 10YR2/1, gravel from 9.8 to 10 ft with sheen and odor.	(FILL) s(ML)									
			11	10 - 17.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/1, sheen (50-75%), oil staining (0-20%), odor.	(FILL) (GP)s			10.3						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

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NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB123

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10 - 17.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/1, sheen (50-75%), oil staining (0-20%), odor. *(continued)*										
			13											
			14											
4 CS	60 55		15		(FILL) (GP)s			8.2						
			16											
			17					0						
				17.5 - 17.9' **FILL, SILTY CLAY** CL/ML, 10YR3/4.	(FILL) CL/ML									
			18	17.9 - 20' **PEAT (AMORPHOUS):** PT, 10YR3/3, shells, dry.										
			19		PT			0						
5 CS	60 0		20	20 - 25' **NO RECOVERY**.										
			21											
			22											
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB124

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/15/2017	11/15/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,915 N, 2,559,685 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 28		0	0 - 1.1' **FILL, POORLY-GRADED SAND:** SP, 10YR2/1, trace gravel, piece of blue concrete at 0.3 ft.	(FILL) SP									
			1	1.1 - 1.3' **FILL, WOOD:** WOOD, wood chips.	(FILL) WOOD			0						
			1.3	1.3 - 4.5' **FILL, SANDY SILT:** s(ML), 10YR2/1, trace wood chips and gravel.	(FILL) s(ML)									
2 CS	60 32		4.5	4.5 - 9' **FILL, POORLY-GRADED SAND:** SP, 10YR2/1, trace gravel and silt, slight sheen and odor from 5 to 9 ft, wet.	(FILL) SP			0 0						
3 CS	60 24		9	9 - 13.7' **FILL, SILTY CLAY** CL/ML, 10YR5/3, trace shells, moist.	(FILL) CL/ML			0						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB124

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9 - 13.7' **FILL, SILTY CLAY** CL/ML, 10YR5/3, trace shells, moist. *(continued)*	(FILL) CL/ML									
			13											
			14	13.7 - 16.2' **PEAT (AMORPHOUS):** PT, 10YR3/3, dry.										
4 CS	60 24		15		PT			0						
			16											
				16.2 - 20' **PEAT (AMORPHOUS):** PT, 10YR4/1, shells.										
			17					0						
			18		PT									
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB125

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/15/2017	11/15/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,695 N, 2,559,682 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 38		0	0 - 7' **FILL, POORLY-GRADED SAND:** SP, 10YR2/1, trace gravel and brick, coal from 4.6 to 5.2 ft.	(FILL) SP			0						
			1											
			2											
			3					0						
			4											
2 CS	60 40		5					0						
			6											
			7	7 - 7.5' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/6, trace gravel, moist.	(FILL) s(CL)			0						
			8	7.5 - 9.6' **FILL, SILTY CLAY** CL/ML, 10YR5/4, moist.	(FILL) CL/ML									
			9											
3 CS	60 24		10	9.6 - 13.5' **FILL, SILTY SAND:** SM, 10YR2/1, trace wood chips, trace clay.	(FILL) SM									
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB125

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9.6 - 13.5' **FILL, SILTY SAND:** SM, 10YR2/1, trace wood chips, trace clay. *(continued)*	(FILL) SM									
			13											
				13.5 - 15' **PEAT (AMORPHOUS):** PT, 10YR4/1, shells.	PT									
			14											
			15											
4 CS	60 0			15 - 20' **NO RECOVERY**.				0						
			16											
			17											
			18											
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB126

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/15/2017	11/15/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,371 N, 2,559,654 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 32		0	0 - 7.7' **FILL, POORLY-GRADED SAND:** SP, 10YR2/1, trace gravel, trace coal, brick from 0.2 to 0.5 ft, fill.	(FILL) SP			0						
2 CS	60 35		5					0						
			7					0						
			8	7.7 - 8.5' **FILL, POORLY-GRADED GRAVEL:** GP, 10YR8/1, trace sand, moist.	(FILL) GP									
3 CS	60 30		9	8.5 - 13.6' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/1, sheen (25-50%) with odor, wet.	(FILL) (GP)s			0						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB126

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				8.5 - 13.6' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/1, sheen (25-50%) with odor, wet. *(continued)*	(FILL) (GP)s									
			13											
			14	13.6 - 13.8' **FILL, WOOD:** WOOD, wood chips, wet.	(FILL) WOOD									
				13.8 - 14.1' **FILL, SILTY CLAY** CL/ML, 10YR3/1, moist.	(FILL) CL/ML									
4 CS	60 0		15	14.1 - 15' **PEAT (AMORPHOUS):** PT, 10YR3/3, dry.	PT									
				15 - 20' **NO RECOVERY**.										
			16											
			17											
			18											
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB127

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/15/2017	11/15/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 375,924 N, 2,559,599 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 40			0 - 0.8' **FILL, SILTY SAND:** SM, 10YR4/4. gravel, fill, trace wood chips, dry.	(FILL) SM									
			1	0.8 - 5.4' **FILL, COAL:** COAL, black, coke, trace sand and gravel.				0						
			2											
			3		(FILL) COAL			0						
			4											
2 CS	60 35		5					0						
			6	5.4 - 13.7' **FILL, SILTY SAND:** SM, 10YR2/2, trace gravel, sheen (25-50%) and odor at 9.5 ft, wet at 9.5 ft.										
			7					0						
			8											
			9		(FILL) SM									
3 CS	60 42		10											
			11					1.4						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB127

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				5.4 - 13.7' **FILL, SILTY SAND:** SM, 10YR2/2, trace gravel, sheen (25-50%) and odor at 9.5 ft, wet at 9.5 ft. *(continued)*	(FILL) SM			0.3						
			13											
			14	13.7 - 13.9' **FILL, SANDY LEAN CLAY:** s(CL), 10YR2/2, odor, wet.	(FILL) s(CL)									
				13.9 - 16.1' **PEAT (AMORPHOUS):** PT, 10YR4/6, dry.										
4 CS	60 30		15		PT			0						
			16											
				16.1 - 20' **POORLY-GRADED SAND:** SP, 10YR5/1, trace gravel, clay from 19 to 19.3 ft, moist.										
			17					0						
			18		SP									
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB128

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/15/2017	11/15/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,864 N, 2,559,728 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 48		1	0 - 4.2' **FILL, SILTY SAND:** SM, 10YR2/1, coal, wood chips at 0.4 ft, trace gravel, trace organics.	(FILL) SM			0						
			2											
			3					0						
			4	4.2 - 6.5' **FILL, SILTY CLAY** CL/ML, 10YR3/6, trace sand, moist.	(FILL) CL/ML									
2 CS	60 32		5					0						
			6											
			7	6.5 - 8.7' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR4/2, slight sheen (5-10%), wet.	(FILL) (GP)s			0						
			8											
			9	8.7 - 9.2' **FILL, SILT:** ML, 10YR4/2, trace sand, moist.	(FILL) ML									
				9.2 - 9.5' **FILL, SILTY CLAY** CL/ML, 10YR3/6, moist.	(FILL) CL/ML									
			10	9.5 - 10.3' **FILL, POORLY-GRADED SAND:** SP, 10YR5/1, wet.	(FILL) SP									
3 CS	60 46			10.3 - 18.1' **FILL, SILTY CLAY** CL/ML, 10YR3/1, gravel from 13.2 to 13.5 ft, wood chips from 14 to 14.1 ft, moist.	(FILL) CL/ML									
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB128

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10.3 - 18.1' **FILL, SILTY CLAY** CL/ML, 10YR3/1, gravel from 13.2 to 13.5 ft, wood chips from 14 to 14.1 ft, moist. *(continued)*										
			13					0						
			14											
4 CS	60 18		15		(FILL) CL/ML			0						
			16											
			17											
			18	18.1 - 20' **PEAT (AMORPHOUS):** PT, 10YR4/1, shells.										
			19		PT									
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB129

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/15/2017	11/15/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,248 N, 2,559,604 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 35		1	0 - 8.7' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR3/2, trace coal and brick, sheen at 7 ft, slight odor from 5 to 10 ft, wet at 7 ft.	(FILL) (GP)s			0						
			2											
			3					0						
			4											
2 CS	60 28		5					0						
			6											
			7					0						
			8											
			9	8.7 - 8.9' **FILL, WOOD:** WOOD, wood chips, sheen (5-10%), wet.	(FILL) WOOD									
			10	8.9 - 14.5' **FILL, SILTY SAND:** SM, 10YR2/1, trace gravel, sheen (20-30%), slight odor, organics at 12 ft, wet.	(FILL) SM									
3 CS	60 32		11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB129

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				8.9 - 14.5' **FILL, SILTY SAND:** SM, 10YR2/1, trace gravel, sheen (20-30%), slight odor, organics at 12 ft, wet. *(continued)*	(FILL) SM									
			13											
			14											
4 CS	60 56		15	14.5 - 17' **PEAT (AMORPHOUS):** PT, 10YR3/3, dry.	PT			0						
			16											
			17	17 - 20' **PEAT (AMORPHOUS):** PT, 10YR4/1, shells, dry.	PT			0						
			18											
			19					0						
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB130

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/15/2017	11/15/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,753 N, 2,559,708 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 30		1	0 - 7.7' **FILL, POORLY-GRADED SAND:** SP, 10YR3/2, trace gravel and coal, trace bricks, wet at 7.5 ft.	(FILL) SP			0						
			2											
			3											
			4											
2 CS	60 30		5					0						
			6											
			7					0						
			8	7.7 - 8.7' **FILL, WOOD:** WOOD, wood chips, wet.	(FILL) WOOD									
			9	8.7 - 10' **PEAT (AMORPHOUS):** PT, 10YR3/3, dry.	PT									
3 CS	60 39		10	10 - 10.8' **POORLY-GRADED SAND:** SP, 10YR5/1, moist.	SP									
			11	10.8 - 15' **LEAN CLAY:** CL, 10YR5/1.	CL			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB130

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10.8 - 15' **LEAN CLAY:** CL, 10YR5/1. *(continued)*										
			13		CL			0						
			14											
			15	15' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB131

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/16/2017	11/16/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,294 N, 2,559,486 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 45			0 - 8.2' **FILL, SILTY SAND:** SM, 10YR2/2, trace gravel and bricks, fill, dry.										
			1					0						
			2											
			3					0						
			4		(FILL) SM									
2 CS	60 24		5					0						
			6											
			7					0						
			8	8.2 - 14.2' **FILL, POORLY-GRADED SAND:** SP, 10YR3/6, trace gravel, sheen (10-20%) and odor at 12 ft, wet at 12 ft.										
			9											
3 CS	60 30		10		(FILL) SP									
			11					0.8						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB131

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				8.2 - 14.2' **FILL, POORLY-GRADED SAND:** SP, 10YR3/6, trace gravel, sheen (10-20%) and odor at 12 ft, wet at 12 ft. *(continued)*	(FILL) SP									
			13											
			14											
				14.2 - 14.5' **FILL, WOOD:** WOOD, wood chips, sheen (5-10%), odor, wet.	(FILL) WOOD									
4 CS	60 26		15	14.5 - 17' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, sheen (20-35%), odor, wet.	(FILL) SP			0.1						
			16											
			17	17 - 17.8' **FILL, SILTY CLAY** CL/ML, 10YR2/1, sheen (5-10%), odor, moist.	(FILL) CL/ML			0.8						
			18	17.8 - 18.5' **PEAT (AMORPHOUS):** PT, 10YR3/3, dry.	PT									
			19	18.5 - 20' **PEAT (AMORPHOUS):** PT, 10YR4/1, shells, dry.	PT									
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB132

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/16/2017	11/16/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 377,571 N, 2,559,540 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 42			0 - 0.6' **FILL, LEAN CLAY:** CL, 10YR4/4, trace gravel, dry.	(FILL) CL									
			1	0.6 - 1.7' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR8/1, dry.	(FILL) (GP)s			0						
			2	1.7 - 14.2' **FILL, SILTY CLAY** CL/ML, 10YR4/1, trace gravel, slight odor, moist at 9 ft.										
			3					0						
			4											
2 CS	60 45		5					0						
			6											
			7		(FILL) CL/ML			7.6						
			8											
			9											
3 CS	60 45		10											
			11					1.8						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
K Umbel	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB132

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				1.7 - 14.2' **FILL, SILTY CLAY** CL/ML, 10YR4/1, trace gravel, slight odor, moist at 9 ft. *(continued)*										
			13		(FILL) CL/ML			9.05						
			14											
				14.2 - 16.5' **FILL, POORLY-GRADED SAND:** SP, 10YR4/1, trace gravel, slight odor, moist.										
4 CS	60 24		15		(FILL) SP			0						
			16											
				16.5 - 16.9' **FILL, LEAN CLAY:** CL, 10YR3/1, trace silt, moist.	(FILL) CL									
			17	16.9 - 19.7' **LEAN CLAY:** CL, 10YR4/3, trace peat, trace shells, dry.				0						
			18		CL									
			19											
			20	19.7 - 20' **POORLY-GRADED SAND:** SP, 10YR4/3, trace shells.	SP									
				20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB60

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/7/2017	11/7/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 377,636 N, 2,559,451 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36			0 - 0.8' **FILL, CLAYEY SAND:** SC, 10YR4/3, some coarse gravel, moist, loose.	(FILL) SC									
			1	0.8 - 4' **FILL, SILTY CLAY** CL/ML, 10YR5/2, some coarse gravel, firm, dry.	(FILL) CL/ML									
			2											
			3											
			4	4 - 8.5' **FILL, WELL-GRADED GRAVEL WITH SAND:** (SW)g, 10YR2/2, well graded gravel, trace crushed red brick, trace wood, moist, loose.										
2 CS	60 21		5											
			6		(FILL) (SW)g									
			7											
			8											
			9	8.5 - 9' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR6/1, wet, loose.	(FILL) (SP)g									
				9 - 13' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR3/2, wet, loose.										
3 CS	60 42		10		(FILL) (SP)g									
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB60

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9 - 13' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR3/2, wet, loose. *(continued)*	(FILL) (SP)g									analytical sample taken 11-13 feet bgs
			13	13 - 17' **LEAN CLAY:** CL, 10YR6/2, moist, very soft.										
			14											
4 CS	60 54		15		CL									
			16											
			17	17 - 20' **SILT:** ML, 10YR4/2, trace shells, moist, soft.										
			18		ML									
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB61

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/7/2017	11/7/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 377,614 N, 2,559,495 E S / C /Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 45			0 - 0.5' **FILL, SILTY SAND:** SM, 10YR2/2, trace gravel, wet, soft.	(FILL) SM									
			1	0.5 - 3' **FILL, SANDY LEAN CLAY:** s(CL), 10YR6/4, some fine gravel, hard, dry.	(FILL) s(CL)			0						
			2					0						
			3	3 - 4.5' **FILL, CLAYEY SAND:** SC, 10YR2/2, some fine gravel, firm, moist.	(FILL) SC			0						
			4											
			5	4.5 - 5' **FILL, POORLY-GRADED SAND:** SP, 10YR6/4, coarse, moist, loose.	(FILL) SP									
2 CS	60 39			5 - 8' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/2, some fine gravel, hard, dry.	(FILL) s(CL)									
			6					0						
			7					0						
			8	8 - 8.2' **FILL, POORLY-GRADED SAND:** SP, 10YR6/4, coarse, moist, loose.	(FILL) SP			0.8						
			9	8.2 - 9' **FILL, SILTY CLAY** CL/ML, 10YR6/3, very soft, wet.	(FILL) CL/ML									
3 CS	60 45		10	9 - 13' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, poorly graded, wet, loose, odor, sheen (5-25%) from 12-13 ft.	(FILL) SP									
			11					0.45						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB61

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9 - 13' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, poorly graded, wet, loose, odor, sheen (5-25%) from 12-13 ft. *(continued)*	(FILL) SP			1.65						
			13	13 - 13.5' **FILL, SILTY CLAY** CL/ML, 10YR2/2 grades to 10YR4/1, very soft, wet.	(FILL) CL/ML			0.55						analytical sample taken at 12-14 feet bgs
			14	13.5 - 17' **FILL, WELL-GRADED GRAVEL WITH SAND:** (SW)g, 10YR4/1, well graded fine gravel, loose, wet.										
4 CS	60 24		15		(FILL) (SW)g									
			16					0.4						
			17	17 - 20' **SILTY CLAY** CL/ML, 10YR4/2, trace shells, soft, moist.				0						
			18											
					CL/ML									
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB62

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/1/2017	11/1/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 377,529 N, 2,559,561 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 45			0 - 0.4' **FILL, ORGANIC SILT:** OL, 10YR2/2, soft, moist.	(FILL) OL									
			1	0.4 - 1' **FILL, LEAN CLAY:** CL, 10YR6/3, hard, moist.	(FILL) CL			0						
			2	1 - 8' **FILL, SANDY LEAN CLAY:** s(CL), 10YR5/1, trace fine gravel, very soft, moist, 5-15% sheen from 5-8 ft, odor 5-8 ft.				0						
			3					0						
			4		(FILL) s(CL)									
2 CS	60 36		5											
			6					0.15						
			7											
			8	8 - 9.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, 10-25% sheen 9.5 to 10.5 ft, moist to wet, odor, loose.	(FILL) (SP)g			0.2						
			9											
3 CS	60 36		10	9.5 - 13' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, 10-25% sheen 9.5 to 10.5 ft, moist to wet, odor, loose.										
			11		(FILL) (SP)g			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB62

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9.5 - 13' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, 10-25% sheen 9.5 to 10.5 ft, moist to wet, odor, loose. *(continued)*	(FILL) (SP)g									
			13	13 - 20' **FILL, SANDY LEAN CLAY:** s(CL), 10YR5/1, grades to 10YR 2/2, trace gravel, soft, moist.				0						
			14											
4 CS	60 24		15											
			16		(FILL) s(CL)			0						
			17					0						
			18											
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB63

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/8/2017	11/8/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 377,490 N, 2,559,582 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 26			0 - 3.9' **FILL, CLAYEY SAND:** SC, 10YR4/1, trace well graded gravel, soft, moist.										
			1					0						
			2		(FILL) SC			0						
			3											
			4	3.9 - 4.1' **FILL, CONCRETE**.	(FILL)									
				4.1 - 12' **FILL, CLAYEY SAND:** SC, 10YR4/1, trace well graded gravel, soft, moist.										
2 CS	60 43		5											
			6					0						
			7					0						
			8		(FILL) SC			5.45						wet at 7.5 feet bgs
			9											
3 CS	60 36		10											
								0						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB63

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
4 CS	60 42			12 - 15.5' **FILL, WELL-GRADED GRAVEL WITH SAND:** (SW)g, 10YR2/2, low odor, trace gravel, loose, wet.	(FILL) (SW)g			0 0						
				15.5 - 16.5' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.	PT			0						
				16.5 - 20' **SANDY SILT:** s(ML), 10YR5/2, trace shells, soft, moist.	s(ML)			0 0						
				20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB64

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/8/2017	11/8/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 377,445 N, 2,559,560 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 35			0 - 0.5' **FILL, CONCRETE**.	(FILL)									
			1	0.5 - 1.5' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/3, trace gravel, hard, dry.	(FILL) s(CL)			0						
			2	1.5 - 2.5' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR4/1, well graded fine gravel, loose, dry.	(FILL) (GW)s			0						
			3 4	2.5 - 5' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/3, trace gravel, very soft, moist.	(FILL) s(CL)									
2 CS	60 23		5 6 7 8 9	5 - 20' **FILL, CLAYEY SAND:** SC, 10YR3/2, some gravel, very soft, wet.	(FILL) SC			0						
3 CS	60 16		10 11 12					0						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB64

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
4 CS	60 17		13	5 - 20' **FILL, CLAYEY SAND:** SC, 10YR3/2, some gravel, very soft, wet. *(continued)*	(FILL) SC			0						
			14											
			15											
			16											
			17											
			18											
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB65

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/1/2017	11/1/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 377,489 N, 2,559,508 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 42			0 - 0.4' **FILL, CONCRETE**.	(FILL)									
			1	0.4 - 1.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR3/2, poorly graded fine gravel, trace slag, loose, moist.	(FILL) (SP)g			0						
			2	1.5 - 7' **FILL, SANDY LEAN CLAY:** s(CL), 10YR5/3, trace slag, trace 10YR5/6 mottling, trace crushed tan brick, soft, moist to wet.				0						
			3					0						analytical sample taken 2-4 feet bgs
			4		(FILL) s(CL)									
2 CS	60 42		5											
			6					0						
			7	7 - 20' **FILL, SANDY LEAN CLAY:** s(CL), 10YR2/2, trace gravel, gravel increases with depth, sheen at 9.5 to 9.6 ft and 10 to 12 ft, some wood chips 18 to 19 ft, moist.				0						
			8					3.15						
			9		(FILL) s(CL)									
3 CS	60 50		10											wet at 10 feet bgs
			11					0.75						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB65

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				7 - 20' **FILL, SANDY LEAN CLAY:** s(CL), 10YR2/2, trace gravel, gravel increases with depth, sheen at 9.5 to 9.6 ft and 10 to 12 ft, some wood chips 18 to 19 ft, moist. *(continued)*										
			13					1.5						
			14											
4 CS	60 24		15											
			16		(FILL) s(CL)			0						
			17					0						
			18											
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB66

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/10/2017	11/10/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 377,317 N, 2,559,691 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 42			0 - 0.5' **FILL, WELL-GRADED GRAVEL:** GW, 10YR7/1, well graded, loose, dry.	(FILL) GW									
			1	0.5 - 4' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace crushed red and tan bricks, trace clay, loose, moist.				0						
			2		(FILL) SP			0						
			3					0						
			4	4 - 20' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR3/1, sheen (5-25%) from 10 to 15 ft, soft, moist, wet at 9.5ft.										
2 CS	60 44		5											
			6					0						
			7					0						
			8		(FILL) (CL)g			0						
			9											
3 CS	60 13		10											wet at 9.5 feet bgs
			11					1.8						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB66

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				4 - 20' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR3/1, sheen (5-25%) from 10 to 15 ft, soft, moist, wet at 9.5ft. *(continued)*										
			13											
			14											
4 CS	60 19		15											
			16		(FILL) (CL)g			0						
			17											
			18											
			19											
5 CS	60 0		20	20 - 25' NO RECOVERY.										
			21											
			22											
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB67

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/8/2017	11/8/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 377,312 N, 2,559,488 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 40		0	0 - 5' **FILL, CLAYEY SAND:** SC, 10YR4/2, concrete at 0.4 to 0.6 ft and 2.4 to 2.5 ft, soft, moist to wet.	(FILL) SC			0						
			1											
			2					0						
			3					0						
			4											
2 CS	60 27		5	5 - 10.5' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR2/2, well graded gravel, very soft, wet.	(FILL) (CL)g			0						
			6											
			7					0						
			8											
			9											
3 CS	60 48		10	10.5 - 14' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/1, soft, wet.	(FILL) s(CL)									
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB67

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10.5 - 14' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/1, soft, wet. *(continued)*	(FILL) s(CL)									
			13					0						
			14	14 - 20' **SANDY SILT:** s(ML), 10YR4/2, trace shells, soft, moist.				0						
4 CS	60 29		15											
			16					0						
			17		s(ML)			0						
			18											
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB68

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/8/2017	11/8/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 377,309 N, 2,559,416 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36		0	0 - 5.5' **FILL, CLAYEY SAND:** SC, 10YR2/2, trace well graded gravel, loose, moist.	(FILL) SC									
2 CS	60 43		5	5.5 - 7' **FILL, CLAYEY GRAVEL:** GC, 10YR5/2, well graded gravel coarse to fine, trace crushed red brick, loose, dry.	(FILL) GC									
			7	7 - 17' **FILL, CLAYEY SAND:** SC, 10YR2/2, trace well graded gravel, loose, wet.	(FILL) SC									
3 CS	60 14		10											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB68

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				7 - 17' **FILL, CLAYEY SAND:** SC, 10YR2/2, trace well graded gravel, loose, wet. *(continued)*	(FILL) SC									
			13											
			14											
4 CS	60 58		15											
			16											
			17	17 - 20' **SANDY SILT:** s(ML), 10YR 4/1, trace shells, soft, moist.	s(ML)									
			18											
			19											
5 CS	60 0		20	20 - 25' **NO RECOVERY**.										
			21											
			22											
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB69

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/8/2017	11/8/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 377,285 N, 2,559,602 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 29		1	0 - 1.5' **FILL, CONCRETE**.	(FILL)			0						
			2	1.5 - 4.5' **FILL, POORLY-GRADED SAND:** SP, 10YR4/2, some crushed red and tan brick, trace clay, tight, moist.				0						
			3		(FILL) SP									analytical sample taken 2-4 feet bgs
			4											
			5	4.5 - 5.5' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace fine gravel, loose, moist.	(FILL) SP									
2 CS	60 18		6	5.5 - 10.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, low odor, loose, wet.				0						
			7											
			8		(FILL) (SP)g									
			9											
			10											
3 CS	60 34		11	10.5 - 12.8' **FILL, SANDY LEAN CLAY:** s(CL), 10YR2/2, trace gravel, very soft, wet.	(FILL) s(CL)									
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB69

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10.5 - 12.8' **FILL, SANDY LEAN CLAY:** s(CL), 10YR2/2, trace gravel, very soft, wet. *(continued)*	(FILL) s(CL)									
			13	12.8 - 20' **NO RECOVERY**.										
			14											
4 CS	60 0		15											
			16											
			17											
			18											
			19											
5 CS	60 39		20	20 - 23' **FILL, SANDY LEAN CLAY:** s(CL), 10YR2/2, trace gravel, very soft, wet.	(FILL) s(CL)			0						
			21					0						
			22					0						
			23	23 - 25' **SANDY SILT:** s(ML), 10YR4/1, trace shells, soft, moist.	s(ML)			0						
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB70

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/8/2017	11/8/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 377,180 N, 2,559,422 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 35			0 - 17' **FILL, CLAYEY SAND:** SC, 10YR2/2, trace gravel, trace coke, loose, dry until 4.0 ft then moist, wet at 7.0 ft.										
			1					0						
			2					0						
			3											
			4											
2 CS	60 30		5											
			6		(FILL) SC			0						
			7					0						
			8											
			9											
3 CS	60 26		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB70

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				0 - 17' **FILL, CLAYEY SAND:** SC, 10YR2/2, trace gravel, trace coke, loose, dry until 4.0 ft then moist, wet at 7.0 ft. *(continued)*	(FILL) SC			0						
			13											
			14											
4 CS	60 31		15											
			16					0						
			17	17 - 18' **FILL, POORLY-GRADED SAND:** SP, 10YR5/1, loose, wet.	(FILL) SP			0						
			18	18 - 20' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.	PT									
			19											
5 CS	60 40		20	20 - 25' **SANDY SILT:** s(ML), 10YR4/3, trace shells, soft, moist.	s(ML)									
			21					0						
			22					0						
			23					0						
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB71

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/10/2017	11/10/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 377,227 N, 2,559,747 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 42		0	0 - 6' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, trace fine gravel, crushed concrete at 0.2 to 0.7 ft, trace coke, tight dry.	(FILL) (SP)g			0						
			1					0						
			2					0						
			3					0						
			4											
2 CS	60 36		5											
			6	6 - 18' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR3/1, well graded fine gravel, firm, moist, wet at 8.5 ft.	(FILL) (CL)g			0						
			7					0						
			8					0						
			9											
3 CS	60 22		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB71

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				6 - 18' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR3/1, well graded fine gravel, firm, moist, wet at 8.5 ft. *(continued)*				0						
			13											
			14											
4 CS	60 30		15		(FILL) (CL)g									
			16					0						
			17					0						
			18	18 - 23' **PEAT (AMORPHOUS):** PT, 10YR4/4, trace shells, soft, moist.										
			19											
5 CS	60 22		20		PT									
			21					0						
			22											
			23	23 - 24' **SANDY SILT:** s(ML), 10YR4/1, trace shells, soft, moist.	s(ML)									
			24	24 - 25' **POORLY-GRADED SAND:** SP, 10YR4/1, loose, wet.	SP									
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB72

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/10/2017	11/10/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 377,120 N, 2,559,744 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 33		1	0 - 4' **FILL, WELL-GRADED SAND:** SW, 10YR4/4, crushed concrete (50%), tight, dry.	(FILL) SW			0						
			2					0						
			3											
			4	4 - 5' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR3/4, soft, moist.	(FILL) (CL)g									
2 CS	60 18		5	5 - 10.5' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR3/1, well graded fine gravel, loose, wet.	(FILL) (GW)s			0						
			6											
			7											
			8											
			9											
3 CS	60 41		10	10.5 - 17' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR4/6, gravel increases with depth, soft, wet.	(FILL) (CL)g			0						
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB72

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10.5 - 17' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR4/6, gravel increases with depth, soft, wet. *(continued)*	(FILL) (CL)g									
			13					0						
			14											
4 CS	60 42		15											
			16					0						
			17	17 - 19' **PEAT (AMORPHOUS):** PT, 10YR4/1, soft, moist.	PT			0						
			18					0						
			19	19 - 23' **SANDY SILT:** s(ML), 10YR4/1, trace shells, soft, moist.	s(ML)									
5 CS	60 41		20											
			21					0						
			22					0						
			23	23 - 24' **POORLY-GRADED SAND:** SP, 10YR4/1, trace shells, tight, wet.	SP			0						
			24	24 - 25' **SANDY LEAN CLAY:** s(CL), 10YR4/1, soft, moist.	s(CL)									
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB73

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/8/2017	11/8/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 377,045 N, 2,559,820 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36		1	0 - 3' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR3/1, some crushed concrete and crushed tan brick, firm, moist.	(FILL) (CL)g			0						
			2					0						
			3	3 - 9' **FILL, CLAYEY SAND:** SC, 10YR2/2, trace gravel and coke, loose, moist to wet.	(FILL) SC			0						
2 CS	60 19		4											
			5											
			6					0						
			7											
			8											
			9	9 - 17.5' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR4/1, very soft, wet.	(FILL) (CL)g									
3 CS	60 21		10											
			11					0.15						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB73

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9 - 17.5' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR4/1, very soft, wet. *(continued)*				0						
			13											
			14											
4 CS	60 54		15		(FILL) (CL)g									
			16					0						
			17					0						
				17.5 - 19.5' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.										
			18					0						
					PT									
			19					0						
				19.5 - 25' **SANDY SILT:** s(ML), 10YR4/1, trace shells, soft, moist.										
5 CS	60 16		20											
			21					0						
			22		s(ML)									
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB74

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/7/2017	11/7/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 377,034 N, 2,559,642 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 29		1	0 - 1.5' **FILL, WOOD:** wood chips, trace 10YR2/2 sand, loose, moist.	(FILL)			0						
			2	1.5 - 6.5' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR2/2, some crushed red/tan/cream brick, loose, moist to wet.	(FILL) (GW)s			0						
2 CS	60 36		3, 4, 5, 6					0						
			7	6.5 - 7' **SLAG**.	(FILL)									
				7 - 7.5' **FILL, WOOD:** WOOD, odor, tight, wet.	(FILL) WOOD			0.2						
			8	7.5 - 19' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/1, trace gravel, gravel increases with depth, soft, wet.	(FILL) s(CL)			0.5						
3 CS	60 22		9, 10, 11, 12					0						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
K Umbel	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB74

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				7.5 - 19' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/1, trace gravel, gravel increases with depth, soft, wet. *(continued)*				0						
			13											
			14											
4 CS	60 12		15		(FILL) s(CL)									
			16					0						
			17											
			18											
			19	19 - 25' **SANDY SILT:** s(ML), 10YR5/2, trace shells, soft, moist.										
5 CS	60 30		20											
			21					1.4						
			22		s(ML)			0						
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB75

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/7/2017	11/7/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 377,001 N, 2,559,430 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 30		0	0 - 5.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, well graded gravel, trace roots trace crushed red brick, loose, moist.	(FILL) (SP)g			0						
			1											
			2					0						
			3											analytical sample taken from 2-4 feet bgs
			4											
2 CS	60 28		5											
			6	5.5 - 9' **FILL, SANDY LEAN CLAY:** s(CL), 10YR3/2, trace wood, trace crushed red brick, low odor, soft, wet.	(FILL) s(CL)			0						
			7					0						
			8											
			9	9 - 22' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/1, trace well graded gravel, soft, wet.	(FILL) s(CL)									
3 CS	60 38		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB75

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9 - 22' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/1, trace well graded gravel, soft, wet. *(continued)*				0						
			13					0						
			14											
4 CS	60 30		15											
			16					0						
			17		(FILL) s(CL)			0						
			18											
			19											
5 CS	60 24		20											
			21					0						
			22	22 - 25' **SANDY SILT:** s(ML), 10YR6/1, trace shells, soft, moist.				0						
			23											
			24		s(ML)									
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB76

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/8/2017	11/8/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,945 N, 2,559,594 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 30		1	0 - 6' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR4/1, some crushed concrete and crushed red brick, loose, dry to moist with depth.				0						
			2					0						
			3		(FILL) (SP)g									
			4											
2 CS	60 31		5											
			6	6 - 6.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR4/1, some crushed concrete and crushed red brick, loose, wet.	(FILL) (SP)g			0.5						
			7	6.5 - 7' **FILL, WOOD:** WOOD, odor, sheen (10-50%), wet.	(FILL) WOOD			3.5						
			8	7 - 15' **FILL, LEAN CLAY:** CL, trace gravel, soft, wet.										
			9		(FILL) CL									
3 CS	60 28		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB76

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				7 - 15' **FILL, LEAN CLAY:** CL, trace gravel, soft, wet. *(continued)*	(FILL) CL			0						
			13											
			14											
			15	15 - 25' **NO RECOVERY**.										
4 CS	60 0													
			16											
			17											
			18											
			19											
			20											
5 CS	60 0													
			21											
			22											
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB77

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/9/2017	11/9/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,957 N, 2,559,754 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 32		0	0 - 1' **FILL, WELL-GRADED GRAVEL WITH SAND:** (SW)g, 10YR5/2, well graded gravel, tight, moist.	(FILL) (SW)g									
			1	1 - 19' **FILL, CLAYEY SAND:** SC, 10YR2/2, some gravel, clay content increases at 9 ft, sheen (75-100%) from 8 to 9.5 ft, odor from 8 to 10 ft, moist to wet.				0.5						
			2					24.55						
			3											
			4											
2 CS	60 38		5											
			6		(FILL) SC			35.8						
			7											
			8											
			9											
3 CS	60 30		10											
			11					1.25						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB77

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				1 - 19' **FILL, CLAYEY SAND:** SC, 10YR2/2, some gravel, clay content increases at 9 ft, sheen (75-100%) from 8 to 9.5 ft, odor from 8 to 10 ft, moist to wet. *(continued)*										
			13											
			14											
4 CS	60 28		15		(FILL) SC									
			16					0.45						
			17					0.45						
			18											
			19	19 - 21' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.										
5 CS	60 20		20		PT									
			21	21 - 25' **SANDY SILT:** s(ML), 10YR4/1, trace shells, soft, moist.				0.9						
			22											
			23		s(ML)									
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB78

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/8/2017	11/8/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,839 N, 2,559,554 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	18 0			0 - 1.5' **NO RECOVERY**.										stepped out twice
				1.5' End of Boring.										refusal due to concrete

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

Template: SOIL BORING - Project: SOLVAY EECA BORINGS GINT - COPY.GPJ

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB79

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/8/2017	11/8/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,848 N, 2,559,431 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 24		1	0 - 6' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace poorly graded fine gravel, loose, moist.	(FILL) SP			0						
			2					0						
			3											
			4											
2 CS	60 41		5											
			6	6 - 10' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR5/1, well graded gravel, soft, moist to wet.	(FILL) (CL)g			0						
			7					0						
			8					0						
			9											
3 CS	60 30		10	10 - 14.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR4/1, well graded gravel, very loose, wet.	(FILL) (SP)g									
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB79

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10 - 14.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR4/1, well graded gravel, very loose, wet. *(continued)*	(FILL) (SP)g			0						
			13											
			14											
				14.5 - 19.5' **PEAT (AMORPHOUS):** PT, 10YR4/4, trace shells, soft, moist.										
4 CS	60 28		15											
			16					0						
			17		PT			0						
			18											
			19											
				19.5 - 25' **SANDY SILT:** s(ML), 10YR5/1, trace shells, soft, moist.										
5 CS	60 30		20											
			21					0						
			22		s(ML)			0						
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB80

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/9/2017	11/9/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,818 N, 2,559,609 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 35			0 - 0.4' **FILL, CONCRETE**.	(FILL)									
			1	0.4 - 8' **FILL, CLAYEY SAND:** SC, 10YR2/2, trace crushed red brick, clay content increases with depth, sheen (25-50%) at 7.5 to 8.0 ft, odor, dry to moist.				0.3						
			2					9.4						
			3											
			4		(FILL) SC									
2 CS	60 37		5											
			6					25.9						
			7					41.3						
			8	8 - 8.2' **FILL, WELL-GRADED GRAVEL:** GW, 10YR2/2, well graded, loose, wet.	(FILL) GW									
			9	8.2 - 17' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR4/1, oil staining (50-75%) from 16 to 17 ft, free product in pore spaces, odor, moist to wet.									
3 CS	60 24		10		(FILL) (CL)g									
			11					8.8						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB80

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				8.2 - 17' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR4/1, oil staining (50-75%) from 16 to 17 ft, free product in pore spaces, odor, moist to wet. *(continued)*				27.65						
			13											
			14		(FILL) (CL)g									
4 CS	60 42		15											
			16					59.2						
			17	17 - 22' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.										
			18					4.2						
			19		PT									
5 CS	60 35		20											
			21					80.7						
			22	22 - 30' **SANDY SILT:** s(ML), 10YR4/1, trace shells, soft, moist.										
			23					1.4						
			24											
6 CS	60 43		25											
			26		s(ML)			30.2						
			27											
			28					3.05						
			29											
			30	30' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB81

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/9/2017	11/9/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,742 N, 2,559,527 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 32		1	0 - 5.2' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, trace crushed red and tan brick, trace crushed concrete, trace coke, tight, moist.	(FILL) (SP)g			0						
			2					0						
			3											
			4											
2 CS	60 30		5	5.2 - 10' **FILL, SANDY LEAN CLAY:** s(CL), 10YR7/4, trace 10YR2/2 gravel, soft, moist.										
			6					0						
			7		(FILL) s(CL)			0						
			8											
			9											
3 CS	60 34		10	10 - 17.5' **FILL, SANDY LEAN CLAY:** s(CL), 10YR3/1, some gravel, sheen (75-100%), oil staining (25-50%) from 11 to 12 ft, free product in pore spaces, soft, moist.	(FILL) s(CL)			0.55						
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB81

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10 - 17.5' **FILL, SANDY LEAN CLAY:** s(CL), 10YR3/1, some gravel, sheen (75-100%), oil staining (25-50%) from 11 to 12 ft, free product in pore spaces, soft, moist. *(continued)*				1.5						
			13											
			14											
4 CS	60 48		15		(FILL) s(CL)									
			16					20.65						
			17											
				17.5 - 22' **PEAT (AMORPHOUS):** PT, 10YR4/4, sheen (75-100%) from 17.5 to 18 ft, soft, moist.										
			18					12.4						
			19											
5 CS	60 43		20		PT									
			21					11.65						
			22	22 - 25' **SANDY SILT:** s(ML), 10YR4/1, trace shells, soft, moist.										
			23		s(ML)			1.7						
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB82

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/6/2017	11/6/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,607 N, 2,559,619 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36		0	0 - 6' **FILL, POORLY-GRADED SAND:** SP, 10YR 2/2, trace crushed gravel, trace crushed red brick, loose, moist, wet at 5.5 ft.										
			1					0.05						
			2											
			3		(FILL) SP			0.05						
			4											
2 CS	60 36		5											
			6	6 - 16' **FILL, CLAYEY SAND:** SC, 10YR2/2, trace gravel, trace wood, odor, soft, wet.				0.1						
			7											
			8					0.1						
			9		(FILL) SC									
3 CS	60 29		10											
			11					0.2						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB82

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				6 - 16' **FILL, CLAYEY SAND:** SC, 10YR2/2, trace gravel, trace wood, odor, soft, wet. *(continued)*				0.25						
			13											
			14		(FILL) SC									
4 CS	60 38		15											
			16	16 - 17' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR2/2, well graded gravel, oil coating (50-80%), emulsified (2-25%) 1-2cm, loose, wet.	(FILL) (GW)s			0.85						
			17	17 - 19' **PEAT (AMORPHOUS):** PT, 10YR4/4. NAPL impacted 17 - 17.5 ft, soft, moist.				0.15						
			18		PT									
			19	19 - 25' **SANDY LEAN CLAY:** s(CL), 10YR4/2, trace shells, soft, moist.										
5 CS	60 16		20											
			21					1						
			22		s(CL)									
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB83

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/6/2017	11/6/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,569 N, 2,559,507 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36		1	0 - 5.5' **FILL, POORLY-GRADED SAND:** SP, 10YR5/3 (40-50%) and 10YR2/2 (40-50%), coarse sand, some gravel, loose, dry.	(FILL) SP			0						
			2					0						
			3					0						
			4											
2 CS	60 36		5	5.5 - 17' **FILL, CLAYEY SAND:** SC, 10YR5/1, some fine gravel, soft to very soft, moist to wet, wet at 13 ft.	(FILL) SC									
			6					0						
			7					0						
			8					0						
			9											
3 CS	60 12		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
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NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB83

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				5.5 - 17' **FILL, CLAYEY SAND:** SC, 10YR5/1, some fine gravel, soft to very soft, moist to wet, wet at 13 ft. *(continued)*	(FILL) SC									
			13											
			14											
4 CS	60 36		15											
			16					0						
			17	17 - 20' **PEAT (AMORPHOUS):** PT, 10YR4/4. soft, moist.	PT			0						
			18					0						
			19											
5 CS	60 40		20	20 - 25' **SANDY LEAN CLAY:** s(CL), 10YR5/1, trace shells, soft, moist.	s(CL)									
			21					0						
			22					0						
			23					0						
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB84

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/1/2017	11/1/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,565 N, 2,559,387 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36		1	0 - 12' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace coke and slag, trace bluish staining at 0.5 to 0.7 ft, loose, moist to wet.	(FILL) (SP)g									analytical sample taken 2-4 feet bgs
			2											
			3											
			4											
2 CS	60 42		5											
			6											
			7											
			8											
			9											
3 CS	60 55		10											
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB84

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
4 CS	60 30		13 14 15 16 17	12 - 17' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/4, soft, low plasticity, moist.	(FILL) s(CL)									
			18 19 20	17 - 20' **PEAT (AMORPHOUS):** PT, 10YR4/4, loose, soft.	PT									
				20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB85

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/6/2017	11/6/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,520 N, 2,559,733 E S / C / (N)

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 24		1	0 - 5' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace gravel, loose, moist.	(FILL) SP			0.15						
			2					0.5						
			3											
			4											
			5											
2 CS	60 28		6	5 - 12.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded gravel, bluish staining at 6 to 6.5 and 9 to 9.5 ft, odor, loose, moist to wet, wet at 10.5ft.	(FILL) (SP)g			1.95						
			7					0.4						
			8											
			9											
3 CS	60 36		10											
			11					1.7						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
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NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB85

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
								0						
			13	12.5 - 15' **LEAN CLAY:** CL, 10YR4/3, low plasticity, soft, moist.	CL									
			14											
			15	15' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB86

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/3/2017	11/3/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,538 N, 2,559,602 E S / C / (N)

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 40		1	0 - 12.5' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace concrete, trace crushed red and tan brick, sheen (10-30%) at 11 to 12 ft, odor 11 to 12 ft, moist.				0						
			2					0						
			3					0						
			4											
2 CS	60 40		5											
			6		(FILL) SP			0						
			7					0						
			8					0						
			9											
3 CS	60 40		10											
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB86

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				12.5 - 21' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.										
			13					0						
			14											
4 CS	60 40		15											
			16					0.9						
			17		PT			0.85						
			18											
			19											
5 CS	60 42		20											
			21	21 - 25' **SILTY CLAY** CL/ML, 10YR5/1, trace shells, soft, moist.				3.6						
			22					0						
			23		CL/ML			0						
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB87

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/3/2017	11/3/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,481 N, 2,559,645 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 37			0 - 9' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace gravel, trace clay, concrete at 0.5 to 1 ft and 6 to 7 ft, loose, moist.	(FILL) SP									
			1					0						
			2					0						
			3					0						
			4											
2 CS	60 36		5											
			6					0						
			7					0						
			8					0						
			9	9 - 11' **SILTY CLAY** CL/ML, 10YR4/2, trace shells, low odor, soft, moist.	CL/ML									
3 CS	60 42		10											
			11	11 - 12.5' **POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, loose, moist to wet.	(SP)g			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB87

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
								0						
			13	12.5 - 15' **SILTY CLAY** CL/ML, 10YR4/2, trace shells, low odor, soft, moist.	CL/ML									
			14											
			15	15' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB88

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/3/2017	11/3/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,443 N, 2,559,505 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 42		1	0 - 14' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace crushed red and tan brick, piece of wood from 4.4 to 4.6 ft, some gravel (fine to coarse with depth), sheen (10-30%) from 13.5 to 14.0 ft, odor.	(FILL) SP			0						
			2					0						
			3					0						
			4					0						
2 CS	60 27		5											
			6					0						
			7					0						
			8					0						
			9											
3 CS	60 52		10											
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB88

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			13	0 - 14' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace crushed red and tan brick, piece of wood from 4.4 to 4.6 ft, some gravel (fine to coarse with depth), sheen (10-30%) from 13.5 to 14.0 ft, odor. *(continued)*	(FILL) SP			0						
			14	14 - 23' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.	PT									
4 CS	60 26		15											
			16					0						
			17					0						
			18											
			19											
5 CS	60 36		20											
			21					0						
			22					0						
			23	23 - 25' **SILTY CLAY** CL/ML, 10YR4/2, trace shells, very soft, moist.	CL/ML			0						
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB89

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/3/2017	11/3/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,406 N, 2,559,602 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 48		0	0 - 6' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, some crushed concrete and red brick, trace coke and slag, trace clay, loose, dry.	(FILL) SP			0						
			1					0						
			2					0						
			3					0						
			4					0						
2 CS	60 40		5											
			6	6 - 6.5' **BRICK**, red.	(FILL)			0						
			6.5	6.5 - 10.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, red brick from 9.5 to 9.8 ft, loose, wet.	(FILL) (SP)g			0						
			7					0						
			8					0						
			9											
3 CS	60 48		10											
			10.5	10.5 - 14.5' **FILL, SILT WITH GRAVEL:** (ML)g, 10YR6/1, trace fine gravel, very soft, moist.	(FILL) (ML)g			0						
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB89

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10.5 - 14.5' **FILL, SILT WITH GRAVEL:** (ML)g, 10YR6/1, trace fine gravel, very soft, moist. *(continued)*	(FILL) (ML)g									
			13					2.9						
			14					3.25						
				14.5 - 14.8' **FILL, WOOD:** odor, wet.	(FILL)									
4 CS	60 54		15	14.8 - 17.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, sheen (50-75%) and oil coating (10-25%) from 15 to 17.5 ft, trace free product, loose, moist to wet.	(FILL) (SP)g									
			16					3.75						
			17											
				17.5 - 23' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.	PT									
			18					7.25						
			19					1.35						
5 CS	60 54		20											
			21					0.9						
			22											
			23	23 - 25' **SILTY CLAY** CL/ML, 10YR6/1, trace shells, soft, moist.	CL/ML			0.4						
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB90

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/2/2017	11/2/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,411 N, 2,559,398 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 46			0 - 13.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, wood at 12 to 12.2 ft, loose, moist to wet.										
			1					0						
			2					0						
			3					0						
			4											
2 CS	60 30		5											
			6		(FILL) (SP)g			0						
			7					0						
			8											
			9											
3 CS	60 44		10											
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB90

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				0 - 13.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, wood at 12 to 12.2 ft, loose, moist to wet. *(continued)*	(FILL) (SP)g			0						
			13											
				13.5 - 17' **PEAT (AMORPHOUS):** PT, 10YR4/4, sheen (10-25%) at 16.7 to 17.0 ft, odor, firm, moist.										
			14											
4 CS	60 45		15		PT									
			16					0						
			17	17 - 18' **POORLY-GRADED SAND:** SP, 10YR6/1, trace gravel and shells, loose, wet.	SP			0						
			18	18 - 20' **LEAN CLAY:** CL, 10YR6/1, firm, moist.				0						
			19		CL									
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB91

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/2/2017	11/2/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,353 N, 2,559,508 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36			0 - 0.7' **FILL, SILTY SAND:** SM, crushed stone, some crushed tan brick, loose, moist.	(FILL) SM									
			1	0.7 - 10' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace clay, trace slag and coke, color change to 10YR4/3 at 7 ft, loose, moist.				0						
			2					0						
			3					0						
			4											
2 CS	60 40		5		(FILL) (SP)g									
			6					0						
			7					0						
			8					0						
			9											
3 CS	60 42		10	10 - 13.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR4/3, poorly graded fine gravel, trace clay, trace slag and coke, sheen (50-75%) from 12.5 to 13.5 ft, odor, loose, moist.	(FILL) (SP)g			5.6						
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB91

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10 - 13.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR4/3, poorly graded fine gravel, trace clay, trace slag and coke, sheen (50-75%) from 12.5 to 13.5 ft, odor, loose, moist. *(continued)*	(FILL) (SP)g			2.45						
			13											
				13.5 - 13.7' **FILL, WOOD:** WOOD, odor, wet.	(FILL) WOOD									
			14	13.7 - 14.2' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace clay, trace slag and coke, loose, moist.	(FILL) (SP)g									
4 CS	60 24		15	14.2 - 20.5' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.										
			16					0						
			17		PT			0						
			18											
			19											
5 CS	60 48		20											
			21	20.5 - 25' **SANDY LEAN CLAY:** s(CL), 10YR6/1, trace shells, soft, moist.				0						
			22					0						
			23		s(CL)			0						
			24					0						
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB92

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/2/2017	11/2/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,279 N, 2,559,401 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 43		1	0 - 5' **FILL, POORLY-GRADED SAND:** SP, 10YR6/3, 10YR2/2 at various depths (0.0 to 0.1 ft and 1.5 to 2.0 ft), trace well graded fine to coarse gravel, loose, moist.	(FILL) SP			0						
			2					0						
			3					0						
			4											
			5											
2 CS	60 33		6	5 - 12.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, some wood chips and concrete, odor.	(FILL) (SP)g			0						
			7					0						
			8					0						
			9											
3 CS	60 28		10											
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB92

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				12.5 - 14.5' **PEAT (AMORPHOUS):** PT, 10YR4/4, hard, moist.	PT									
			13											
			14											
				14.5 - 14.7' **POORLY-GRADED SAND:** SP, 10YR6/1, loose, moist.	SP									
4 CS	60 60		15	14.7 - 20' **LEAN CLAY:** CL, 10YR6/1, hard, moist.										
			16											
			17		CL									
			18											
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB93

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/2/2017	11/2/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,295 N, 2,559,582 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36		1	0 - 11' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace coke, trace crushed tan brick, low odor, loose, moist to wet.	(FILL) (SP)g			0						
			2					0						
			3					0						
			4											
2 CS	60 42		5											
			6					0						
			7					0						
			8					0						
			9											
3 CS	60 36		10											
			11	11 - 13.5' **FILL, LEAN CLAY:** CL, 10YR6/1, soft, moist.	(FILL) CL			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB93

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				11 - 13.5' **FILL, LEAN CLAY:** CL, 10YR6/1, soft, moist. *(continued)*	(FILL) CL			0						
			13											
				13.5 - 22' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.										
			14											
4 CS	60 18		15											
			16					0						
			17											
			18		PT									
			19											
5 CS	60 60		20											
			21					0						
			22	22 - 25' **SANDY LEAN CLAY:** s(CL), 10YR6/1, trace shells, soft, moist.				0						
			23		s(CL)			0						
			24					0						
			25	25' End of Boring.				0						

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB94

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/3/2017	11/3/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,271 N, 2,559,675 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 32		1	0 - 13' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace crushed tan brick, trace clay and wood chips, low odor, loose, moist.				0						
			2					0						
			3											
			4											
2 CS	60 51		5											
			6		(FILL) (SP)g			0						
			7					0						
			8					4.7						
			9					0.9						
3 CS	60 34		10											
			11					2						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
K Unkel	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB94

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					(FILL) (SP)g			0.25						
			13	13 - 14' **FILL, LEAN CLAY:** CL, 10YR5/1, soft, moist.	(FILL) CL									
			14	14 - 18.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace crushed tan brick, trace clay and wood chips, sheen (10-50%) from 16 to 18.5 ft, odor, loose, moist.										
4 CS	60 54		15											
			16		(FILL) (SP)g			0.45						
			17											
			18					1.6						
			19	18.5 - 21' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.										
5 CS	60 48		20		PT									
			21	21 - 25' **SILTY CLAY** CL/ML, 10YR5/1, trace shells, very soft, moist.				0						
			22											
			23		CL/ML									
			24					0						
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB95

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/3/2017	11/3/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,253 N, 2,559,716 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 33		1	0 - 6' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace fine gravel, trace crushed red and tan brick, loose, moist.	(FILL) SP			0						
			2					16.2						
			3											
			4											
2 CS	60 45		5											
			6	6 - 12' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, sheen (10-50%) from 7 to 11 ft, oil staining (50-75%) from 11 to 12 ft, odor, loose, moist.				78.45						
			7											
			8					6.65						
			9		(FILL) (SP)g									
3 CS	60 30		10											
			11					16.7						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
K Unkel	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB95

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				12 - 14' **FILL, SANDY LEAN CLAY:** s(CL), 10YR5/2, firm, moist.	(FILL) s(CL)			3.4						
			13											
			14	14 - 14.5' **FILL, WOOD:** WOOD, odor, wet.	(FILL) WOOD									
4 CS	60 30		15	14.5 - 17' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, loose, moist.	(FILL) (SP)g									
			16					2.7						
			17	17 - 20' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.	PT			0						
			18											
			19											
5 CS	60 0		20	20 - 25' **NO RECOVERY**.										
			21											
			22											
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB96

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/26/2017	10/26/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,229 N, 2,559,511 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 48		1	0 - 4' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, coarse sand, trace wood chips, trace crushed red and tan bricks, trace cinders, purple to light blue staining from 3.2 to 3.5 ft, loose, dry.				0						
			2		(FILL) (SP)g			0.5						
			3											
			4	4 - 4.1' **FILL, WOOD:** BDX (DOL).	(FILL) BDX (DOL)			4.55						
2 CS	60 30		5	4.1 - 8.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR7/4, coarse sand, trace wood chips, trace crushed red and tan bricks, trace cinders, trace 10YR5/6 mottling, loose, dry.										
			6		(FILL) (SP)g			0						
			7					6.1						
			8											
			9	8.5 - 14' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, sheen throughout, no free product, odor, oil staining, loose, wet.										
3 CS	60 57		10		(FILL) (SP)g									
			11					120.9						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
K Umbel	

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB96

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				8.5 - 14' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, sheen throughout, no free product, odor, oil staining, loose, wet. *(continued)*	(FILL) (SP)g			6.8						
			13											
			14	14 - 18.5' **PEAT (AMORPHOUS):** PT, 10YR3/3, soft, moist.										
4 CS	60 24		15											
			16		PT			3.4						
			17											
			18											
			19	18.5 - 21' **SANDY LEAN CLAY:** s(CL), 10YR5/1, loose, moist.	s(CL)									
5 CS	60 50		20											
			21	21 - 25' **SANDY SILT:** s(ML), 10YR5/1, non plastic, hard, moist to wet.				2.8						
			22											
			23		s(ML)									
			24					1.2						
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB97

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/3/2017	11/3/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,210 N, 2,559,662 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 42		1	0 - 5' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace fine gravel, trace roots from 0 to 0.5 ft, loose, moist.	(FILL) SP			0						
			2											
			3					0						
			4											
			5											
2 CS	60 36		6	5 - 13.8' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, emulsified product (5-15%, 1-3 mm) from 9 to 9.5 ft, sheen (10-50%) from 9.5 to 13.8 ft, loose, moist to wet, wet at 9.0 ft.				0						
			7											
			8		(FILL) (SP)g			0.5						
			9											
3 CS	60 42		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB97

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				5 - 13.8' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, emulsified product (5-15%, 1-3 mm) from 9 to 9.5 ft, sheen (10-50%) from 9.5 to 13.8 ft, loose, moist to wet, wet at 9.0 ft. *(continued)*	(FILL) (SP)g			3.9						
			13					3.9						
			14	13.8 - 18.5' **PEAT (AMORPHOUS):** PT, 10YR4/4, trace shells, soft, moist.	PT									
4 CS	60 30		15											
			16					0.65						
			17					0						
			18											
			19	18.5 - 25' **SILTY CLAY** CL/ML, 10YR5/1, trace shells, soft, moist.	CL/ML									
5 CS	60 30		20											
			21					0						
			22					0						
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB98

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/2/2017	11/2/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,173 N, 2,559,592 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36		1	0 - 14.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace crushed red and tan bricks, trace coke, strong odor and sheen (40-80%) from 7.5 to 10 ft, loose, moist to wet.	(FILL) (SP)g			0						
			2					0						
			3					0						
			4											
2 CS	60 43		5											
			6					19.4						
			7					145.8						
			8					4.7						
			9											
3 CS	60 8		10											
			11					8.7						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CG-SB98

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			13	0 - 14.5' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace crushed red and tan bricks, trace coke, strong odor and sheen (40-80%) from 7.5 to 10 ft, loose, moist to wet. *(continued)*	(FILL) (SP)g									
			14											
4 CS	60 18		15	14.5 - 20' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.	PT									
			16					42.8						
			17											
			18											
			19											
5 CS	60 36		20	20 - 22' **SANDY LEAN CLAY:** s(CL), 10YR6/1, very soft, wet.	s(CL)									
			21					2.2						
			22	22 - 25' **POORLY-GRADED SAND:** SP, 10YR6/1, river sand, loose, wet.	SP			1.8						
			23					0.9						
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CG-SB99

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/2/2017	11/2/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,165 N, 2,559,444 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36		1	0 - 6.5' **POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, poorly graded fine gravel, trace stone and crushed red and tan brick, trace coke and slag, sheen at 5.4 to 6.0 ft, odor, loose, moist.	(SP)g			12.35						
			2											
			3					0						
			4											
2 CS	24 22		5											
			6					1.3						
			7	6.5 - 7' **FILL, CONCRETE**.	(FILL)									
				7' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB35

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/6/2017	11/6/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,997 N, 2,559,846 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 37		1	0 - 4' **FILL, SANDY LEAN CLAY:** s(CL), 10YR2/2, some poorly graded fine gravel, trace coke, firm, moist.	(FILL) s(CL)			0.1						
			2											
			3					0.05						
			4	4 - 8' **FILL, SANDY LEAN CLAY:** s(CL), 10YR2/2, some poorly graded fine gravel, trace coke, very soft, wet.										
2 CS	60 48		5											
			6		(FILL) s(CL)			0.15						
			7											
			8	8 - 13' **FILL, CLAYEY SAND:** SC, 10YR4/1, some well graded gravel, soft, wet.										
			9					0.1						
3 CS	60 33		10		(FILL) SC									
			11					0.05						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB35

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				8 - 13' **FILL, CLAYEY SAND:** SC, 10YR4/1, some well graded gravel, soft, wet. *(continued)*	(FILL) SC									
			13	13 - 14' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, emulsified (10-25% 1-3 cm), oil coated (10-50%), odor, loose, wet.	(FILL) (SP)g			20.75						
			14	14 - 18' **FILL, CLAYEY SAND:** SC, 10YR4/1, some well graded gravel, soft, wet.										
4 CS	60 30		15											
			16		(FILL) SC			0.3						
			17					0.1						
			18	18 - 19.2' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, trace wood, loose, wet.	(FILL) (GP)s									
			19	19.2 - 24.3' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, wet to moist.										
5 CS	60 30		20											
			21					0.2						
			22		PT			0.4						
			23											
			24											
			25	24.3 - 25' **POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR6/1, poorly graded fine sub rounded gravel, coarse sand, loose, moist.	(GP)s									
				25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB36

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/1/2017	11/1/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,947 N, 2,559,902 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 45		1	0 - 3' **FILL, SANDY LEAN CLAY:** s(CL), 10YR2/2, some coarse gravel, very soft, trace slag from 0 to 0.5 ft, no odor, wet.	(FILL) s(CL)			0						analytical sample taken 0-2 feet bgs
			2					0						
			3	3 - 6.5' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/4, trace fine gravel, trace crushed yellow brick at 3 ft, soft, moist.				0						
			4		(FILL) s(CL)									
2 CS	60 36		5											
			6					0						
			7	6.5 - 7.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR8/1, crushed well graded stone and sand.	(FILL) (GP)s			0						
			8	7.5 - 8' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/4, trace fine gravel, soft, moist.	(FILL) s(CL)			0						
			9	8 - 12.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, poorly graded gravel, no odor, wet.										
3 CS	60 57		10		(FILL) (GP)s									
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB36

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
								0						
			13	12.5 - 23.5' **FILL, SANDY LEAN CLAY:** s(CL), 10YR4/4, trace fine gravel, sand seam 10YR4/3 at 14.7 to 15 ft, gravelly sand seam 10YR2/2 at 19.5 to 19.7 with trace wood chips, soft, moist.				0						
			14					0						
4 CS	60 57		15											
			16					0						
			17					0						
			18		(FILL) s(CL)			0						
			19					0						
5 CS	60 48		20											
			21					0						
			22					0						
			23					0						
			24	23.5 - 25' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.	PT			0						
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB37

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/6/2017	11/6/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,848 N, 2,559,824 E S / C /Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 39			0 - 0.3' **FILL, ORGANIC SOIL:** OL/OH, 10YR2/2, trace roots, trace gravel, loose, moist.	(FILL) OL/OH									
			1	0.3 - 1.3' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR7/2, some crushed concrete, loose, dry.	(FILL) (GP)s			0						
			2	1.3 - 4.8' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, poorly graded fine gravel, some slag and coke, tight , dry.				0						
			3		(FILL) (GP)s			0						
			4											
2 CS	60 52		5	4.8 - 12' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR7/2, poorly graded fine gravel, soft, moist.										
			6					0						
			7					0						
			8		(FILL) (CL)g			0						
			9					0						
3 CS	60 52		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB37

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				12 - 14' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, poorly graded fine gravel, some slag and coke, tight , dry.	(FILL) (GP)s			0						
			13					0						
			14	14 - 18' **FILL, SANDY LEAN CLAY:** s(CL), 10YR6/4, trace gravel, trace wood, soft, moist to wet.				0						
4 CS	60 56		15											
			16		(FILL) s(CL)			0						
			17					0						
			18	18 - 23' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist to wet.				0						
			19					0						
5 CS	60 48		20		PT									
			21					0						
			22					0						
			23	23 - 25' **SANDY LEAN CLAY:** s(CL), 10YR5/1, trace shells, soft, moist.				0						
			24		s(CL)			0						
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB38

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/1/2017	11/1/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,795 N, 2,559,791 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36			0 - 6.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, poorly graded fine gravel, some wood at 1 to 2 ft, some crushed stone from 4 to 4.5 ft, bluish stain on gravelly sand from 6 to 6.5 ft, moist, wet at 5 ft.	(FILL) (GP)s									
			1					0.25						analytical sample taken 0-2 feet bgs
			2					0						
			3					0						
			4											
2 CS	18 15		5											
			6					0						refusal at 6.5'
				6.5' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB39

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/6/2017	11/6/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,752 N, 2,559,854 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 30		1	0 - 4.5' **FILL, CLAYEY SAND:** SC, 10YR5/2, trace wood, trace crushed brick and gravel, wood from 1 to 1.3 ft, tan brick from 1.3 to 1.6 ft, loose, moist.	(FILL) SC			1.3						
			2					0						
			3											
			4											
2 CS	60 30		5	4.5 - 13' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, poorly graded fine gravel, trace wood, loose, moist to wet.	(FILL) (GP)s									
			6					0						
			7					0						
			8											
			9											
3 CS	60 32		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB39

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				4.5 - 13' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, poorly graded fine gravel, trace wood, loose, moist to wet. *(continued)*	(FILL) (GP)s			0						
			13	13 - 15' **LEAN CLAY:** CL, 10YR5/3, soft, tacky, moist.	CL									
			14											
			15	15' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB40

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/1/2017	11/1/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,766 N, 2,560,107 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 48		1	0 - 4.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR5/2, well graded fine to coarse sub round gravel, trace crushed red and tan brick, trace clay, color 10YR2/2 at 3.5 ft, tight, moist.	(FILL) (GP)s			0						analytical sample taken 2-4 feet bgs
			2					0						
			3					0						
			4					0						
2 CS	60 30		5	4.5 - 5.5' **FILL, SANDY LEAN CLAY:** s(CL), 10YR5/2, trace fine gravel, hard, moist.	(FILL) s(CL)									
			6	5.5 - 9.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, coarse sand, poorly graded fine gravel, no odor, loose, wet.				0						
			7		(FILL) (GP)s			0						
			8											
			9											
3 CS	60 6		10	9.5 - 10' **FILL, SANDY LEAN CLAY:** s(CL), 10YR5/2, trace fine gravel, soft, low plasticity, moist.	(FILL) s(CL)									
			11	10 - 15' **NO RECOVERY** - sluff, water.										
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB40

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10 - 15' **NO RECOVERY** - sluff, water. *(continued)*										
			13											
			14											
			15	15 - 15.5' **FILL, POORLY-GRADED GRAVEL:** GP, 10YR3/2, fine gravel, wet.	(FILL) GP									
4 CS	60 60		16	15.5 - 20' **LEAN CLAY:** CL, 10YR5/3, trace gravel, very soft, plasticy, wet.				0						
			17					0						
			18		CL			0						
			19					0						
			20					0						
				20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB41

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/7/2017	11/7/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,744 N, 2,560,139 E S / C /Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 41		1	0 - 2.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR6/3, well graded gravel, trace crushed brick and stone, tight, dry.	(FILL) (GP)s			0						
			2					0						
			3	2.5 - 9.5' **FILL, CLAYEY SAND:** SC, 10YR4/2, some well graded fine gravel, trace wood, soft, moist to wet.				0						
			4											
2 CS	60 35		5											
			6		(FILL) SC			0						
			7					0						
			8					0						analytical sample taken 7.5-9.5 feet bgs
			9											
3 CS	60 36		10	9.5 - 20' **LEAN CLAY:** CL, 10YR5/3, trace sand, trace wood, low plasticity, soft to firm, moist.										
			11		CL			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB41

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9.5 - 20' **LEAN CLAY:** CL, 10YR5/3, trace sand, trace wood, low plasticity, soft to firm, moist. *(continued)*				0						
			13					0						
			14											
4 CS	60 30		15											
			16		CL			0						
			17					0						
			18											
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB42

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/6/2017	11/6/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,698 N, 2,560,028 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 36		1	0 - 1.3' **FILL, POORLY-GRADED SAND:** SP, 10YR6/2, some well graded gravel, trace roots and crushed red bricks, loose, dry.	(FILL) SP			0						
			2	1.3 - 8.8' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, poorly graded fine gravel, loose, moist to wet, wet at 7 ft.				0						
			3					0						
			4											
2 CS	60 31		5		(FILL) (GP)s									
			6					0						
			7					0						
			8											
			9	8.8 - 9.2' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, bluish stain, poorly graded fine gravel, loose, wet.	(FILL) (GP)s									
3 CS	60 42		10	9.2 - 15' **LEAN CLAY:** CL, 10YR6/4, firm, moist.	CL									
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB42

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9.2 - 15' **LEAN CLAY:** CL, 10YR6/4, firm, moist. *(continued)*				0						
			13					0						
					CL									
			14											
			15	15' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB43

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/7/2017	11/7/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,632 N, 2,559,958 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 57		0	0 - 4.3' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR5/2, well graded gravel, some crushed white stone, trace crushed tan brick, trace wood, tight, dry to moist.	(FILL) (GP)s			0						
			1											
			2					0						
			3					0						analytical sample taken from 2-4 feet bgs
			4					0						
2 CS	60 46		4.3	4.3 - 8' **FILL, SANDY LEAN CLAY:** s(CL), 10YR2/2 until 4.8 ft then 10YR4/1, trace wood at 7.5. to 8 ft, hard, moist.	(FILL) s(CL)			0						
			5											
			6											
			7					0						
			8	8 - 11' **FILL, CONCRETE**.	(FILL)			0						
			9											
3 CS	60 42		10											
			11	11 - 15' **LEAN CLAY:** CL, 10YR6/2, low plasticity, soft, moist.	CL			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB43

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				11 - 15' **LEAN CLAY:** CL, 10YR6/2, low plasticity, soft, moist. *(continued)*				0						
			13					0						
					CL									
			14											
			15	15' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB44

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/6/2017	11/6/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,571 N, 2,559,913 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 47		1	0 - 3.4' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR5/3, well graded gravel, concrete from 0.8 to 1.4 ft, trace crushed concrete and red brick, loose, dry.	(FILL) (GW)s			0						
			2					0						
			3					0						
			4	3.4 - 6' **FILL, SANDY LEAN CLAY:** s(CL), 10YR5/3, trace fine clay, soft, moist to wet.	(FILL) s(CL)									
2 CS	60 36		5											
			6	6 - 6.5' **FILL, CONCRETE** crushed concrete.	(FILL)			0						
			7	6.5 - 6.7' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, poorly graded gravel, loose, moist.	(FILL) (GP)s			0						
			8	6.7 - 11' **FILL, SILTY CLAY** CL/ML, 10YR6/2, trace fine gravel, firm, moist.	(FILL) CL/ML			0						
			9											
3 CS	60 41		10											
			11	11 - 12.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, poorly graded gravel, some wood, loose, moist.	(FILL) (GP)s			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB44

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
								0						
				12.5 - 15' **LEAN CLAY:** CL, 10YR6/2 grades to 10YR5/3, hard, tacky, moist.										
			13					0						
			14		CL									
			15	15' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB45

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/1/2017	11/1/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 376,389 N, 2,559,984 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 60		0	0 - 7.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR2/2, some crushed red brick and concrete, trace clay, tight, some bluish stained gravelly sand at 0.8 to 0.9 ft, hard, moist.	(FILL) (GP)s			0						analytical sample taken from 0-2 feet bgs
			1					0						
			2					0						
			3					0						
			4					0						
2 CS	60 60		5					0						
			6					0						
			7					0						
			7.5	7.5 - 9.5' **FILL, LEAN CLAY:** CL, 10YR4/2, some well graded gravel, very hard, dry.	(FILL) CL			0						
			8					0						
			9					0						
3 CS	6 6		10	9.5 - 10.5' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR4/2, well graded gravel, hard, dry.	(FILL) (GP)s			0						
				10.5' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB46

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/1/2017	11/1/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,901 N, 2,560,131 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 30			0 - 0.4' **FILL, ORGANIC SOIL:** OL/OH, 10YR2/2, trace roots, loose, moist.	(FILL) OL/OH									
			1	0.4 - 1' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR6/3, well graded fine to coarse gravel, loose, moist.	(FILL) (GW)s			0						analytical sample taken from 0-2 feet bgs
			2	1 - 1.5' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, coarse sand, trace gravel, loose, moist.	(FILL) SP			0						
			3	1.5 - 10' **FILL, WELL-GRADED GRAVEL:** GW, 10YR7/1, well graded gravel, trace sand, loose, moist.										
			4											
2 CS	60 9		5		(FILL) GW			0						
			6											
			7											
			8											
			9											
3 CS	60 27		10	10 - 20' **CLAYEY SILT** ML/CL, 10YR4/1, trace shells, very soft, moist.										
			11		ML/CL			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB46

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10 - 20' **CLAYEY SILT** ML/CL, 10YR4/1, trace shells, very soft, moist. *(continued)*				0						
			13											
			14											
4 CS	60 41		15											
			16		ML/CL			0						
			17					0						
			18					0						
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB47

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/27/2017	10/27/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 375,865 N, 2,560,105 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 48		0	0 - 4' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR2/2, trace coarse stone, well graded fine to coarse gravel, trace crushed red brick, loose, dry.	(FILL) (GW)s			0						
			1					0						
			2					0						
			3					0						
			4	4 - 5' **FILL, POORLY-GRADED SAND:** SP, 10YR8/2, coarse sand, some fine gravel, trace 10YR2/2 coarse sand, loose, dry.	(FILL) SP			0						
2 CS	60 38		5	5 - 7' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR2/2, trace coarse stone, well graded fine to coarse gravel, trace crushed red brick, loose, dry.	(FILL) (GW)s			0						
			6											
			7	7 - 9.5' **SANDY LEAN CLAY:** s(CL), 10YR3/1, trace roots, low plasticity, soft, moist to wet.	s(CL)			0						
			8					0						
			9											
3 CS	60 31		10	9.5 - 14' **POORLY-GRADED SAND:** SP, 10YR6/1, trace shells, trace clay, very soft, wet.	SP									
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB47

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9.5 - 14' **POORLY-GRADED SAND:** SP, 10YR6/1, trace shells, trace clay, very soft, wet. *(continued)*	SP			0						
			13											
			14	14 - 14.7' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, wet.	PT									
4 CS	60 36		15	14.7 - 20' **POORLY-GRADED SAND:** SP, 10YR6/1, trace shells, trace clay, trace stone, clay content increases at 13.5 to 13.8, very soft, wet.										
			16					0						
			17		SP			0						
			18					0						
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB48

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/27/2017	10/27/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,809 N, 2,559,969 E S / C / (N)

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 30			0 - 11.5' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace 10YR2/1 slag, trace roots, some fine gravel, moist to wet.										
			1					0						
			2					0						
			3											
			4											
2 CS	60 36		5		(FILL) SP									
			6					0						
			7											
			8					0						
			9											
3 CS	60 40		10											
			11					0						
			12		s(CL)									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB48

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			13	11.5 - 14' **SANDY LEAN CLAY:** s(CL), 10YR5/3, trace white shells, peat increases with depth until 12.5 ft, very soft, moist. *(continued)*	s(CL)			0						
			14	14 - 15' **POORLY-GRADED SAND:** SP, 10YR5/3, trace white shells, trace clay, loose, wet.	SP									
			15	15' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB49

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/27/2017	10/27/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,822 N, 2,560,105 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 24		1	0 - 7' **FILL, GRAVELLY SILT:** GW-GM, 10YR2/2, trace roots at 0 to 1 ft, trace well graded gravel, very soft, moist.	(FILL) GW-GM			0						
			2					0						
			3											
			4											
2 CS	60 44		5											
			6					0						
			7	7 - 8.5' **FILL, SILTY CLAY** CL/ML, 10YR7/2, trace fine gravel, trace fine sand, low plasticity, soft, moist.	(FILL) CL/ML			0						
			8					0						
			9	8.5 - 14.5' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace fine gravel, some sheen (25-50%) form 12.8 to 14.1, trace glass at 9.5 ft, very soft, wet.										
3 CS	60 31		10		(FILL) SP									
			11					0.35						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
K Unkel	

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB49

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				8.5 - 14.5' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace fine gravel, some sheen (25-50%) form 12.8 to 14.1, trace glass at 9.5 ft, very soft, wet. *(continued)*	(FILL) SP			0.5						
			13											
			14											
				14.5 - 16' **FILL, WOOD:** WOOD, wood piling.	(FILL) WOOD									
4 CS	60 18		15											
			16	16 - 20' **NO RECOVERY**.				0.65						
			17											
			18											
			19											
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB50

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/13/2017	11/13/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 376,180 N, 2,560,086 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 40			0 - 0.8' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (SP)g, 10YR6/3, trace coal.	(FILL) (SP)g									
			1	0.8 - 2.5' **FILL, COAL:** COAL, black.	(FILL) COAL			0						
			2											
			3	2.5 - 10' **FILL, POORLY-GRADED GRAVEL:** GP, 10YR4/2, trace sand, wet, large gravel.				0						
			4											
2 CS	60 35		5					0						
			6		(FILL) GP									
			7					0						
			8											
			9					0						
3 CS	60 24		10	10 - 13.8' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (SP)g, 10YR4/2, wet.										
			11		(FILL) (SP)g			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
K Unkel	

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB50

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				10 - 13.8' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (SP)g, 10YR4/2, wet. *(continued)*	(FILL) (SP)g			0						
			13											
			14	13.8 - 14' **FILL, WOOD:** WOOD, wood chips.	(FILL) WOOD									
				14 - 14.7' **SILTY CLAY** CL/ML, 10YR7/4, trace sand, moist.	CL/ML									
4 CS	60 44		15	14.7 - 15' **SILTY SAND:** SM, 10YR7/3, moist.	SM			0						
				15 - 19.2' **POORLY-GRADED GRAVEL WITH SAND:** (SP)g, 10YR2/2, wet.										
			16											
			17		(SP)g			0						
			18											
			19					0						
				19.2 - 20' **SILTY CLAY** CL/ML, 10YR4/1, shells, dry.	CL/ML									
5 CS	60 55		20	20 - 22.7' **POORLY-GRADED GRAVEL WITH SAND:** (SP)g, 10YR2/2, wet.										
			21		(SP)g			0						
			22											
			23	22.7 - 23.8' **SILT:** ML, 10YR3/6, trace sand, shells, dry.	ML			0						
			24	23.8 - 24.8' **LEAN CLAY:** CL, 10YR3/6, dry.	CL									
			25	24.8 - 25' **POORLY-GRADED GRAVEL WITH SAND:** (SP)g, 10YR5/2, dry.	(SP)g			0						
				25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB51

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/13/2017	11/13/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,866 N, 2,560,080 E S / C /Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 30		1	0 - 5' **FILL, COAL:** COAL, black.	(FILL) COAL			0						
			2											
			3					0						
			4											
2 CS	60 35		5	5 - 7.7' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR3/3, trace sand and gravel, moist.	(FILL) (CL)g			0						
			6											
			7					0						
			8	7.7 - 9.2' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (SP)g, 10YR4/1, wet.	(FILL) (SP)g									
			9	9.2 - 13.3' **SILT:** ML, 10YR2/2, trace sand and gravel, wet.				0						
3 CS	60 42		10		ML									
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB51

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9.2 - 13.3' **SILT:** ML, 10YR2/2, trace sand and gravel, wet. *(continued)*	ML									
			13					0						
				13.3 - 14.2' **SILT:** ML, 10YR3/4, some shells, dry.	ML									
			14											
				14.2 - 20' **POORLY-GRADED SAND:** SP, 10YR6/1, trace gravel, shells, moist.										
4 CS	60 60		15					0						
			16											
			17		SP			0						
			18											
			19					0						
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	CS-SB53

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/15/2017	11/15/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 375,830 N, 2,559,860 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 30			0 - 3.5' **FILL, COAL:** COAL, black.	(FILL) COAL			0						
			1											
			2											
			3					0						
			4	3.5 - 13.4' **FILL, SILTY SAND:** SM, 10YR2/2, trace gravel, moist.	(FILL) SM									
2 CS	60 35		5					0						
			6											
			7					0						
			8											
			9					0						
3 CS	60 42		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number CS-SB53

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				3.5 - 13.4' **FILL, SILTY SAND:** SM, 10YR2/2, trace gravel, moist. *(continued)*	(FILL) SM									
			13					0						
				13.4 - 13.8' **SILTY CLAY** CL/ML, 10YR2/2, trace shells, moist.	CL/ML									
			14	13.8 - 15' **PEAT (AMORPHOUS):** PT, 10YR4/6, dry.	PT									
4 CS	60 50		15	15 - 20' **PEAT (AMORPHOUS):** PT, 10YR4/1, shells, clay, moist.				0						
			16											
			17		PT			0						
			18											
			19					0						
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB38

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/27/2017	10/27/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,745 N, 2,559,456 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 45			0 - 0.7' **FILL, SANDY LEAN CLAY:** s(CL), 10YR2/2 until 0.4 then 5YR7/6.	(FILL) s(CL)									
			1	0.7 - 9' **FILL, POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR2/2, trace crushed tan brick, trace coke and slag, coarse sand, metallic pink clay from 4.4 to 4.6 ft, loose, moist.				0						
			2					0						
			3					0						
			4											
2 CS	60 34		5		(FILL) (SP)g									
			6					0						
			7					0						
			8											
			9	9 - 13' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR2/2, poorly graded fine gravel, very soft, wet.										
3 CS	60 48		10		(FILL) (CL)g									
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

NATURAL RESOURCE TECHNOLOGY

Boring Number FT-SB38

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				9 - 13' **FILL, GRAVELLY LEAN CLAY:** (CL)g, 10YR2/2, poorly graded fine gravel, very soft, wet. *(continued)*	(FILL) (CL)g			0						
			13	13 - 15' **PEAT (AMORPHOUS):** PT, 10YR4/4, very soft, moist.	PT			0						
			14											
			15	15 - 17' **POORLY-GRADED SAND:** SP, 10YR6/1, some sub rounded gravel, loose, moist.	SP									
4 CS	60 60		16					0						
			17	17 - 20' **LEAN CLAY:** CL, 10YR6/1, trace silt, hard, moist.	CL			0						
			18					0						
			19					0						
			20	20' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB39

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/26/2017	10/26/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 375,149 N, 2,559,875 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 33			0 - 0.2' **FILL, SILT:** ML, 10YR5/1, trace organics, very soft, wet.	(FILL) ML									
			1	0.2 - 6.5' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR2/2 grades to 5YR4/4, well graded gravel, trace silt, blue stained gravel at 2.4 to 2.7 ft, loose, moist, wet at 6.0ft.										analytical sample taken from 0-2 feet bgs
			2											
			3		(FILL) (GW)s									
			4											
2 CS	60 36		5											
			6											
			7	6.5 - 12' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR8/1 grades to 10YR5/1, well graded gravel, trace silt, low odor, loose, wet.										
			8											
			9		(FILL) (GW)s									
3 CS	60 36		10											
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number FT-SB39

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				12 - 25' **GRAVELLY SILT:** (ML)g, 10YR3/2, well graded fine to coarse gravel, trace stone, trace coke, low odor, loose, wet.										
			13											
			14											
4 CS	60 58		15											
			16											
			17											
			18											
			19		(ML)g									
5 CS	60 56		20											
			21											
			22											
			23											
			24											
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB40

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/26/2017	10/26/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 374,845 N, 2,559,758 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 24			0 - 11' **FILL, POORLY-GRADED SAND:** SP, 10YR2/2, trace gravel, trace crushed red and tan bricks, trace wood, loose, moist, wet at 7 ft.										
			1					0						analytical sample taken from 0-2 feet bgs
			2					0						
			3											
			4											
2 CS	60 37		5		(FILL) SP									
			6					0						
			7					0						
			8					0						
			9											
3 CS	60 43		10											
			11	11 - 18.2' **FILL, POORLY-GRADED SAND:** SP, 10YR5/1, some gravel, trace wood chips, loose, wet.	(FILL) SP			0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

NATURAL RESOURCE TECHNOLOGY

Boring Number FT-SB40

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				11 - 18.2' **FILL, POORLY-GRADED SAND:** SP, 10YR5/1, some gravel, trace wood chips, loose, wet. *(continued)*				0						
			13					0						
			14											
4 CS	60 60		15		(FILL) SP									
			16					0						
			17					0						
			18					0						
				18.2 - 18.3' **PEAT (AMORPHOUS):** PT, 10YR4/4, soft, moist.	PT									
			19	18.3 - 25' **SILTY CLAY** CL/ML, 10YR5/1, firm, moist.				0						
5 CS	60 60		20					0						
			21					0						
			22		CL/ML			0						
			23					0						
			24					0						
			25	25' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB41

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/25/2017	10/25/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 374,821 N, 2,559,443 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	48 38			0 - 0.5' **BRICK** - crushed tan and red brick, loose, dry.	(FILL)									
			1	0.5 - 3.2' **FILL, SILTY SAND:** SM, 10YR2/2, trace crushed tan brick, some wood chips, some coarse gravel, loose, moist.	(FILL) SM			0						
			2					0						
			3					0						analytical sample taken from 2-3.2 feet bgs
				3.2 - 4' **NO RECOVERY**.										
			4	4' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
K Umbel	

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB42

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/25/2017	10/25/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 374,931 N, 2,559,597 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	48 40		1 2 3 4	0 - 0.5' **POORLY-GRADED SAND WITH GRAVEL:** (SP)g, 10YR5/3, coarse sand, some wood chips, trace organics, blue tint on gravel 0.4 to 0.5 ft, loose, dry.	(SP)g									
				0.5 - 2.1' **SILTY SAND:** SM, 10YR5/3, concrete, at 0.5 to 0.8 ft and 1.0 to 1.4 ft, trace 10YR5/6 mottling, loose, dry.	SM			0						Analytical sample taken from 0-2 feet bgs
				2.1 - 3.3' **POORLY-GRADED SAND:** SP, 10YR2/2, black sand, low odor, loose, dry.	SP			0.05						
				3.3 - 4' **NO RECOVERY**.				0.05						Analytical sample taken from 2-4 feet bgs
				4' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB43

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/25/2017	10/25/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,071 N, 2,559,412 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	48 48		1	0 - 4' **FILL, SILTY SAND:** SM, 10YR4/4, 10YR2/2 from 0.8 to 1.2 ft, crushed stone from 1.2 to 1.6 ft, some well graded gravel, trace crushed red brick, loose, dry.	(FILL) SM			0						analytical sample taken from 0-2 feet bgs
			2					0						
			3					0						
			4	4' End of Boring.				0						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB44

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/25/2017	10/25/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,094 N, 2,559,711 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	54 50		1	0 - 1.4' **FILL, CLAYEY SAND:** SC, 10YR2/2, coarse sand, trace organics, trace crushed tan brick, clay increases with depth, loose, dry.	(FILL) SC			0						analytical sample taken from 0-2 feet bgs
			2	1.4 - 1.7' **FILL, POORLY-GRADED GRAVEL WITH SAND:** (GP)s, 10YR7/3, well graded, loose, dry.	(FILL) (GP)s			0						
			3	1.7 - 2.4' **FILL, SILTY CLAY** CL/ML, 10YR5/3, trace wood, trace well rounded gravel, some 10YR2/2 mottling, firm, moist.	(FILL) CL/ML			0						
				2.4 - 2.7' **FILL, CONCRETE** crushed concrete.	(FILL)									
			4	2.7 - 2.9' **BRICK** - crushed red brick.	(FILL)			0						
				2.9 - 4.5' **FILL, SILTY SAND:** SM, 10YR3/3, trace coarse gravel, trace slag, some 10YR2/2 mottling, loose, moist.	(FILL) SM									
				4.5' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB45

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/26/2017	10/26/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 375,373 N, 2,559,719 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	48 38			0 - 0.5' **FILL, ORGANIC SOIL:** OL/OH, 10YR2/2, some wood chips, trace organics, loose, moist.	(FILL) OL/OH									
			1	0.5 - 2' **FILL, FAT CLAY WITH SAND:** (GP)s, 10YR3/2, poorly graded fine gravel, trace wood, some black sand, loose, moist.	(FILL) (GP)s			0						
			2	2 - 4' **SILTY CLAY** CL/ML, 10YR4/3, sand seam from 2.3 to 2.5 ft, peat from 2.9 to 3.0 ft, firm, moist.				0						
			3		CL/ML			0						analytical sample taken from 2-4 feet bgs
			4	4' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB46

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/25/2017	10/25/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 375,424 N, 2,559,895 E S / C / (N)
1/4 of 1/4 of Section , T N, R

Lat ___° ___' ___"
Long ___° ___' ___"

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	48 42			0 - 3.5' **FAT CLAY WITH SAND:** (GP)s, 10YR2/2, some silt, trace fine coke, crushed red brick from 2.1 to 2.2 ft, trace wood chips.	(GP)s			0 0 0						analytical sample taken from 2-3.5 feet bgs
			1 2 3											
				3.5 - 4' **NO RECOVERY**.										
			4	4' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB47

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/26/2017	10/26/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,459 N, 2,559,430 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	48 40		1	0 - 2' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR2/2, coarse sand, well graded gravel, trace organics, loose, dry.	(FILL) (GW)s			0						
			2	2 - 4' **SANDY LEAN CLAY:** (CL)s, 10YR3/2, trace fine gravel, some 10YR5/6 mottling, hard, moist.				0						
			3		(CL)s			0						analytical sample taken from 2-4 feet bgs
			4	4' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB48

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/26/2017	10/26/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,639 N, 2,559,695 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	48 44			0 - 1' **FILL, WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR2/2, some coke, trace crushed red brick, trace silt, well graded gravel, loose, moist.	(FILL) (GW)s									
			1	1 - 1.6' **SILTY CLAY** CL/ML, 10YR4/3, trace gravel, hard, dry.	CL/ML			0						analytical sample taken from 0-2 feet bgs
			2	1.6 - 4' **WELL-GRADED GRAVEL WITH SAND:** (GW)s, 10YR2/2, some coke, trace crushed red brick, trace silt, well graded gravel, loose, moist.	(GW)s			0						
			3											
			4	4' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
K Umbel	

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB49

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	10/26/2017	10/26/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,676 N, 2,559,587 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location

☐ N ☐ E

Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	48 48			0 - 0.4' **FILL, WOOD:** WOOD, wood chips, loose, moist.	(FILL) WOOD									
			1	0.4 - 4' **FILL, SILTY GRAVEL:** GP-GM, 10YR2/2, poorly graded fine gravel, trace coke, trace cinders, trace stone, trace wood, loose, moist.				0						
			2		(FILL) GP-GM			0						
			3					0						analytical sample taken from 2-4 feet bgs
			4	4' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Milwaukee Solvay Coke and Gas	WIN000508215	FT-SB50

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mitch Panfil Gestra Engineering, Inc.	11/13/2017	11/13/2017	GeoProbe

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒

State Plane 375,751 N, 2,559,411 E S / C / Ⓝ

1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "

Long ___ ° ___ ' ___ "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
241219880	Milwaukee	Wisconsin	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	60 30			0 - 12.5' **FILL, SILTY SAND:** SM, black to 10YR5/4, trace coke, bricks at 3 ft, trace gravel, fill.										
			1					0						
			2											
			3											
			4											
2 CS	60 42		5					0						
			6		(FILL) SM									
			7					0						
			8											
			9											
3 CS	60 35		10											
			11					0						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm

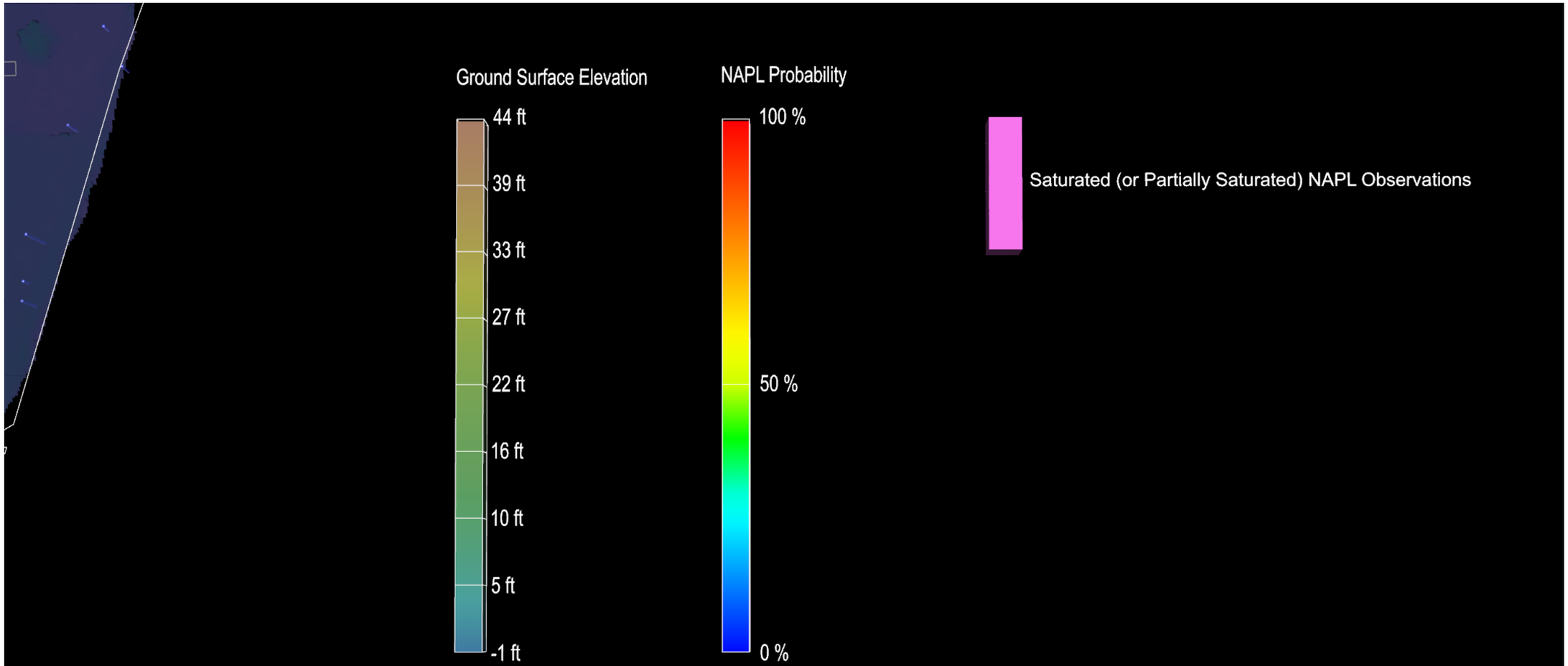
NATURAL RESOURCE TECHNOLOGY

Boring Number FT-SB50

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			13	12.5 - 14' **FILL, SANDY LEAN CLAY:** s(CL), 10YR2/2, common gravel, wet.	(FILL) s(CL)									
			14	14 - 14.8' **PEAT (AMORPHOUS):** PT, 10YR4/6, dry.	PT									
4 CS	60 55		15	14.8 - 16.2' **POORLY-GRADED SAND:** SP, 10YR5/1, shells, moist.	SP			0						
			16	16.2 - 20' **LEAN CLAY:** CL, 10YR6/1.										
			17					0						
			18		CL									
			19					0						
			20	20' End of Boring.										

Attachment C

Three Dimensional NAPL Plume Map (Electronic)



3-DIMENSIONAL CONCEPTUAL SITE MODEL
FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

NOTE: ALL INTERPOLATIONS ARE PRELIMINARY ESTIMATES AND ARE SUBJECT TO CHANGE

DRAWN BY/DATE:
TDC 12/5/17
REVIEWED BY/DATE:
JFK 12/5/17
APPROVED BY/DATE:
___/_/17

3-DIMENSIONAL CONCEPTUAL SITE MODEL

FORMER MILWAUKEE SOLVAY COKE AND GAS SITE
311 EAST GREENFIELD AVENUE
MILWAUKEE, WISCONSIN

DRAFT

PROJECT NO: 2133

FIGURE NO: 3D-1

Natural Resource Technology
AN OBG COMPANY

Attachment D

Laboratory Analytical Reports and Validation Reports– Soil

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

October 31, 2017

Andrew Cawrse
Natural Resource Technology
234 W Florida St
Milwaukee, WI 53204

RE: Project: 2133 SOLVAY
Pace Project No.: 40159251

Dear Andrew Cawrse:
Enclosed are the analytical results for sample(s) received by the laboratory on October 24, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Steven Mleczko for
Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: NRT Data, Natural Resource Technologies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY
Jay Karls, Natural Resource Technology
Robert Paulson, We Energies

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 2133 SOLVAY
Pace Project No.: 40159251

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 2133 SOLVAY
Pace Project No.: 40159251

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40159251001	**PILE 16 SOUTH ON TOP**	Solid	10/23/17 11:05	10/24/17 10:50
40159251002	**PILE 16 NORTH ON TOP**	Solid	10/23/17 11:10	10/24/17 10:50
40159251003	**PILE 16 EAST ON SLOPE**	Solid	10/23/17 11:15	10/24/17 10:50
40159251004	**PILE 16 WEST ON SLOPE**	Solid	10/23/17 11:25	10/24/17 10:50

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Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 2133 SOLVAY
Pace Project No.: 40159251

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40159251001	**PILE 16 SOUTH ON TOP**	EPA 8082	BDS	10
		EPA 6020	SDW	7
		EPA 7471	AJT	1
		EPA 8270 by SIM	ARO	20
		ASTM D2974-87	SKW	1
40159251002	**PILE 16 NORTH ON TOP**	EPA 8082	BDS	10
		EPA 6020	SDW	7
		EPA 7471	AJT	1
		EPA 8270 by SIM	ARO	20
		ASTM D2974-87	SKW	1
40159251003	**PILE 16 EAST ON SLOPE**	EPA 8082	BDS	10
		EPA 6020	SDW	7
		EPA 7471	AJT	1
		EPA 8270 by SIM	ARO	20
		ASTM D2974-87	SKW	1
40159251004	**PILE 16 WEST ON SLOPE**	EPA 8082	BDS	10
		EPA 6020	SDW	7
		EPA 7471	AJT	1
		EPA 8270 by SIM	ARO	20
		ASTM D2974-87	SKW	1

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 2133 SOLVAY
Pace Project No.: 40159251

Sample: PILE 16 SOUTH ON TOP **Lab ID: 40159251001** Collected: 10/23/17 11:05 Received: 10/24/17 10:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541								
PCB-1016 (Aroclor 1016)	**<26.3**	ug/kg	52.6	26.3	1	10/25/17 10:07	10/25/17 17:12	12674-11-2	
PCB-1221 (Aroclor 1221)	**<26.3**	ug/kg	52.6	26.3	1	10/25/17 10:07	10/25/17 17:12	11104-28-2	
PCB-1232 (Aroclor 1232)	**<26.3**	ug/kg	52.6	26.3	1	10/25/17 10:07	10/25/17 17:12	11141-16-5	
PCB-1242 (Aroclor 1242)	**<26.3**	ug/kg	52.6	26.3	1	10/25/17 10:07	10/25/17 17:12	53469-21-9	
PCB-1248 (Aroclor 1248)	**<26.3**	ug/kg	52.6	26.3	1	10/25/17 10:07	10/25/17 17:12	12672-29-6	
PCB-1254 (Aroclor 1254)	**<26.3**	ug/kg	52.6	26.3	1	10/25/17 10:07	10/25/17 17:12	11097-69-1	
PCB-1260 (Aroclor 1260)	**<26.3**	ug/kg	52.6	26.3	1	10/25/17 10:07	10/25/17 17:12	11096-82-5	
PCB, Total	**<26.3**	ug/kg	52.6	26.3	1	10/25/17 10:07	10/25/17 17:12	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	73	%	50-102		1	10/25/17 10:07	10/25/17 17:12	877-09-8	
Decachlorobiphenyl (S)	75	%	53-105		1	10/25/17 10:07	10/25/17 17:12	2051-24-3	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**2.8**	mg/kg	0.92	0.28	6.667	10/25/17 09:25	10/26/17 19:07	7440-38-2	
Barium	**36.1**	mg/kg	0.80	0.24	6.667	10/25/17 09:25	10/26/17 19:07	7440-39-3	
Cadmium	**0.14J**	mg/kg	0.70	0.10	6.667	10/25/17 09:25	10/26/17 19:07	7440-43-9	D3
Chromium	**10.8**	mg/kg	4.7	1.4	6.667	10/25/17 09:25	10/26/17 19:07	7440-47-3	
Lead	**6.9**	mg/kg	0.70	0.19	6.667	10/25/17 09:25	10/26/17 19:07	7439-92-1	
Selenium	**0.48J**	mg/kg	0.70	0.19	6.667	10/25/17 09:25	10/26/17 19:07	7782-49-2	D3
Silver	**<0.10**	mg/kg	0.35	0.10	6.667	10/25/17 09:25	10/26/17 19:07	7440-22-4	D3
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**<0.012**	mg/kg	0.039	0.012	1	10/26/17 06:39	10/26/17 11:13	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**10.5J**	ug/kg	13.5	4.1	1	10/27/17 08:35	10/27/17 17:16	83-32-9	
Acenaphthylene	**22.2**	ug/kg	11.6	3.5	1	10/27/17 08:35	10/27/17 17:16	208-96-8	
Anthracene	**49.7**	ug/kg	20.0	6.0	1	10/27/17 08:35	10/27/17 17:16	120-12-7	
Benzo(a)anthracene	**149**	ug/kg	11.1	3.3	1	10/27/17 08:35	10/27/17 17:16	56-55-3	
Benzo(a)pyrene	**143**	ug/kg	8.8	2.6	1	10/27/17 08:35	10/27/17 17:16	50-32-8	
Benzo(b)fluoranthene	**154**	ug/kg	9.9	3.0	1	10/27/17 08:35	10/27/17 17:16	205-99-2	
Benzo(g,h,i)perylene	**81.1**	ug/kg	7.1	2.1	1	10/27/17 08:35	10/27/17 17:16	191-24-2	
Benzo(k)fluoranthene	**124**	ug/kg	8.8	2.6	1	10/27/17 08:35	10/27/17 17:16	207-08-9	
Chrysene	**178**	ug/kg	11.8	3.5	1	10/27/17 08:35	10/27/17 17:16	218-01-9	
Dibenz(a,h)anthracene	**32.0**	ug/kg	7.8	2.3	1	10/27/17 08:35	10/27/17 17:16	53-70-3	
Fluoranthene	**406**	ug/kg	18.3	5.5	1	10/27/17 08:35	10/27/17 17:16	206-44-0	
Fluorene	**16.1**	ug/kg	14.5	4.3	1	10/27/17 08:35	10/27/17 17:16	86-73-7	
Indeno(1,2,3-cd)pyrene	**84.0**	ug/kg	7.7	2.3	1	10/27/17 08:35	10/27/17 17:16	193-39-5	
1-Methylnaphthalene	**6.7J**	ug/kg	14.1	4.2	1	10/27/17 08:35	10/27/17 17:16	90-12-0	
2-Methylnaphthalene	**9.7J**	ug/kg	17.5	5.3	1	10/27/17 08:35	10/27/17 17:16	91-57-6	
Naphthalene	**31.1**	ug/kg	29.5	8.8	1	10/27/17 08:35	10/27/17 17:16	91-20-3	
Phenanthrene	**225**	ug/kg	40.8	12.2	1	10/27/17 08:35	10/27/17 17:16	85-01-8	
Pyrene	**323**	ug/kg	15.8	4.7	1	10/27/17 08:35	10/27/17 17:16	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	73	%	23-106		1	10/27/17 08:35	10/27/17 17:16	321-60-8	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY
Pace Project No.: 40159251

Sample: PILE 16 SOUTH ON TOP **Lab ID: 40159251001** Collected: 10/23/17 11:05 Received: 10/24/17 10:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Surrogates									
Terphenyl-d14 (S)	74	%	29-106		1	10/27/17 08:35	10/27/17 17:16	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.0**	%	0.10	0.10	1		10/24/17 14:52		

Sample: PILE 16 NORTH ON TOP **Lab ID: 40159251002** Collected: 10/23/17 11:10 Received: 10/24/17 10:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541								
PCB-1016 (Aroclor 1016)	**<26.4**	ug/kg	52.8	26.4	1	10/25/17 10:07	10/25/17 17:30	12674-11-2	
PCB-1221 (Aroclor 1221)	**<26.4**	ug/kg	52.8	26.4	1	10/25/17 10:07	10/25/17 17:30	11104-28-2	
PCB-1232 (Aroclor 1232)	**<26.4**	ug/kg	52.8	26.4	1	10/25/17 10:07	10/25/17 17:30	11141-16-5	
PCB-1242 (Aroclor 1242)	**<26.4**	ug/kg	52.8	26.4	1	10/25/17 10:07	10/25/17 17:30	53469-21-9	
PCB-1248 (Aroclor 1248)	**<26.4**	ug/kg	52.8	26.4	1	10/25/17 10:07	10/25/17 17:30	12672-29-6	
PCB-1254 (Aroclor 1254)	**<26.4**	ug/kg	52.8	26.4	1	10/25/17 10:07	10/25/17 17:30	11097-69-1	
PCB-1260 (Aroclor 1260)	**<26.4**	ug/kg	52.8	26.4	1	10/25/17 10:07	10/25/17 17:30	11096-82-5	
PCB, Total	**<26.4**	ug/kg	52.8	26.4	1	10/25/17 10:07	10/25/17 17:30	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	73	%	50-102		1	10/25/17 10:07	10/25/17 17:30	877-09-8	
Decachlorobiphenyl (S)	75	%	53-105		1	10/25/17 10:07	10/25/17 17:30	2051-24-3	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**2.8**	mg/kg	0.89	0.27	6.667	10/25/17 09:25	10/26/17 19:37	7440-38-2	
Barium	**30.0**	mg/kg	0.77	0.23	6.667	10/25/17 09:25	10/26/17 19:37	7440-39-3	
Cadmium	**0.44J**	mg/kg	0.68	0.099	6.667	10/25/17 09:25	10/26/17 19:37	7440-43-9	D3
Chromium	**8.2**	mg/kg	4.5	1.4	6.667	10/25/17 09:25	10/26/17 19:37	7440-47-3	
Lead	**10.7**	mg/kg	0.68	0.18	6.667	10/25/17 09:25	10/26/17 19:37	7439-92-1	
Selenium	**1.2**	mg/kg	0.68	0.18	6.667	10/25/17 09:25	10/26/17 19:37	7782-49-2	
Silver	**0.16J**	mg/kg	0.34	0.097	6.667	10/25/17 09:25	10/26/17 19:37	7440-22-4	D3
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**<0.011**	mg/kg	0.038	0.011	1	10/26/17 06:39	10/26/17 11:16	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**17.1J**	ug/kg	27.3	8.2	2	10/27/17 08:35	10/31/17 12:45	83-32-9	
Acenaphthylene	**9.5J**	ug/kg	23.3	7.0	2	10/27/17 08:35	10/31/17 12:45	208-96-8	
Anthracene	**77.7**	ug/kg	40.2	12.1	2	10/27/17 08:35	10/31/17 12:45	120-12-7	
Benzo(a)anthracene	**300**	ug/kg	22.4	6.7	2	10/27/17 08:35	10/31/17 12:45	56-55-3	
Benzo(a)pyrene	**295**	ug/kg	17.7	5.3	2	10/27/17 08:35	10/31/17 12:45	50-32-8	
Benzo(b)fluoranthene	**262**	ug/kg	19.9	6.0	2	10/27/17 08:35	10/31/17 12:45	205-99-2	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY
Pace Project No.: 40159251

Sample: PILE 16 NORTH ON TOP **Lab ID: 40159251002** Collected: 10/23/17 11:10 Received: 10/24/17 10:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Benzo(g,h,i)perylene	**165**	ug/kg	14.3	4.3	2	10/27/17 08:35	10/31/17 12:45	191-24-2	
Benzo(k)fluoranthene	**280**	ug/kg	17.7	5.3	2	10/27/17 08:35	10/31/17 12:45	207-08-9	
Chrysene	**321**	ug/kg	23.7	7.1	2	10/27/17 08:35	10/31/17 12:45	218-01-9	
Dibenz(a,h)anthracene	**65.9**	ug/kg	15.8	4.7	2	10/27/17 08:35	10/31/17 12:45	53-70-3	
Fluoranthene	**760**	ug/kg	36.8	11.0	2	10/27/17 08:35	10/31/17 12:45	206-44-0	
Fluorene	**22.1J**	ug/kg	29.2	8.8	2	10/27/17 08:35	10/31/17 12:45	86-73-7	
Indeno(1,2,3-cd)pyrene	**169**	ug/kg	15.5	4.7	2	10/27/17 08:35	10/31/17 12:45	193-39-5	
1-Methylnaphthalene	**<8.5**	ug/kg	28.4	8.5	2	10/27/17 08:35	10/31/17 12:45	90-12-0	
2-Methylnaphthalene	**<10.6**	ug/kg	35.3	10.6	2	10/27/17 08:35	10/31/17 12:45	91-57-6	
Naphthalene	**<17.8**	ug/kg	59.5	17.8	2	10/27/17 08:35	10/31/17 12:45	91-20-3	
Phenanthrene	**254**	ug/kg	82.1	24.6	2	10/27/17 08:35	10/31/17 12:45	85-01-8	
Pyrene	**619**	ug/kg	31.7	9.5	2	10/27/17 08:35	10/31/17 12:45	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	61	%	23-106		2	10/27/17 08:35	10/31/17 12:45	321-60-8	
Terphenyl-d14 (S)	65	%	29-106		2	10/27/17 08:35	10/31/17 12:45	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.4**	%	0.10	0.10	1		10/24/17 14:52		

Sample: PILE 16 EAST ON SLOPE **Lab ID: 40159251003** Collected: 10/23/17 11:15 Received: 10/24/17 10:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541								
PCB-1016 (Aroclor 1016)	**<25.8**	ug/kg	51.6	25.8	1	10/25/17 10:07	10/25/17 17:47	12674-11-2	
PCB-1221 (Aroclor 1221)	**<25.8**	ug/kg	51.6	25.8	1	10/25/17 10:07	10/25/17 17:47	11104-28-2	
PCB-1232 (Aroclor 1232)	**<25.8**	ug/kg	51.6	25.8	1	10/25/17 10:07	10/25/17 17:47	11141-16-5	
PCB-1242 (Aroclor 1242)	**<25.8**	ug/kg	51.6	25.8	1	10/25/17 10:07	10/25/17 17:47	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.8**	ug/kg	51.6	25.8	1	10/25/17 10:07	10/25/17 17:47	12672-29-6	
PCB-1254 (Aroclor 1254)	**<25.8**	ug/kg	51.6	25.8	1	10/25/17 10:07	10/25/17 17:47	11097-69-1	
PCB-1260 (Aroclor 1260)	**<25.8**	ug/kg	51.6	25.8	1	10/25/17 10:07	10/25/17 17:47	11096-82-5	
PCB, Total	**<25.8**	ug/kg	51.6	25.8	1	10/25/17 10:07	10/25/17 17:47	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	74	%	50-102		1	10/25/17 10:07	10/25/17 17:47	877-09-8	
Decachlorobiphenyl (S)	77	%	53-105		1	10/25/17 10:07	10/25/17 17:47	2051-24-3	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**2.1**	mg/kg	0.83	0.25	6.667	10/25/17 09:25	10/26/17 19:52	7440-38-2	
Barium	**18.9**	mg/kg	0.72	0.22	6.667	10/25/17 09:25	10/26/17 19:52	7440-39-3	
Cadmium	**<0.092**	mg/kg	0.63	0.092	6.667	10/25/17 09:25	10/26/17 19:52	7440-43-9	D3
Chromium	**5.5**	mg/kg	4.2	1.3	6.667	10/25/17 09:25	10/26/17 19:52	7440-47-3	
Lead	**5.8**	mg/kg	0.63	0.17	6.667	10/25/17 09:25	10/26/17 19:52	7439-92-1	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY
Pace Project No.: 40159251

Sample: PILE 16 EAST ON SLOPE **Lab ID: 40159251003** Collected: 10/23/17 11:15 Received: 10/24/17 10:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Selenium	**0.33J**	mg/kg	0.63	0.17	6.667	10/25/17 09:25	10/26/17 19:52	7782-49-2	D3
Silver	**<0.090**	mg/kg	0.31	0.090	6.667	10/25/17 09:25	10/26/17 19:52	7440-22-4	D3
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**<0.011**	mg/kg	0.036	0.011	1	10/26/17 06:39	10/26/17 11:18	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**13.6**	ug/kg	13.3	4.0	1	10/27/17 08:35	10/27/17 17:33	83-32-9	
Acenaphthylene	**3.6J**	ug/kg	11.3	3.4	1	10/27/17 08:35	10/27/17 17:33	208-96-8	
Anthracene	**38.1**	ug/kg	19.6	5.9	1	10/27/17 08:35	10/27/17 17:33	120-12-7	
Benzo(a)anthracene	**76.2**	ug/kg	10.9	3.3	1	10/27/17 08:35	10/27/17 17:33	56-55-3	
Benzo(a)pyrene	**69.4**	ug/kg	8.6	2.6	1	10/27/17 08:35	10/27/17 17:33	50-32-8	
Benzo(b)fluoranthene	**74.3**	ug/kg	9.7	2.9	1	10/27/17 08:35	10/27/17 17:33	205-99-2	
Benzo(g,h,i)perylene	**32.6**	ug/kg	7.0	2.1	1	10/27/17 08:35	10/27/17 17:33	191-24-2	
Benzo(k)fluoranthene	**63.9**	ug/kg	8.6	2.6	1	10/27/17 08:35	10/27/17 17:33	207-08-9	
Chrysene	**87.5**	ug/kg	11.6	3.5	1	10/27/17 08:35	10/27/17 17:33	218-01-9	
Dibenz(a,h)anthracene	**14.6**	ug/kg	7.7	2.3	1	10/27/17 08:35	10/27/17 17:33	53-70-3	
Fluoranthene	**194**	ug/kg	17.9	5.4	1	10/27/17 08:35	10/27/17 17:33	206-44-0	
Fluorene	**17.9**	ug/kg	14.2	4.3	1	10/27/17 08:35	10/27/17 17:33	86-73-7	
Indeno(1,2,3-cd)pyrene	**34.6**	ug/kg	7.6	2.3	1	10/27/17 08:35	10/27/17 17:33	193-39-5	
1-Methylnaphthalene	**4.8J**	ug/kg	13.8	4.1	1	10/27/17 08:35	10/27/17 17:33	90-12-0	
2-Methylnaphthalene	**6.1J**	ug/kg	17.2	5.2	1	10/27/17 08:35	10/27/17 17:33	91-57-6	
Naphthalene	**<8.7**	ug/kg	29.0	8.7	1	10/27/17 08:35	10/27/17 17:33	91-20-3	
Phenanthrene	**133**	ug/kg	40.0	12.0	1	10/27/17 08:35	10/27/17 17:33	85-01-8	
Pyrene	**162**	ug/kg	15.5	4.7	1	10/27/17 08:35	10/27/17 17:33	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%	23-106		1	10/27/17 08:35	10/27/17 17:33	321-60-8	
Terphenyl-d14 (S)	83	%	29-106		1	10/27/17 08:35	10/27/17 17:33	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**3.1**	%	0.10	0.10	1		10/24/17 14:52		

Sample: PILE 16 WEST ON SLOPE **Lab ID: 40159251004** Collected: 10/23/17 11:25 Received: 10/24/17 10:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541								
PCB-1016 (Aroclor 1016)	**<26.0**	ug/kg	51.9	26.0	1	10/25/17 10:07	10/25/17 18:05	12674-11-2	
PCB-1221 (Aroclor 1221)	**<26.0**	ug/kg	51.9	26.0	1	10/25/17 10:07	10/25/17 18:05	11104-28-2	
PCB-1232 (Aroclor 1232)	**<26.0**	ug/kg	51.9	26.0	1	10/25/17 10:07	10/25/17 18:05	11141-16-5	
PCB-1242 (Aroclor 1242)	**<26.0**	ug/kg	51.9	26.0	1	10/25/17 10:07	10/25/17 18:05	53469-21-9	
PCB-1248 (Aroclor 1248)	**<26.0**	ug/kg	51.9	26.0	1	10/25/17 10:07	10/25/17 18:05	12672-29-6	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY
Pace Project No.: 40159251

Sample: PILE 16 WEST ON SLOPE **Lab ID: 40159251004** Collected: 10/23/17 11:25 Received: 10/24/17 10:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541								
PCB-1254 (Aroclor 1254)	**<26.0**	ug/kg	51.9	26.0	1	10/25/17 10:07	10/25/17 18:05	11097-69-1	
PCB-1260 (Aroclor 1260)	**<26.0**	ug/kg	51.9	26.0	1	10/25/17 10:07	10/25/17 18:05	11096-82-5	
PCB, Total	**<26.0**	ug/kg	51.9	26.0	1	10/25/17 10:07	10/25/17 18:05	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	71	%	50-102		1	10/25/17 10:07	10/25/17 18:05	877-09-8	
Decachlorobiphenyl (S)	77	%	53-105		1	10/25/17 10:07	10/25/17 18:05	2051-24-3	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**2.4**	mg/kg	0.91	0.27	6.667	10/25/17 09:25	10/26/17 20:00	7440-38-2	
Barium	**31.4**	mg/kg	0.79	0.24	6.667	10/25/17 09:25	10/26/17 20:00	7440-39-3	
Cadmium	**<0.10**	mg/kg	0.69	0.10	6.667	10/25/17 09:25	10/26/17 20:00	7440-43-9	D3
Chromium	**8.3**	mg/kg	4.6	1.4	6.667	10/25/17 09:25	10/26/17 20:00	7440-47-3	
Lead	**8.6**	mg/kg	0.69	0.19	6.667	10/25/17 09:25	10/26/17 20:00	7439-92-1	
Selenium	**0.32J**	mg/kg	0.69	0.19	6.667	10/25/17 09:25	10/26/17 20:00	7782-49-2	D3
Silver	**<0.098**	mg/kg	0.34	0.098	6.667	10/25/17 09:25	10/26/17 20:00	7440-22-4	D3
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**<0.010**	mg/kg	0.035	0.010	1	10/26/17 06:39	10/26/17 11:20	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**7.4J**	ug/kg	13.4	4.0	1	10/27/17 08:35	10/27/17 17:50	83-32-9	
Acenaphthylene	**<3.4**	ug/kg	11.4	3.4	1	10/27/17 08:35	10/27/17 17:50	208-96-8	
Anthracene	**17.4J**	ug/kg	19.8	5.9	1	10/27/17 08:35	10/27/17 17:50	120-12-7	
Benzo(a)anthracene	**39.3**	ug/kg	11.0	3.3	1	10/27/17 08:35	10/27/17 17:50	56-55-3	
Benzo(a)pyrene	**36.4**	ug/kg	8.7	2.6	1	10/27/17 08:35	10/27/17 17:50	50-32-8	
Benzo(b)fluoranthene	**32.8**	ug/kg	9.8	2.9	1	10/27/17 08:35	10/27/17 17:50	205-99-2	
Benzo(g,h,i)perylene	**14.5**	ug/kg	7.0	2.1	1	10/27/17 08:35	10/27/17 17:50	191-24-2	
Benzo(k)fluoranthene	**40.2**	ug/kg	8.7	2.6	1	10/27/17 08:35	10/27/17 17:50	207-08-9	
Chrysene	**47.5**	ug/kg	11.6	3.5	1	10/27/17 08:35	10/27/17 17:50	218-01-9	
Dibenz(a,h)anthracene	**6.7J**	ug/kg	7.7	2.3	1	10/27/17 08:35	10/27/17 17:50	53-70-3	
Fluoranthene	**109**	ug/kg	18.1	5.4	1	10/27/17 08:35	10/27/17 17:50	206-44-0	
Fluorene	**8.5J**	ug/kg	14.3	4.3	1	10/27/17 08:35	10/27/17 17:50	86-73-7	
Indeno(1,2,3-cd)pyrene	**16.2**	ug/kg	7.6	2.3	1	10/27/17 08:35	10/27/17 17:50	193-39-5	
1-Methylnaphthalene	**<4.2**	ug/kg	13.9	4.2	1	10/27/17 08:35	10/27/17 17:50	90-12-0	
2-Methylnaphthalene	**<5.2**	ug/kg	17.4	5.2	1	10/27/17 08:35	10/27/17 17:50	91-57-6	
Naphthalene	**12.6J**	ug/kg	29.2	8.8	1	10/27/17 08:35	10/27/17 17:50	91-20-3	
Phenanthrene	**76.3**	ug/kg	40.3	12.1	1	10/27/17 08:35	10/27/17 17:50	85-01-8	
Pyrene	**87.7**	ug/kg	15.6	4.7	1	10/27/17 08:35	10/27/17 17:50	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	71	%	23-106		1	10/27/17 08:35	10/27/17 17:50	321-60-8	
Terphenyl-d14 (S)	82	%	29-106		1	10/27/17 08:35	10/27/17 17:50	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**3.7**	%	0.10	0.10	1		10/24/17 14:52		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 2133 SOLVAY
Pace Project No.: 40159251

QC Batch: 271844 | Analysis Method: EPA 7471
QC Batch Method: EPA 7471 | Analysis Description: 7471 Mercury
Associated Lab Samples: 40159251001, 40159251002, 40159251003, 40159251004

METHOD BLANK: 1598356 | Matrix: Solid
Associated Lab Samples: 40159251001, 40159251002, 40159251003, 40159251004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.011	0.037	10/26/17 10:16	

LABORATORY CONTROL SAMPLE: 1598357

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.83	0.93	112	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1598358 1598359

Parameter	Units	40158646004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	0.027J	.94	.94	1.0	1.1	106	110	85-115	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1598360 1598361

Parameter	Units	40159139005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	<0.014	1.1	1.1	1.2	1.1	109	107	85-115	2	20	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY
Pace Project No.: 40159251

QC Batch: 271698 | Analysis Method: EPA 6020
QC Batch Method: EPA 3050 | Analysis Description: 6020 MET
Associated Lab Samples: 40159251001, 40159251002, 40159251003, 40159251004

METHOD BLANK: 1597243 | Matrix: Solid
Associated Lab Samples: 40159251001, 40159251002, 40159251003, 40159251004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	<0.040	0.13	10/26/17 18:52	
Barium	mg/kg	<0.034	0.11	10/26/17 18:52	
Cadmium	mg/kg	<0.015	0.10	10/26/17 18:52	
Chromium	mg/kg	<0.20	0.67	10/26/17 18:52	
Lead	mg/kg	<0.027	0.10	10/26/17 18:52	
Selenium	mg/kg	<0.027	0.10	10/26/17 18:52	
Silver	mg/kg	<0.014	0.050	10/26/17 18:52	

LABORATORY CONTROL SAMPLE: 1597244

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	55.0	110	80-120	
Barium	mg/kg	50	52.8	106	80-120	
Cadmium	mg/kg	50	55.0	110	80-120	
Chromium	mg/kg	50	53.1	106	80-120	
Lead	mg/kg	50	51.2	102	80-120	
Selenium	mg/kg	50	60.0	120	80-120	
Silver	mg/kg	25	26.5	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1597245 1597246

Parameter	Units	40159251001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	2.8	52.5	52.3	57.1	58.0	104	106	75-125	2	20	
Barium	mg/kg	36.1	52.5	52.3	90.0	92.5	103	108	75-125	3	20	
Cadmium	mg/kg	0.14J	52.5	52.3	52.9	53.0	100	101	75-125	0	20	
Chromium	mg/kg	10.8	52.5	52.3	63.4	64.7	100	103	75-125	2	20	
Lead	mg/kg	6.9	52.5	52.3	60.6	61.4	102	104	75-125	1	20	
Selenium	mg/kg	0.48J	52.5	52.3	60.0	59.7	113	113	75-125	1	20	
Silver	mg/kg	<0.10	26.3	26.2	24.5	24.6	93	94	75-125	0	20	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY
Pace Project No.: 40159251

QC Batch: 271808 | Analysis Method: EPA 8082
QC Batch Method: EPA 3541 | Analysis Description: 8082 GCS PCB
Associated Lab Samples: 40159251001, 40159251002, 40159251003, 40159251004

METHOD BLANK: 1598103 | Matrix: Solid
Associated Lab Samples: 40159251001, 40159251002, 40159251003, 40159251004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<25.0	50.0	10/25/17 12:45	
PCB-1221 (Aroclor 1221)	ug/kg	<25.0	50.0	10/25/17 12:45	
PCB-1232 (Aroclor 1232)	ug/kg	<25.0	50.0	10/25/17 12:45	
PCB-1242 (Aroclor 1242)	ug/kg	<25.0	50.0	10/25/17 12:45	
PCB-1248 (Aroclor 1248)	ug/kg	<25.0	50.0	10/25/17 12:45	
PCB-1254 (Aroclor 1254)	ug/kg	<25.0	50.0	10/25/17 12:45	
PCB-1260 (Aroclor 1260)	ug/kg	<25.0	50.0	10/25/17 12:45	
Decachlorobiphenyl (S)	%	84	53-105	10/25/17 12:45	
Tetrachloro-m-xylene (S)	%	77	50-102	10/25/17 12:45	

LABORATORY CONTROL SAMPLE: 1598104

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<25.0			
PCB-1221 (Aroclor 1221)	ug/kg		<25.0			
PCB-1232 (Aroclor 1232)	ug/kg		<25.0			
PCB-1242 (Aroclor 1242)	ug/kg		<25.0			
PCB-1248 (Aroclor 1248)	ug/kg		<25.0			
PCB-1254 (Aroclor 1254)	ug/kg		<25.0			
PCB-1260 (Aroclor 1260)	ug/kg	500	377	75	59-106	
Decachlorobiphenyl (S)	%			86	53-105	
Tetrachloro-m-xylene (S)	%			78	50-102	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1598105 1598106

Parameter	Units	40159318001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<30.2			<30.2	<30.2					20	
PCB-1221 (Aroclor 1221)	ug/kg	<30.2			<30.2	<30.2					20	
PCB-1232 (Aroclor 1232)	ug/kg	<30.2			<30.2	<30.2					20	
PCB-1242 (Aroclor 1242)	ug/kg	83.0			96.7	110				13	20	
PCB-1248 (Aroclor 1248)	ug/kg	<30.2			<30.2	<30.2					20	
PCB-1254 (Aroclor 1254)	ug/kg	<30.2			<30.2	<30.2					20	
PCB-1260 (Aroclor 1260)	ug/kg	<30.2	604	604	420	405	70	67	51-109	4	20	
Decachlorobiphenyl (S)	%						75	72	53-105			
Tetrachloro-m-xylene (S)	%						72	68	50-102			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY
Pace Project No.: 40159251

QC Batch: 272096 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 40159251001, 40159251002, 40159251003, 40159251004

METHOD BLANK: 1600246 | Matrix: Solid
Associated Lab Samples: 40159251001, 40159251002, 40159251003, 40159251004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/kg	<4.0	13.4	10/27/17 12:37	
2-Methylnaphthalene	ug/kg	<5.0	16.7	10/27/17 12:37	
Acenaphthene	ug/kg	<3.9	12.9	10/27/17 12:37	
Acenaphthylene	ug/kg	<3.3	11.0	10/27/17 12:37	
Anthracene	ug/kg	<5.7	19.0	10/27/17 12:37	
Benzo(a)anthracene	ug/kg	<3.2	10.6	10/27/17 12:37	
Benzo(a)pyrene	ug/kg	<2.5	8.4	10/27/17 12:37	
Benzo(b)fluoranthene	ug/kg	<2.8	9.4	10/27/17 12:37	
Benzo(g,h,i)perylene	ug/kg	<2.0	6.8	10/27/17 12:37	
Benzo(k)fluoranthene	ug/kg	<2.5	8.4	10/27/17 12:37	
Chrysene	ug/kg	<3.4	11.2	10/27/17 12:37	
Dibenz(a,h)anthracene	ug/kg	<2.2	7.5	10/27/17 12:37	
Fluoranthene	ug/kg	<5.2	17.4	10/27/17 12:37	
Fluorene	ug/kg	<4.1	13.8	10/27/17 12:37	
Indeno(1,2,3-cd)pyrene	ug/kg	<2.2	7.3	10/27/17 12:37	
Naphthalene	ug/kg	<8.4	28.1	10/27/17 12:37	
Phenanthrene	ug/kg	<11.7	38.8	10/27/17 12:37	
Pyrene	ug/kg	<4.5	15.0	10/27/17 12:37	
2-Fluorobiphenyl (S)	%	70	23-106	10/27/17 12:37	
Terphenyl-d14 (S)	%	95	29-106	10/27/17 12:37	

LABORATORY CONTROL SAMPLE: 1600247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/kg	333	254	76	49-102	
2-Methylnaphthalene	ug/kg	333	257	77	47-91	
Acenaphthene	ug/kg	333	274	82	52-97	
Acenaphthylene	ug/kg	333	268	80	49-97	
Anthracene	ug/kg	333	279	84	62-101	
Benzo(a)anthracene	ug/kg	333	273	82	53-95	
Benzo(a)pyrene	ug/kg	333	278	83	57-108	
Benzo(b)fluoranthene	ug/kg	333	301	90	53-113	
Benzo(g,h,i)perylene	ug/kg	333	255	76	43-114	
Benzo(k)fluoranthene	ug/kg	333	248	74	66-116	
Chrysene	ug/kg	333	285	85	64-109	
Dibenz(a,h)anthracene	ug/kg	333	256	77	50-105	
Fluoranthene	ug/kg	333	318	95	58-107	
Fluorene	ug/kg	333	281	84	52-99	
Indeno(1,2,3-cd)pyrene	ug/kg	333	258	77	51-113	
Naphthalene	ug/kg	333	256	77	50-91	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY
Pace Project No.: 40159251

LABORATORY CONTROL SAMPLE: 1600247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenanthrene	ug/kg	333	287	86	57-101	
Pyrene	ug/kg	333	300	90	50-102	
2-Fluorobiphenyl (S)	%			95	23-106	
Terphenyl-d14 (S)	%			103	29-106	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1600248 1600249

Parameter	Units	40159139005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/kg	9020	423	421	10300	9200	308	42	37-102	12	29	M6
2-Methylnaphthalene	ug/kg	593J	423	421	781J	697J	45	25	44-91		36	M6
Acenaphthene	ug/kg	0.55J mg/kg	423	421	907	849	86	72	46-97	7	26	
Acenaphthylene	ug/kg	0.75 mg/kg	423	421	1400	1370	153	147	47-97	2	29	M6
Anthracene	ug/kg	1.9 mg/kg	423	421	2950	2760	240	194	50-101	7	28	M6
Benzo(a)anthracene	ug/kg	1.0 mg/kg	423	421	1960	1860	221	196	48-95	5	28	M6
Benzo(a)pyrene	ug/kg	0.78 mg/kg	423	421	1630	1530	201	179	47-108	6	36	M6
Benzo(b)fluoranthene	ug/kg	0.33J mg/kg	423	421	981	1000	153	158	42-113	2	34	M6
Benzo(g,h,i)perylene	ug/kg	0.24J mg/kg	423	421	643	635	95	93	18-114	1	30	
Benzo(k)fluoranthene	ug/kg	0.57 mg/kg	423	421	1110	1040	126	109	50-116	7	27	M6
Chrysene	ug/kg	1.0 mg/kg	423	421	1870	1780	206	186	55-109	5	28	M6
Dibenz(a,h)anthracene	ug/kg	<0.11 mg/kg	423	421	371J	380	64	66	39-105		29	
Fluoranthene	ug/kg	2.3 mg/kg	423	421	3700	3460	331	276	41-107	7	28	M6
Fluorene	ug/kg	2.2 mg/kg	423	421	3020	2820	189	143	48-99	7	28	M6
Indeno(1,2,3-cd)pyrene	ug/kg	0.23J mg/kg	423	421	615	616	91	92	27-113	0	30	
Naphthalene	ug/kg	20.1 mg/kg	423	421	22000	20100	458	-6	40-91	9	37	M6
Phenanthrene	ug/kg	7.5 mg/kg	423	421	9830	9240	543	401	46-101	6	40	M6
Pyrene	ug/kg	2.9 mg/kg	423	421	4430	4180	356	297	50-102	6	31	M6
2-Fluorobiphenyl (S)	%						0	0	23-106			S4
Terphenyl-d14 (S)	%						0	0	29-106			S4

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QUALITY CONTROL DATA

Project: 2133 SOLVAY
Pace Project No.: 40159251

QC Batch: 271732 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40159251001, 40159251002, 40159251003, 40159251004

SAMPLE DUPLICATE: 1597500

Parameter	Units	40158785023 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	17.7	17.9	1	10	

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QUALIFIERS

Project: 2133 SOLVAY
Pace Project No.: 40159251

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2133 SOLVAY
Pace Project No.: 40159251

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40159251001	**PILE 16 SOUTH ON TOP**	EPA 3541	271808	EPA 8082	271809
40159251002	**PILE 16 NORTH ON TOP**	EPA 3541	271808	EPA 8082	271809
40159251003	**PILE 16 EAST ON SLOPE**	EPA 3541	271808	EPA 8082	271809
40159251004	**PILE 16 WEST ON SLOPE**	EPA 3541	271808	EPA 8082	271809
40159251001	**PILE 16 SOUTH ON TOP**	EPA 3050	271698	EPA 6020	271979
40159251002	**PILE 16 NORTH ON TOP**	EPA 3050	271698	EPA 6020	271979
40159251003	**PILE 16 EAST ON SLOPE**	EPA 3050	271698	EPA 6020	271979
40159251004	**PILE 16 WEST ON SLOPE**	EPA 3050	271698	EPA 6020	271979
40159251001	**PILE 16 SOUTH ON TOP**	EPA 7471	271844	EPA 7471	271939
40159251002	**PILE 16 NORTH ON TOP**	EPA 7471	271844	EPA 7471	271939
40159251003	**PILE 16 EAST ON SLOPE**	EPA 7471	271844	EPA 7471	271939
40159251004	**PILE 16 WEST ON SLOPE**	EPA 7471	271844	EPA 7471	271939
40159251001	**PILE 16 SOUTH ON TOP**	EPA 3546	272096	EPA 8270 by SIM	272148
40159251002	**PILE 16 NORTH ON TOP**	EPA 3546	272096	EPA 8270 by SIM	272148
40159251003	**PILE 16 EAST ON SLOPE**	EPA 3546	272096	EPA 8270 by SIM	272148
40159251004	**PILE 16 WEST ON SLOPE**	EPA 3546	272096	EPA 8270 by SIM	272148
40159251001	**PILE 16 SOUTH ON TOP**	ASTM D2974-87	271732		
40159251002	**PILE 16 NORTH ON TOP**	ASTM D2974-87	271732		
40159251003	**PILE 16 EAST ON SLOPE**	ASTM D2974-87	271732		
40159251004	**PILE 16 WEST ON SLOPE**	ASTM D2974-87	271732		

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Page 1 of

40159251

COC# 2133-1017-002

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	Natural Resource Tech
Branch/Location:	Milwaukee, WI
Project Contact:	Andrew Cawse
Phone:	414-837-3645
Project Number:	2133
Project Name:	Solvay
Project State:	WI
Sampled By (Print):	Andrew Cawse
Sampled By (Sign):	[signature]
PO #:	3400010643
Regulatory Program:	

Quote #:	
Mail To Contact:	gdsdata@obg.com
Mail To Company:	Natural Resource Tech
Mail To Address:	234 W Florida St Milwaukee, WI
Invoice To Contact:	Bob Paulson
Invoice To Company:	We Energies
Invoice To Address:	231 W Michigan St Milwaukee, WI
Invoice To Phone:	

Data Package Options (billable)
- ☐ EPA Level III
- ☐ EPA Level IV

MS/MSD
- ☐ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: PAHs 8270	PCBs 8082	RCRA metals 6020	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	Pile 16 South on Top	10/23/17	11:05	S	N	A	X	X	X		1-40zag A	
002	Pile 16 North on Top	↓	11:10	↓	N	A	X	X	X		↓	
003	Pile 16 East on Slope	↓	11:15	↓	N	A	X	X	X			
004	Pile 16 West on Slope	↓	11:25	↓	N	A	X	X	X			

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed: 3 day TAT

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	16:30 10/23/17	Kim Retzlaff Pace	10/24/17 1050

PACE Project No. 40159251

Receipt Temp = R01 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

Custody Seal #2133-01+02

C019a(27Jun2006)

Version 6.0 06/14/06

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Pace Analytical™

Project #: WO#: 40159251
40159251

Client Name: NRT

Courier: ☑ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: _____

Tracking #: 7705 6720 0597

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used NA ROT 10-24-17 KR **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: R01 /Corr: _____ **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Person examining contents:
Date: 10-24-17
Initials: KR

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☑Yes ☐No ☐N/A	7. 3 day TAT 10-24-17 KR
Sufficient Volume:	☐Yes ☑No ☐N/A	8. No MS/MSD vol. 10-24-17 KR
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: S		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes ☑No	Initial when completed / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	14.
Trip Blank Present:	☐Yes ☐No ☑N/A	15.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 10-24-17

F-GB-C-031-Rev.04 (12Dec2016) SCUR.xls
Pace Analytical Services LLC. - Green Bay WI

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

November 09, 2017

Andrew Cawrse
Natural Resource Technology
234 W Florida St
Milwaukee, WI 53204

RE: Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Dear Andrew Cawrse:
Enclosed are the analytical results for sample(s) received by the laboratory on October 27, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: NRT Data, Natural Resource Technologies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY
Jay Karls, Natural Resource Technology
Robert Paulson, We Energies

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CERTIFICATIONS

Project:	2133/6.0 SOLVAY
Pace Project No.:	40159629

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40159629001	**SOUTH CN PILE**	Solid	10/25/17 10:25	10/27/17 12:00
40159629002	**FT-SB40 (0-2)**	Solid	10/25/17 11:55	10/27/17 12:00
40159629003	**FT-SB41 (2-3.2)**	Solid	10/25/17 12:15	10/27/17 12:00
40159629004	**FT-SB42 (0-2)**	Solid	10/25/17 12:45	10/27/17 12:00
40159629005	**FT-SB43 (0-2)**	Solid	10/25/17 13:20	10/27/17 12:00
40159629006	**FT-SB44 (0-2)**	Solid	10/25/17 13:35	10/27/17 12:00
40159629007	**FT-SB39 (0-2)**	Solid	10/25/17 14:00	10/27/17 12:00
40159629008	**FT-SB46 (2-3.5)**	Solid	10/25/17 14:35	10/27/17 12:00
40159629009	**FT-SB45 (2-4)**	Solid	10/26/17 12:00	10/27/17 12:00
40159629010	**FT-SB48 (0-2)**	Solid	10/26/17 12:50	10/27/17 12:00
40159629011	**FT-SB47 (2-4)**	Solid	10/26/17 13:15	10/27/17 12:00
40159629012	**FT-SB47 (DUP)**	Solid	10/26/17 13:16	10/27/17 12:00
40159629013	**TB102617**	Solid	10/26/17 18:00	10/27/17 12:00
40159629014	**FT-SB49 (2-4)**	Solid	10/26/17 13:40	10/27/17 12:00
40159629015	**CG-SB96 (2-4)**	Solid	10/26/17 14:30	10/27/17 12:00
40159629016	**CG-SB103 (0-2)**	Solid	10/26/17 15:35	10/27/17 12:00

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SAMPLE ANALYTE COUNT

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40159629001	**SOUTH CN PILE**	ASTM D2974-87	KTS	1
		EPA 9012	DAW	1
40159629002	**FT-SB40 (0-2)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	KTS	1
		EPA 9012	DAW	1
40159629003	**FT-SB41 (2-3.2)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	KTS	1
		EPA 9012	DAW	1
40159629004	**FT-SB42 (0-2)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	KTS	1
		EPA 9012	DAW	1
40159629005	**FT-SB43 (0-2)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	KTS	1
		EPA 9012	DAW	1
40159629006	**FT-SB44 (0-2)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	KTS	1
		EPA 9012	DAW	1
40159629007	**FT-SB39 (0-2)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	KTS	1
		EPA 9012	DAW	1
40159629008	**FT-SB46 (2-3.5)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	KTS	1
		EPA 9012	DAW	1

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SAMPLE ANALYTE COUNT

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40159629009	**FT-SB45 (2-4)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	KTS	1
		EPA 9012	DAW	1
40159629010	**FT-SB48 (0-2)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	KTS	1
		EPA 9012	DAW	1
40159629011	**FT-SB47 (2-4)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	AH	1
		EPA 9012	DAW	1
40159629012	**FT-SB47 (DUP)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	AH	1
		EPA 9012	DAW	1
40159629013	**TB102617**	EPA 8260	SMT	4
40159629014	**FT-SB49 (2-4)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	AH	1
		EPA 9012	DAW	1
40159629015	**CG-SB96 (2-4)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	AH	1
		EPA 9012	DAW	1
40159629016	**CG-SB103 (0-2)**	EPA 6020	DS1	1
		EPA 8270 by SIM	ARO	18
		EPA 8260	SMT	4
		ASTM D2974-87	AH	1
		EPA 9012	DAW	1

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: SOUTH CN PILE **Lab ID: 40159629001** Collected: 10/25/17 10:25 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**17.8**	%	0.10	0.10	1		11/02/17 16:47		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**15.5**	mg/kg	3.1	0.93	10	11/03/17 09:25	11/03/17 13:10	57-12-5	

Sample: FT-SB40 (0-2) **Lab ID: 40159629002** Collected: 10/25/17 11:55 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**24.0**	mg/kg	1.0	0.30	6.667	11/01/17 10:20	11/07/17 04:37	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**51.5J**	ug/kg	60.9	18.3	4	11/06/17 09:30	11/07/17 19:41	83-32-9	
Acenaphthylene	**200**	ug/kg	51.9	15.5	4	11/06/17 09:30	11/07/17 19:41	208-96-8	
Anthracene	**273**	ug/kg	89.6	26.9	4	11/06/17 09:30	11/07/17 19:41	120-12-7	
Benzo(a)anthracene	**787**	ug/kg	50.0	15.0	4	11/06/17 09:30	11/07/17 19:41	56-55-3	
Benzo(a)pyrene	**752**	ug/kg	39.5	11.8	4	11/06/17 09:30	11/07/17 19:41	50-32-8	
Benzo(b)fluoranthene	**1560**	ug/kg	44.4	13.3	4	11/06/17 09:30	11/07/17 19:41	205-99-2	
Benzo(g,h,i)perylene	**485**	ug/kg	31.9	9.6	4	11/06/17 09:30	11/07/17 19:41	191-24-2	
Benzo(k)fluoranthene	**505**	ug/kg	39.4	11.8	4	11/06/17 09:30	11/07/17 19:41	207-08-9	
Chrysene	**1110**	ug/kg	52.8	15.9	4	11/06/17 09:30	11/07/17 19:41	218-01-9	
Dibenz(a,h)anthracene	**174**	ug/kg	35.1	10.5	4	11/06/17 09:30	11/07/17 19:41	53-70-3	
Fluoranthene	**1510**	ug/kg	82.1	24.6	4	11/06/17 09:30	11/07/17 19:41	206-44-0	
Fluorene	**65.1J**	ug/kg	65.1	19.5	4	11/06/17 09:30	11/07/17 19:41	86-73-7	
Indeno(1,2,3-cd)pyrene	**477**	ug/kg	34.6	10.4	4	11/06/17 09:30	11/07/17 19:41	193-39-5	
Naphthalene	**819**	ug/kg	133	39.7	4	11/06/17 09:30	11/07/17 19:41	91-20-3	
Phenanthrene	**1460**	ug/kg	183	55.0	4	11/06/17 09:30	11/07/17 19:41	85-01-8	
Pyrene	**1200**	ug/kg	70.8	21.3	4	11/06/17 09:30	11/07/17 19:41	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	51	%	23-106		4	11/06/17 09:30	11/07/17 19:41	321-60-8	
Terphenyl-d14 (S)	39	%	29-106		4	11/06/17 09:30	11/07/17 19:41	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**47.8J**	ug/kg	74.4	31.0	1	11/06/17 07:45	11/06/17 13:21	71-43-2	
Surrogates									
Dibromofluoromethane (S)	119	%	68-130		1	11/06/17 07:45	11/06/17 13:21	1868-53-7	
4-Bromofluorobenzene (S)	94	%	58-141		1	11/06/17 07:45	11/06/17 13:21	460-00-4	
Toluene-d8 (S)	117	%	68-149		1	11/06/17 07:45	11/06/17 13:21	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**15.1**	%	0.10	0.10	1		11/02/17 16:47		

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: FT-SB40 (0-2) **Lab ID: 40159629002** Collected: 10/25/17 11:55 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**1.2**	mg/kg	0.38	0.11	1	11/03/17 09:25	11/03/17 11:59	57-12-5	

Sample: FT-SB41 (2-3.2) **Lab ID: 40159629003** Collected: 10/25/17 12:15 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**10.5**	mg/kg	1.0	0.30	6.667	11/01/17 10:20	11/07/17 04:44	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**80.5**	ug/kg	63.1	19.0	4	11/06/17 09:30	11/07/17 20:15	83-32-9	
Acenaphthylene	**45.1J**	ug/kg	53.8	16.1	4	11/06/17 09:30	11/07/17 20:15	208-96-8	
Anthracene	**231**	ug/kg	92.9	27.9	4	11/06/17 09:30	11/07/17 20:15	120-12-7	
Benzo(a)anthracene	**658**	ug/kg	51.8	15.5	4	11/06/17 09:30	11/07/17 20:15	56-55-3	
Benzo(a)pyrene	**634**	ug/kg	40.9	12.3	4	11/06/17 09:30	11/07/17 20:15	50-32-8	
Benzo(b)fluoranthene	**874**	ug/kg	46.0	13.8	4	11/06/17 09:30	11/07/17 20:15	205-99-2	
Benzo(g,h,i)perylene	**322**	ug/kg	33.1	9.9	4	11/06/17 09:30	11/07/17 20:15	191-24-2	
Benzo(k)fluoranthene	**296**	ug/kg	40.9	12.3	4	11/06/17 09:30	11/07/17 20:15	207-08-9	
Chrysene	**701**	ug/kg	54.8	16.5	4	11/06/17 09:30	11/07/17 20:15	218-01-9	
Dibenz(a,h)anthracene	**104**	ug/kg	36.4	10.9	4	11/06/17 09:30	11/07/17 20:15	53-70-3	
Fluoranthene	**1370**	ug/kg	85.1	25.5	4	11/06/17 09:30	11/07/17 20:15	206-44-0	
Fluorene	**67.2J**	ug/kg	67.5	20.2	4	11/06/17 09:30	11/07/17 20:15	86-73-7	
Indeno(1,2,3-cd)pyrene	**310**	ug/kg	35.8	10.7	4	11/06/17 09:30	11/07/17 20:15	193-39-5	
Naphthalene	**225**	ug/kg	137	41.2	4	11/06/17 09:30	11/07/17 20:15	91-20-3	
Phenanthrene	**982**	ug/kg	190	56.9	4	11/06/17 09:30	11/07/17 20:15	85-01-8	
Pyrene	**1210**	ug/kg	73.3	22.1	4	11/06/17 09:30	11/07/17 20:15	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	55	%	23-106		4	11/06/17 09:30	11/07/17 20:15	321-60-8	
Terphenyl-d14 (S)	41	%	29-106		4	11/06/17 09:30	11/07/17 20:15	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	10/31/17 08:00	11/01/17 03:06	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	92	%	68-130		1	10/31/17 08:00	11/01/17 03:06	1868-53-7	
4-Bromofluorobenzene (S)	89	%	58-141		1	10/31/17 08:00	11/01/17 03:06	460-00-4	
Toluene-d8 (S)	94	%	68-149		1	10/31/17 08:00	11/01/17 03:06	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**18.1**	%	0.10	0.10	1		11/02/17 16:48		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**<0.096**	mg/kg	0.32	0.096	1	11/03/17 09:25	11/03/17 11:59	57-12-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: FT-SB42 (0-2) **Lab ID: 40159629004** Collected: 10/25/17 12:45 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**2.4**	mg/kg	0.87	0.26	6.667	11/01/17 10:20	11/07/17 04:52	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**18.4**	ug/kg	13.6	4.1	1	11/06/17 09:30	11/07/17 19:24	83-32-9	
Acenaphthylene	**6.8J**	ug/kg	11.6	3.5	1	11/06/17 09:30	11/07/17 19:24	208-96-8	
Anthracene	**60.9**	ug/kg	20.1	6.0	1	11/06/17 09:30	11/07/17 19:24	120-12-7	
Benzo(a)anthracene	**256**	ug/kg	11.2	3.4	1	11/06/17 09:30	11/07/17 19:24	56-55-3	
Benzo(a)pyrene	**249**	ug/kg	8.8	2.7	1	11/06/17 09:30	11/07/17 19:24	50-32-8	
Benzo(b)fluoranthene	**322**	ug/kg	9.9	3.0	1	11/06/17 09:30	11/07/17 19:24	205-99-2	
Benzo(g,h,i)perylene	**138**	ug/kg	7.2	2.1	1	11/06/17 09:30	11/07/17 19:24	191-24-2	
Benzo(k)fluoranthene	**118**	ug/kg	8.8	2.7	1	11/06/17 09:30	11/07/17 19:24	207-08-9	
Chrysene	**251**	ug/kg	11.8	3.6	1	11/06/17 09:30	11/07/17 19:24	218-01-9	
Dibenz(a,h)anthracene	**35.9**	ug/kg	7.9	2.4	1	11/06/17 09:30	11/07/17 19:24	53-70-3	
Fluoranthene	**515**	ug/kg	18.4	5.5	1	11/06/17 09:30	11/07/17 19:24	206-44-0	
Fluorene	**14.5J**	ug/kg	14.6	4.4	1	11/06/17 09:30	11/07/17 19:24	86-73-7	
Indeno(1,2,3-cd)pyrene	**128**	ug/kg	7.7	2.3	1	11/06/17 09:30	11/07/17 19:24	193-39-5	
Naphthalene	**<8.9**	ug/kg	29.7	8.9	1	11/06/17 09:30	11/07/17 19:24	91-20-3	
Phenanthrene	**235**	ug/kg	41.0	12.3	1	11/06/17 09:30	11/07/17 19:24	85-01-8	
Pyrene	**486**	ug/kg	15.9	4.8	1	11/06/17 09:30	11/07/17 19:24	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%	23-106		1	11/06/17 09:30	11/07/17 19:24	321-60-8	
Terphenyl-d14 (S)	79	%	29-106		1	11/06/17 09:30	11/07/17 19:24	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	10/31/17 08:30	11/01/17 02:33	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	114	%	68-130		1	10/31/17 08:30	11/01/17 02:33	1868-53-7	
4-Bromofluorobenzene (S)	92	%	58-141		1	10/31/17 08:30	11/01/17 02:33	460-00-4	
Toluene-d8 (S)	108	%	68-149		1	10/31/17 08:30	11/01/17 02:33	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.2**	%	0.10	0.10	1		11/02/17 16:48		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**<0.12**	mg/kg	0.40	0.12	1	11/03/17 09:25	11/03/17 12:03	57-12-5	

Sample: FT-SB43 (0-2) **Lab ID: 40159629005** Collected: 10/25/17 13:20 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**9.8**	mg/kg	0.98	0.30	6.667	11/01/17 10:20	11/07/17 05:14	7440-38-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: FT-SB43 (0-2) **Lab ID: 40159629005** Collected: 10/25/17 13:20 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**160**	ug/kg	73.7	22.2	5	11/06/17 09:30	11/07/17 16:15	83-32-9	
Acenaphthylene	**56.9J**	ug/kg	62.9	18.8	5	11/06/17 09:30	11/07/17 16:15	208-96-8	
Anthracene	**304**	ug/kg	109	32.6	5	11/06/17 09:30	11/07/17 16:15	120-12-7	
Benzo(a)anthracene	**665**	ug/kg	60.6	18.1	5	11/06/17 09:30	11/07/17 16:15	56-55-3	
Benzo(a)pyrene	**634**	ug/kg	47.8	14.4	5	11/06/17 09:30	11/07/17 16:15	50-32-8	
Benzo(b)fluoranthene	**877**	ug/kg	53.8	16.1	5	11/06/17 09:30	11/07/17 16:15	205-99-2	
Benzo(g,h,i)perylene	**347**	ug/kg	38.7	11.6	5	11/06/17 09:30	11/07/17 16:15	191-24-2	
Benzo(k)fluoranthene	**327**	ug/kg	47.8	14.3	5	11/06/17 09:30	11/07/17 16:15	207-08-9	
Chrysene	**700**	ug/kg	64.0	19.3	5	11/06/17 09:30	11/07/17 16:15	218-01-9	
Dibenz(a,h)anthracene	**94.5**	ug/kg	42.6	12.8	5	11/06/17 09:30	11/07/17 16:15	53-70-3	
Fluoranthene	**1410**	ug/kg	99.4	29.8	5	11/06/17 09:30	11/07/17 16:15	206-44-0	
Fluorene	**115**	ug/kg	78.9	23.7	5	11/06/17 09:30	11/07/17 16:15	86-73-7	
Indeno(1,2,3-cd)pyrene	**324**	ug/kg	41.9	12.6	5	11/06/17 09:30	11/07/17 16:15	193-39-5	
Naphthalene	**373**	ug/kg	161	48.1	5	11/06/17 09:30	11/07/17 16:15	91-20-3	
Phenanthrene	**1350**	ug/kg	222	66.6	5	11/06/17 09:30	11/07/17 16:15	85-01-8	
Pyrene	**1260**	ug/kg	85.7	25.8	5	11/06/17 09:30	11/07/17 16:15	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	66	%	23-106		5	11/06/17 09:30	11/07/17 16:15	321-60-8	
Terphenyl-d14 (S)	67	%	29-106		5	11/06/17 09:30	11/07/17 16:15	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/01/17 11:45	11/02/17 08:42	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	111	%	68-130		1	11/01/17 11:45	11/02/17 08:42	1868-53-7	
4-Bromofluorobenzene (S)	89	%	58-141		1	11/01/17 11:45	11/02/17 08:42	460-00-4	
Toluene-d8 (S)	108	%	68-149		1	11/01/17 11:45	11/02/17 08:42	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**12.4**	%	0.10	0.10	1		11/02/17 16:48		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**4.1**	mg/kg	0.38	0.11	1	11/03/17 09:25	11/03/17 12:03	57-12-5	

Sample: FT-SB44 (0-2) **Lab ID: 40159629006** Collected: 10/25/17 13:35 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**9.0**	mg/kg	1.1	0.32	6.667	11/01/17 10:20	11/07/17 05:22	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<38.0**	ug/kg	126	38.0	8	11/03/17 08:36	11/06/17 10:37	83-32-9	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: FT-SB44 (0-2) **Lab ID: 40159629006** Collected: 10/25/17 13:35 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthylene	**141**	ug/kg	108	32.3	8	11/03/17 08:36	11/06/17 10:37	208-96-8	
Anthracene	**300**	ug/kg	186	55.9	8	11/03/17 08:36	11/06/17 10:37	120-12-7	
Benzo(a)anthracene	**743**	ug/kg	104	31.1	8	11/03/17 08:36	11/06/17 10:37	56-55-3	
Benzo(a)pyrene	**877**	ug/kg	82.0	24.6	8	11/03/17 08:36	11/06/17 10:37	50-32-8	
Benzo(b)fluoranthene	**870**	ug/kg	92.1	27.7	8	11/03/17 08:36	11/06/17 10:37	205-99-2	
Benzo(g,h,i)perylene	**581**	ug/kg	66.3	19.9	8	11/03/17 08:36	11/06/17 10:37	191-24-2	
Benzo(k)fluoranthene	**934**	ug/kg	81.9	24.6	8	11/03/17 08:36	11/06/17 10:37	207-08-9	
Chrysene	**1020**	ug/kg	110	33.0	8	11/03/17 08:36	11/06/17 10:37	218-01-9	
Dibenz(a,h)anthracene	**225**	ug/kg	73.0	21.9	8	11/03/17 08:36	11/06/17 10:37	53-70-3	
Fluoranthene	**1450**	ug/kg	170	51.0	8	11/03/17 08:36	11/06/17 10:37	206-44-0	
Fluorene	**60.8J**	ug/kg	135	40.5	8	11/03/17 08:36	11/06/17 10:37	86-73-7	
Indeno(1,2,3-cd)pyrene	**557**	ug/kg	71.8	21.5	8	11/03/17 08:36	11/06/17 10:37	193-39-5	
Naphthalene	**498**	ug/kg	275	82.5	8	11/03/17 08:36	11/06/17 10:37	91-20-3	
Phenanthrene	**761**	ug/kg	380	114	8	11/03/17 08:36	11/06/17 10:37	85-01-8	
Pyrene	**1320**	ug/kg	147	44.2	8	11/03/17 08:36	11/06/17 10:37	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	67	%	23-106		8	11/03/17 08:36	11/06/17 10:37	321-60-8	
Terphenyl-d14 (S)	68	%	29-106		8	11/03/17 08:36	11/06/17 10:37	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/01/17 11:45	11/02/17 08:20	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	111	%	68-130		1	11/01/17 11:45	11/02/17 08:20	1868-53-7	
4-Bromofluorobenzene (S)	83	%	58-141		1	11/01/17 11:45	11/02/17 08:20	460-00-4	
Toluene-d8 (S)	109	%	68-149		1	11/01/17 11:45	11/02/17 08:20	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**18.2**	%	0.10	0.10	1		11/02/17 16:48		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.80**	mg/kg	0.43	0.13	1	11/03/17 09:25	11/03/17 12:06	57-12-5	

Sample: FT-SB39 (0-2) **Lab ID: 40159629007** Collected: 10/25/17 14:00 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**8.4**	mg/kg	0.97	0.29	6.667	11/01/17 10:20	11/07/17 05:29	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**19.1**	ug/kg	15.1	4.5	1	11/03/17 08:36	11/06/17 12:21	83-32-9	
Acenaphthylene	**47.9**	ug/kg	12.9	3.9	1	11/03/17 08:36	11/06/17 12:21	208-96-8	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: FT-SB39 (0-2) **Lab ID: 40159629007** Collected: 10/25/17 14:00 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Anthracene	**115**	ug/kg	22.2	6.7	1	11/03/17 08:36	11/06/17 12:21	120-12-7	
Benzo(a)anthracene	**336**	ug/kg	12.4	3.7	1	11/03/17 08:36	11/06/17 12:21	56-55-3	
Benzo(a)pyrene	**292**	ug/kg	9.8	2.9	1	11/03/17 08:36	11/06/17 12:21	50-32-8	
Benzo(b)fluoranthene	**318**	ug/kg	11.0	3.3	1	11/03/17 08:36	11/06/17 12:21	205-99-2	
Benzo(g,h,i)perylene	**162**	ug/kg	7.9	2.4	1	11/03/17 08:36	11/06/17 12:21	191-24-2	
Benzo(k)fluoranthene	**270**	ug/kg	9.8	2.9	1	11/03/17 08:36	11/06/17 12:21	207-08-9	
Chrysene	**484**	ug/kg	13.1	3.9	1	11/03/17 08:36	11/06/17 12:21	218-01-9	
Dibenz(a,h)anthracene	**81.8**	ug/kg	8.7	2.6	1	11/03/17 08:36	11/06/17 12:21	53-70-3	
Fluoranthene	**614**	ug/kg	20.3	6.1	1	11/03/17 08:36	11/06/17 12:21	206-44-0	
Fluorene	**40.7**	ug/kg	16.1	4.8	1	11/03/17 08:36	11/06/17 12:21	86-73-7	
Indeno(1,2,3-cd)pyrene	**159**	ug/kg	8.6	2.6	1	11/03/17 08:36	11/06/17 12:21	193-39-5	
Naphthalene	**426**	ug/kg	32.9	9.8	1	11/03/17 08:36	11/06/17 12:21	91-20-3	
Phenanthrene	**596**	ug/kg	45.4	13.6	1	11/03/17 08:36	11/06/17 12:21	85-01-8	
Pyrene	**554**	ug/kg	17.5	5.3	1	11/03/17 08:36	11/06/17 12:21	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	76	%	23-106		1	11/03/17 08:36	11/06/17 12:21	321-60-8	
Terphenyl-d14 (S)	76	%	29-106		1	11/03/17 08:36	11/06/17 12:21	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/01/17 11:45	11/01/17 23:36	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	104	%	68-130		1	11/01/17 11:45	11/01/17 23:36	1868-53-7	
4-Bromofluorobenzene (S)	87	%	58-141		1	11/01/17 11:45	11/01/17 23:36	460-00-4	
Toluene-d8 (S)	102	%	68-149		1	11/01/17 11:45	11/01/17 23:36	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**14.5**	%	0.10	0.10	1		11/02/17 16:48		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.64**	mg/kg	0.42	0.12	1	11/03/17 09:25	11/03/17 12:06	57-12-5	

Sample: FT-SB46 (2-3.5) **Lab ID: 40159629008** Collected: 10/25/17 14:35 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**8.4**	mg/kg	1.1	0.32	6.667	11/01/17 10:20	11/07/17 05:36	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**76.1J**	ug/kg	160	48.0	10	11/03/17 08:36	11/06/17 10:54	83-32-9	
Acenaphthylene	**70.6J**	ug/kg	136	40.8	10	11/03/17 08:36	11/06/17 10:54	208-96-8	
Anthracene	**347**	ug/kg	235	70.7	10	11/03/17 08:36	11/06/17 10:54	120-12-7	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: FT-SB46 (2-3.5) **Lab ID: 40159629008** Collected: 10/25/17 14:35 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Benzo(a)anthracene	**1710**	ug/kg	131	39.3	10	11/03/17 08:36	11/06/17 10:54	56-55-3	
Benzo(a)pyrene	**2040**	ug/kg	104	31.1	10	11/03/17 08:36	11/06/17 10:54	50-32-8	
Benzo(b)fluoranthene	**1490**	ug/kg	116	35.0	10	11/03/17 08:36	11/06/17 10:54	205-99-2	
Benzo(g,h,i)perylene	**1340**	ug/kg	83.8	25.2	10	11/03/17 08:36	11/06/17 10:54	191-24-2	
Benzo(k)fluoranthene	**1750**	ug/kg	103	31.1	10	11/03/17 08:36	11/06/17 10:54	207-08-9	
Chrysene	**1960**	ug/kg	139	41.7	10	11/03/17 08:36	11/06/17 10:54	218-01-9	
Dibenz(a,h)anthracene	**411**	ug/kg	92.2	27.7	10	11/03/17 08:36	11/06/17 10:54	53-70-3	
Fluoranthene	**4130**	ug/kg	215	64.5	10	11/03/17 08:36	11/06/17 10:54	206-44-0	
Fluorene	**72.7J**	ug/kg	171	51.2	10	11/03/17 08:36	11/06/17 10:54	86-73-7	
Indeno(1,2,3-cd)pyrene	**1230**	ug/kg	90.7	27.2	10	11/03/17 08:36	11/06/17 10:54	193-39-5	
Naphthalene	**429**	ug/kg	348	104	10	11/03/17 08:36	11/06/17 10:54	91-20-3	
Phenanthrene	**1520**	ug/kg	480	144	10	11/03/17 08:36	11/06/17 10:54	85-01-8	
Pyrene	**4130**	ug/kg	186	55.9	10	11/03/17 08:36	11/06/17 10:54	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	62	%	23-106		10	11/03/17 08:36	11/06/17 10:54	321-60-8	
Terphenyl-d14 (S)	63	%	29-106		10	11/03/17 08:36	11/06/17 10:54	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/01/17 11:45	11/01/17 23:59	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	112	%	68-130		1	11/01/17 11:45	11/01/17 23:59	1868-53-7	
4-Bromofluorobenzene (S)	87	%	58-141		1	11/01/17 11:45	11/01/17 23:59	460-00-4	
Toluene-d8 (S)	106	%	68-149		1	11/01/17 11:45	11/01/17 23:59	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**19.3**	%	0.10	0.10	1		11/02/17 16:48		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.41J**	mg/kg	0.42	0.12	1	11/03/17 09:25	11/03/17 12:07	57-12-5	

Sample: FT-SB45 (2-4) **Lab ID: 40159629009** Collected: 10/26/17 12:00 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**2.6**	mg/kg	1.1	0.34	6.667	11/01/17 10:20	11/07/17 05:44	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<5.1**	ug/kg	16.9	5.1	1	11/03/17 08:36	11/03/17 13:20	83-32-9	
Acenaphthylene	**<4.3**	ug/kg	14.4	4.3	1	11/03/17 08:36	11/03/17 13:20	208-96-8	
Anthracene	**<7.5**	ug/kg	24.9	7.5	1	11/03/17 08:36	11/03/17 13:20	120-12-7	
Benzo(a)anthracene	**7.7J**	ug/kg	13.9	4.2	1	11/03/17 08:36	11/03/17 13:20	56-55-3	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: FT-SB45 (2-4) **Lab ID: 40159629009** Collected: 10/26/17 12:00 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Benzo(a)pyrene	**8.0J**	ug/kg	11.0	3.3	1	11/03/17 08:36	11/03/17 13:20	50-32-8	
Benzo(b)fluoranthene	**7.0J**	ug/kg	12.3	3.7	1	11/03/17 08:36	11/03/17 13:20	205-99-2	
Benzo(g,h,i)perylene	**8.6J**	ug/kg	8.9	2.7	1	11/03/17 08:36	11/03/17 13:20	191-24-2	
Benzo(k)fluoranthene	**7.9J**	ug/kg	10.9	3.3	1	11/03/17 08:36	11/03/17 13:20	207-08-9	
Chrysene	**9.0J**	ug/kg	14.7	4.4	1	11/03/17 08:36	11/03/17 13:20	218-01-9	
Dibenz(a,h)anthracene	**<2.9**	ug/kg	9.8	2.9	1	11/03/17 08:36	11/03/17 13:20	53-70-3	
Fluoranthene	**21.3J**	ug/kg	22.8	6.8	1	11/03/17 08:36	11/03/17 13:20	206-44-0	
Fluorene	**<5.4**	ug/kg	18.1	5.4	1	11/03/17 08:36	11/03/17 13:20	86-73-7	
Indeno(1,2,3-cd)pyrene	**7.0J**	ug/kg	9.6	2.9	1	11/03/17 08:36	11/03/17 13:20	193-39-5	
Naphthalene	**<11.0**	ug/kg	36.8	11.0	1	11/03/17 08:36	11/03/17 13:20	91-20-3	
Phenanthrene	**17.9J**	ug/kg	50.8	15.3	1	11/03/17 08:36	11/03/17 13:20	85-01-8	
Pyrene	**18.4J**	ug/kg	19.6	5.9	1	11/03/17 08:36	11/03/17 13:20	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	80	%	23-106		1	11/03/17 08:36	11/03/17 13:20	321-60-8	
Terphenyl-d14 (S)	90	%	29-106		1	11/03/17 08:36	11/03/17 13:20	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/01/17 11:45	11/02/17 00:21	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	104	%	68-130		1	11/01/17 11:45	11/02/17 00:21	1868-53-7	
4-Bromofluorobenzene (S)	79	%	58-141		1	11/01/17 11:45	11/02/17 00:21	460-00-4	
Toluene-d8 (S)	97	%	68-149		1	11/01/17 11:45	11/02/17 00:21	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**23.6**	%	0.10	0.10	1		11/02/17 16:48		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**<0.13**	mg/kg	0.44	0.13	1	11/03/17 09:25	11/03/17 12:07	57-12-5	

Sample: FT-SB48 (0-2) **Lab ID: 40159629010** Collected: 10/26/17 12:50 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**96.1**	mg/kg	0.97	0.29	6.667	11/01/17 10:20	11/07/17 05:51	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**461**	ug/kg	309	92.9	20	11/03/17 08:36	11/06/17 11:29	83-32-9	
Acenaphthylene	**252J**	ug/kg	263	78.9	20	11/03/17 08:36	11/06/17 11:29	208-96-8	
Anthracene	**1270**	ug/kg	455	137	20	11/03/17 08:36	11/06/17 11:29	120-12-7	
Benzo(a)anthracene	**2110**	ug/kg	254	75.9	20	11/03/17 08:36	11/06/17 11:29	56-55-3	
Benzo(a)pyrene	**1900**	ug/kg	200	60.2	20	11/03/17 08:36	11/06/17 11:29	50-32-8	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: FT-SB48 (0-2) **Lab ID: 40159629010** Collected: 10/26/17 12:50 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Benzo(b)fluoranthene	**1690**	ug/kg	225	67.6	20	11/03/17 08:36	11/06/17 11:29	205-99-2	
Benzo(g,h,i)perylene	**1230**	ug/kg	162	48.7	20	11/03/17 08:36	11/06/17 11:29	191-24-2	
Benzo(k)fluoranthene	**1960**	ug/kg	200	60.1	20	11/03/17 08:36	11/06/17 11:29	207-08-9	
Chrysene	**2530**	ug/kg	268	80.8	20	11/03/17 08:36	11/06/17 11:29	218-01-9	
Dibenz(a,h)anthracene	**450**	ug/kg	178	53.5	20	11/03/17 08:36	11/06/17 11:29	53-70-3	
Fluoranthene	**5150**	ug/kg	417	125	20	11/03/17 08:36	11/06/17 11:29	206-44-0	
Fluorene	**456**	ug/kg	330	99.1	20	11/03/17 08:36	11/06/17 11:29	86-73-7	
Indeno(1,2,3-cd)pyrene	**1130**	ug/kg	176	52.7	20	11/03/17 08:36	11/06/17 11:29	193-39-5	
Naphthalene	**5310**	ug/kg	673	202	20	11/03/17 08:36	11/06/17 11:29	91-20-3	
Phenanthrene	**4910**	ug/kg	929	279	20	11/03/17 08:36	11/06/17 11:29	85-01-8	
Pyrene	**4970**	ug/kg	359	108	20	11/03/17 08:36	11/06/17 11:29	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	65	%	23-106		20	11/03/17 08:36	11/06/17 11:29	321-60-8	
Terphenyl-d14 (S)	65	%	29-106		20	11/03/17 08:36	11/06/17 11:29	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/01/17 11:45	11/02/17 00:44	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	103	%	68-130		1	11/01/17 11:45	11/02/17 00:44	1868-53-7	
4-Bromofluorobenzene (S)	81	%	58-141		1	11/01/17 11:45	11/02/17 00:44	460-00-4	
Toluene-d8 (S)	100	%	68-149		1	11/01/17 11:45	11/02/17 00:44	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**16.4**	%	0.10	0.10	1		11/02/17 16:48		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**4.2**	mg/kg	0.47	0.14	1	11/03/17 09:25	11/03/17 12:11	57-12-5	

Sample: FT-SB47 (2-4) **Lab ID: 40159629011** Collected: 10/26/17 13:15 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**17.5**	mg/kg	0.98	0.30	6.667	11/02/17 06:44	11/08/17 01:02	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**13.5J**	ug/kg	14.8	4.4	1	11/03/17 08:36	11/03/17 13:37	83-32-9	
Acenaphthylene	**4.3J**	ug/kg	12.6	3.8	1	11/03/17 08:36	11/03/17 13:37	208-96-8	
Anthracene	**48.9**	ug/kg	21.7	6.5	1	11/03/17 08:36	11/03/17 13:37	120-12-7	
Benzo(a)anthracene	**99.2**	ug/kg	12.1	3.6	1	11/03/17 08:36	11/03/17 13:37	56-55-3	
Benzo(a)pyrene	**97.3**	ug/kg	9.6	2.9	1	11/03/17 08:36	11/03/17 13:37	50-32-8	
Benzo(b)fluoranthene	**81.3**	ug/kg	10.8	3.2	1	11/03/17 08:36	11/03/17 13:37	205-99-2	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: FT-SB47 (2-4) **Lab ID: 40159629011** Collected: 10/26/17 13:15 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Benzo(g,h,i)perylene	**66.4**	ug/kg	7.7	2.3	1	11/03/17 08:36	11/03/17 13:37	191-24-2	
Benzo(k)fluoranthene	**74.3**	ug/kg	9.6	2.9	1	11/03/17 08:36	11/03/17 13:37	207-08-9	
Chrysene	**106**	ug/kg	12.8	3.9	1	11/03/17 08:36	11/03/17 13:37	218-01-9	
Dibenz(a,h)anthracene	**19.2**	ug/kg	8.5	2.6	1	11/03/17 08:36	11/03/17 13:37	53-70-3	
Fluoranthene	**247**	ug/kg	19.9	6.0	1	11/03/17 08:36	11/03/17 13:37	206-44-0	
Fluorene	**13.4J**	ug/kg	15.8	4.7	1	11/03/17 08:36	11/03/17 13:37	86-73-7	
Indeno(1,2,3-cd)pyrene	**57.3**	ug/kg	8.4	2.5	1	11/03/17 08:36	11/03/17 13:37	193-39-5	
Naphthalene	**89.2**	ug/kg	32.2	9.6	1	11/03/17 08:36	11/03/17 13:37	91-20-3	
Phenanthrene	**223**	ug/kg	44.4	13.3	1	11/03/17 08:36	11/03/17 13:37	85-01-8	
Pyrene	**224**	ug/kg	17.2	5.2	1	11/03/17 08:36	11/03/17 13:37	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	81	%	23-106		1	11/03/17 08:36	11/03/17 13:37	321-60-8	
Terphenyl-d14 (S)	92	%	29-106		1	11/03/17 08:36	11/03/17 13:37	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/03/17 06:45	11/03/17 19:41	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	129	%	68-130		1	11/03/17 06:45	11/03/17 19:41	1868-53-7	
4-Bromofluorobenzene (S)	93	%	58-141		1	11/03/17 06:45	11/03/17 19:41	460-00-4	
Toluene-d8 (S)	122	%	68-149		1	11/03/17 06:45	11/03/17 19:41	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**12.5**	%	0.10	0.10	1		11/02/17 17:45		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.20J**	mg/kg	0.32	0.096	1	11/03/17 09:25	11/03/17 12:12	57-12-5	

Sample: FT-SB47 (DUP) **Lab ID: 40159629012** Collected: 10/26/17 13:16 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**7.3**	mg/kg	1.0	0.30	6.667	11/02/17 06:44	11/08/17 01:10	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<4.4**	ug/kg	14.7	4.4	1	11/03/17 08:36	11/03/17 13:55	83-32-9	
Acenaphthylene	**<3.8**	ug/kg	12.5	3.8	1	11/03/17 08:36	11/03/17 13:55	208-96-8	
Anthracene	**7.3J**	ug/kg	21.7	6.5	1	11/03/17 08:36	11/03/17 13:55	120-12-7	
Benzo(a)anthracene	**20.9**	ug/kg	12.1	3.6	1	11/03/17 08:36	11/03/17 13:55	56-55-3	
Benzo(a)pyrene	**19.4**	ug/kg	9.5	2.9	1	11/03/17 08:36	11/03/17 13:55	50-32-8	
Benzo(b)fluoranthene	**15.9**	ug/kg	10.7	3.2	1	11/03/17 08:36	11/03/17 13:55	205-99-2	
Benzo(g,h,i)perylene	**14.8**	ug/kg	7.7	2.3	1	11/03/17 08:36	11/03/17 13:55	191-24-2	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: FT-SB47 (DUP) **Lab ID: 40159629012** Collected: 10/26/17 13:16 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Benzo(k)fluoranthene	**16.0**	ug/kg	9.5	2.9	1	11/03/17 08:36	11/03/17 13:55	207-08-9	
Chrysene	**23.3**	ug/kg	12.8	3.8	1	11/03/17 08:36	11/03/17 13:55	218-01-9	
Dibenz(a,h)anthracene	**4.7J**	ug/kg	8.5	2.6	1	11/03/17 08:36	11/03/17 13:55	53-70-3	
Fluoranthene	**34.2**	ug/kg	19.8	5.9	1	11/03/17 08:36	11/03/17 13:55	206-44-0	
Fluorene	**<4.7**	ug/kg	15.7	4.7	1	11/03/17 08:36	11/03/17 13:55	86-73-7	
Indeno(1,2,3-cd)pyrene	**11.9**	ug/kg	8.4	2.5	1	11/03/17 08:36	11/03/17 13:55	193-39-5	
Naphthalene	**49.4**	ug/kg	32.0	9.6	1	11/03/17 08:36	11/03/17 13:55	91-20-3	
Phenanthrene	**66.8**	ug/kg	44.2	13.3	1	11/03/17 08:36	11/03/17 13:55	85-01-8	
Pyrene	**35.7**	ug/kg	17.1	5.1	1	11/03/17 08:36	11/03/17 13:55	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	83	%	23-106		1	11/03/17 08:36	11/03/17 13:55	321-60-8	
Terphenyl-d14 (S)	97	%	29-106		1	11/03/17 08:36	11/03/17 13:55	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/03/17 06:45	11/03/17 20:04	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	116	%	68-130		1	11/03/17 06:45	11/03/17 20:04	1868-53-7	
4-Bromofluorobenzene (S)	91	%	58-141		1	11/03/17 06:45	11/03/17 20:04	460-00-4	
Toluene-d8 (S)	115	%	68-149		1	11/03/17 06:45	11/03/17 20:04	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**12.5**	%	0.10	0.10	1		11/02/17 17:45		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**<0.12**	mg/kg	0.41	0.12	1	11/03/17 09:25	11/03/17 12:15	57-12-5	

Sample: TB102617 **Lab ID: 40159629013** Collected: 10/26/17 18:00 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:45	11/06/17 12:59	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	97	%	68-130		1	11/06/17 07:45	11/06/17 12:59	1868-53-7	
4-Bromofluorobenzene (S)	79	%	58-141		1	11/06/17 07:45	11/06/17 12:59	460-00-4	
Toluene-d8 (S)	94	%	68-149		1	11/06/17 07:45	11/06/17 12:59	2037-26-5	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: FT-SB49 (2-4) **Lab ID: 40159629014** Collected: 10/26/17 13:40 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**8.5**	mg/kg	1.1	0.32	6.667	11/02/17 06:44	11/08/17 01:17	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<381**	ug/kg	1260	381	80	11/03/17 08:36	11/06/17 10:02	83-32-9	
Acenaphthylene	**1860**	ug/kg	1080	323	80	11/03/17 08:36	11/06/17 10:02	208-96-8	
Anthracene	**13400**	ug/kg	1860	560	80	11/03/17 08:36	11/06/17 10:02	120-12-7	
Benzo(a)anthracene	**11800**	ug/kg	1040	311	80	11/03/17 08:36	11/06/17 10:02	56-55-3	
Benzo(a)pyrene	**7380**	ug/kg	821	246	80	11/03/17 08:36	11/06/17 10:02	50-32-8	
Benzo(b)fluoranthene	**7710**	ug/kg	923	277	80	11/03/17 08:36	11/06/17 10:02	205-99-2	
Benzo(g,h,i)perylene	**3300**	ug/kg	664	199	80	11/03/17 08:36	11/06/17 10:02	191-24-2	
Benzo(k)fluoranthene	**6370**	ug/kg	820	246	80	11/03/17 08:36	11/06/17 10:02	207-08-9	
Chrysene	**12700**	ug/kg	1100	331	80	11/03/17 08:36	11/06/17 10:02	218-01-9	
Dibenz(a,h)anthracene	**1460**	ug/kg	731	219	80	11/03/17 08:36	11/06/17 10:02	53-70-3	
Fluoranthene	**29200**	ug/kg	1710	511	80	11/03/17 08:36	11/06/17 10:02	206-44-0	
Fluorene	**3010**	ug/kg	1350	406	80	11/03/17 08:36	11/06/17 10:02	86-73-7	
Indeno(1,2,3-cd)pyrene	**3340**	ug/kg	719	216	80	11/03/17 08:36	11/06/17 10:02	193-39-5	
Naphthalene	**3830**	ug/kg	2760	826	80	11/03/17 08:36	11/06/17 10:02	91-20-3	
Phenanthrene	**22600**	ug/kg	3800	1140	80	11/03/17 08:36	11/06/17 10:02	85-01-8	
Pyrene	**19200**	ug/kg	1470	442	80	11/03/17 08:36	11/06/17 10:02	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	0	%	23-106		80	11/03/17 08:36	11/06/17 10:02	321-60-8	S4
Terphenyl-d14 (S)	0	%	29-106		80	11/03/17 08:36	11/06/17 10:02	1718-51-0	S4
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**131**	ug/kg	75.8	31.6	1	11/06/17 07:45	11/06/17 13:44	71-43-2	
Surrogates									
Dibromofluoromethane (S)	102	%	68-130		1	11/06/17 07:45	11/06/17 13:44	1868-53-7	
4-Bromofluorobenzene (S)	79	%	58-141		1	11/06/17 07:45	11/06/17 13:44	460-00-4	
Toluene-d8 (S)	98	%	68-149		1	11/06/17 07:45	11/06/17 13:44	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**18.4**	%	0.10	0.10	1		11/02/17 17:45		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**4.4**	mg/kg	0.48	0.14	1	11/03/17 09:25	11/03/17 12:16	57-12-5	

Sample: CG-SB96 (2-4) **Lab ID: 40159629015** Collected: 10/26/17 14:30 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**10.7**	mg/kg	0.96	0.29	6.667	11/02/17 06:44	11/08/17 01:25	7440-38-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: CG-SB96 (2-4) **Lab ID: 40159629015** Collected: 10/26/17 14:30 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**6160J**	ug/kg	7590	2280	500	11/03/17 08:36	11/06/17 10:19	83-32-9	
Acenaphthylene	**54400**	ug/kg	6470	1940	500	11/03/17 08:36	11/06/17 10:19	208-96-8	
Anthracene	**95700**	ug/kg	11200	3360	500	11/03/17 08:36	11/06/17 10:19	120-12-7	
Benzo(a)anthracene	**115000**	ug/kg	6240	1870	500	11/03/17 08:36	11/06/17 10:19	56-55-3	
Benzo(a)pyrene	**110000**	ug/kg	4920	1480	500	11/03/17 08:36	11/06/17 10:19	50-32-8	
Benzo(b)fluoranthene	**95000**	ug/kg	5540	1660	500	11/03/17 08:36	11/06/17 10:19	205-99-2	
Benzo(g,h,i)perylene	**68200**	ug/kg	3980	1200	500	11/03/17 08:36	11/06/17 10:19	191-24-2	
Benzo(k)fluoranthene	**92700**	ug/kg	4920	1480	500	11/03/17 08:36	11/06/17 10:19	207-08-9	
Chrysene	**118000**	ug/kg	6590	1980	500	11/03/17 08:36	11/06/17 10:19	218-01-9	
Dibenz(a,h)anthracene	**24100**	ug/kg	4380	1320	500	11/03/17 08:36	11/06/17 10:19	53-70-3	
Fluoranthene	**327000**	ug/kg	10200	3060	500	11/03/17 08:36	11/06/17 10:19	206-44-0	
Fluorene	**66300**	ug/kg	8120	2440	500	11/03/17 08:36	11/06/17 10:19	86-73-7	
Indeno(1,2,3-cd)pyrene	**63900**	ug/kg	4310	1290	500	11/03/17 08:36	11/06/17 10:19	193-39-5	
Naphthalene	**258000**	ug/kg	16500	4950	500	11/03/17 08:36	11/06/17 10:19	91-20-3	
Phenanthrene	**350000**	ug/kg	22800	6850	500	11/03/17 08:36	11/06/17 10:19	85-01-8	
Pyrene	**238000**	ug/kg	8830	2650	500	11/03/17 08:36	11/06/17 10:19	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	0	%	23-106		500	11/03/17 08:36	11/06/17 10:19	321-60-8	S4
Terphenyl-d14 (S)	0	%	29-106		500	11/03/17 08:36	11/06/17 10:19	1718-51-0	S4
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**5450**	ug/kg	2820	1180	40	11/06/17 07:45	11/06/17 22:36	71-43-2	
Surrogates									
Dibromofluoromethane (S)	0	%	68-130		40	11/06/17 07:45	11/06/17 22:36	1868-53-7	S4
4-Bromofluorobenzene (S)	0	%	58-141		40	11/06/17 07:45	11/06/17 22:36	460-00-4	S4
Toluene-d8 (S)	0	%	68-149		40	11/06/17 07:45	11/06/17 22:36	2037-26-5	S4
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**15.0**	%	0.10	0.10	1		11/02/17 17:45		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**5.4**	mg/kg	0.56	0.17	1	11/03/17 09:25	11/03/17 12:18	57-12-5	

Sample: CG-SB103 (0-2) **Lab ID: 40159629016** Collected: 10/26/17 15:35 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**9.4**	mg/kg	1.0	0.31	6.667	11/02/17 06:44	11/08/17 01:32	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**29.4J**	ug/kg	77.5	23.3	5	11/03/17 08:36	11/06/17 11:12	83-32-9	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Sample: CG-SB103 (0-2) **Lab ID: 40159629016** Collected: 10/26/17 15:35 Received: 10/27/17 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthylene	**355**	ug/kg	66.1	19.8	5	11/03/17 08:36	11/06/17 11:12	208-96-8	
Anthracene	**170**	ug/kg	114	34.3	5	11/03/17 08:36	11/06/17 11:12	120-12-7	
Benzo(a)anthracene	**279**	ug/kg	63.7	19.0	5	11/03/17 08:36	11/06/17 11:12	56-55-3	
Benzo(a)pyrene	**214**	ug/kg	50.3	15.1	5	11/03/17 08:36	11/06/17 11:12	50-32-8	
Benzo(b)fluoranthene	**308**	ug/kg	56.5	17.0	5	11/03/17 08:36	11/06/17 11:12	205-99-2	
Benzo(g,h,i)perylene	**244**	ug/kg	40.7	12.2	5	11/03/17 08:36	11/06/17 11:12	191-24-2	
Benzo(k)fluoranthene	**240**	ug/kg	50.2	15.1	5	11/03/17 08:36	11/06/17 11:12	207-08-9	
Chrysene	**514**	ug/kg	67.3	20.3	5	11/03/17 08:36	11/06/17 11:12	218-01-9	
Dibenz(a,h)anthracene	**80.8**	ug/kg	44.8	13.4	5	11/03/17 08:36	11/06/17 11:12	53-70-3	
Fluoranthene	**432**	ug/kg	105	31.3	5	11/03/17 08:36	11/06/17 11:12	206-44-0	
Fluorene	**83.1**	ug/kg	82.9	24.9	5	11/03/17 08:36	11/06/17 11:12	86-73-7	
Indeno(1,2,3-cd)pyrene	**167**	ug/kg	44.0	13.2	5	11/03/17 08:36	11/06/17 11:12	193-39-5	
Naphthalene	**908**	ug/kg	169	50.6	5	11/03/17 08:36	11/06/17 11:12	91-20-3	
Phenanthrene	**947**	ug/kg	233	70.0	5	11/03/17 08:36	11/06/17 11:12	85-01-8	
Pyrene	**380**	ug/kg	90.1	27.1	5	11/03/17 08:36	11/06/17 11:12	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	52	%	23-106		5	11/03/17 08:36	11/06/17 11:12	321-60-8	
Terphenyl-d14 (S)	51	%	29-106		5	11/03/17 08:36	11/06/17 11:12	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**194**	ug/kg	72.1	30.0	1	11/06/17 07:45	11/06/17 14:07	71-43-2	
Surrogates									
Dibromofluoromethane (S)	111	%	68-130		1	11/06/17 07:45	11/06/17 14:07	1868-53-7	
4-Bromofluorobenzene (S)	88	%	58-141		1	11/06/17 07:45	11/06/17 14:07	460-00-4	
Toluene-d8 (S)	112	%	68-149		1	11/06/17 07:45	11/06/17 14:07	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**16.8**	%	0.10	0.10	1		11/02/17 17:45		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.60**	mg/kg	0.39	0.12	1	11/03/17 09:25	11/03/17 12:19	57-12-5	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

QC Batch: 272616 | Analysis Method: EPA 6020
QC Batch Method: EPA 3050 | Analysis Description: 6020 MET
Associated Lab Samples: 40159629002, 40159629003, 40159629004, 40159629005, 40159629006, 40159629007, 40159629008, 40159629009, 40159629010

METHOD BLANK: 1603507 | Matrix: Solid
Associated Lab Samples: 40159629002, 40159629003, 40159629004, 40159629005, 40159629006, 40159629007, 40159629008, 40159629009, 40159629010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	<0.040	0.13	11/07/17 02:15	

LABORATORY CONTROL SAMPLE: 1603508

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	51.4	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1603509 1603510

Parameter	Units	40159194003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	14.3	67.1	67.1	84.5	85.0	105	106	75-125	1	20	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

QC Batch: 272674 | Analysis Method: EPA 6020
QC Batch Method: EPA 3050 | Analysis Description: 6020 MET
Associated Lab Samples: 40159629011, 40159629012, 40159629014, 40159629015, 40159629016

METHOD BLANK: 1603754 | Matrix: Solid
Associated Lab Samples: 40159629011, 40159629012, 40159629014, 40159629015, 40159629016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	<0.040	0.13	11/07/17 23:03	

LABORATORY CONTROL SAMPLE: 1603755

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	51.1	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1603756 1603757

Parameter	Units	40159681008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	15.0	58.1	58.6	76.5	156	106	240	75-125	68	20	M0,R1

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

QC Batch: 272547 | Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B | Analysis Description: 8260 MSV Med Level Short List
Associated Lab Samples: 40159629003

METHOD BLANK: 1603055 | Matrix: Solid
Associated Lab Samples: 40159629003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	<9.2	20.0	10/31/17 19:23	
4-Bromofluorobenzene (S)	%	84	58-141	10/31/17 19:23	
Dibromofluoromethane (S)	%	89	68-130	10/31/17 19:23	
Toluene-d8 (S)	%	90	68-149	10/31/17 19:23	

LABORATORY CONTROL SAMPLE: 1603056

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2500	2320	93	66-130	
4-Bromofluorobenzene (S)	%			85	58-141	
Dibromofluoromethane (S)	%			87	68-130	
Toluene-d8 (S)	%			87	68-149	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1603057 1603058

Parameter	Units	40159629003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	<25.0	1510	1510	1420	1410	93	92	65-130	1	20	
4-Bromofluorobenzene (S)	%						94	93	58-141			
Dibromofluoromethane (S)	%						97	97	68-130			
Toluene-d8 (S)	%						98	95	68-149			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

QC Batch: 272556 | Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B | Analysis Description: 8260 MSV Med Level Short List
Associated Lab Samples: 40159629004

METHOD BLANK: 1603091 | Matrix: Solid
Associated Lab Samples: 40159629004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	<9.2	20.0	10/31/17 19:24	
4-Bromofluorobenzene (S)	%	83	58-141	10/31/17 19:24	
Dibromofluoromethane (S)	%	108	68-130	10/31/17 19:24	
Toluene-d8 (S)	%	102	68-149	10/31/17 19:24	

LABORATORY CONTROL SAMPLE: 1603092

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2500	2880	115	66-130	
4-Bromofluorobenzene (S)	%			90	58-141	
Dibromofluoromethane (S)	%			105	68-130	
Toluene-d8 (S)	%			99	68-149	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1603093 1603094

Parameter	Units	40159629004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	<25.0	1310	1310	1550	1530	118	117	65-130	1	20	
4-Bromofluorobenzene (S)	%						95	95	58-141			
Dibromofluoromethane (S)	%						115	116	68-130			
Toluene-d8 (S)	%						109	108	68-149			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

QC Batch: 272708 | Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B | Analysis Description: 8260 MSV Med Level Short List
Associated Lab Samples: 40159629005, 40159629006, 40159629007, 40159629008, 40159629009, 40159629010

METHOD BLANK: 1603927 | Matrix: Solid
Associated Lab Samples: 40159629005, 40159629006, 40159629007, 40159629008, 40159629009, 40159629010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	<9.2	20.0	11/01/17 18:43	
4-Bromofluorobenzene (S)	%	85	58-141	11/01/17 18:43	
Dibromofluoromethane (S)	%	109	68-130	11/01/17 18:43	
Toluene-d8 (S)	%	101	68-149	11/01/17 18:43	

LABORATORY CONTROL SAMPLE: 1603928

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2500	2910	117	66-130	
4-Bromofluorobenzene (S)	%			90	58-141	
Dibromofluoromethane (S)	%			108	68-130	
Toluene-d8 (S)	%			101	68-149	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1603929 1603930

Parameter	Units	40159758004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	9190	1630	1630	11400	11200	134	124	65-130	1	20	M1
4-Bromofluorobenzene (S)	%						97	94	58-141			
Dibromofluoromethane (S)	%						116	115	68-130			
Toluene-d8 (S)	%						107	107	68-149			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

QC Batch: 272978 | Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B | Analysis Description: 8260 MSV Med Level Short List
Associated Lab Samples: 40159629011, 40159629012

METHOD BLANK: 1606102 | Matrix: Solid
Associated Lab Samples: 40159629011, 40159629012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	<9.2	20.0	11/03/17 07:49	
4-Bromofluorobenzene (S)	%	81	58-141	11/03/17 07:49	
Dibromofluoromethane (S)	%	109	68-130	11/03/17 07:49	
Toluene-d8 (S)	%	106	68-149	11/03/17 07:49	

LABORATORY CONTROL SAMPLE: 1606103

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2500	2770	111	66-130	
4-Bromofluorobenzene (S)	%			83	58-141	
Dibromofluoromethane (S)	%			107	68-130	
Toluene-d8 (S)	%			100	68-149	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1606104 1606105

Parameter	Units	40159629011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	<25.0	1420	1420	1560	1650	110	116	65-130	5	20	
4-Bromofluorobenzene (S)	%						100	102	58-141			
Dibromofluoromethane (S)	%						127	127	68-130			
Toluene-d8 (S)	%						123	124	68-149			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

QC Batch: 273185 | Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B | Analysis Description: 8260 MSV Med Level Short List
Associated Lab Samples: 40159629002, 40159629013, 40159629014, 40159629015, 40159629016

METHOD BLANK: 1607476 | Matrix: Solid
Associated Lab Samples: 40159629002, 40159629013, 40159629014, 40159629015, 40159629016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	<9.2	20.0	11/06/17 08:48	
4-Bromofluorobenzene (S)	%	78	58-141	11/06/17 08:48	
Dibromofluoromethane (S)	%	105	68-130	11/06/17 08:48	
Toluene-d8 (S)	%	113	68-149	11/06/17 08:48	

LABORATORY CONTROL SAMPLE: 1607477

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2500	2750	110	66-130	
4-Bromofluorobenzene (S)	%			80	58-141	
Dibromofluoromethane (S)	%			99	68-130	
Toluene-d8 (S)	%			92	68-149	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1607478 1607479

Parameter	Units	10409254001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	ND	1440	1440	1850	1860	128	129	65-130	1	20	
4-Bromofluorobenzene (S)	%						95	92	58-141			
Dibromofluoromethane (S)	%						118	114	68-130			
Toluene-d8 (S)	%						111	106	68-149			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

QC Batch: 272920 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 40159629006, 40159629007, 40159629008, 40159629009, 40159629010, 40159629011, 40159629012, 40159629014, 40159629015, 40159629016

METHOD BLANK: 1605889 | Matrix: Solid
Associated Lab Samples: 40159629006, 40159629007, 40159629008, 40159629009, 40159629010, 40159629011, 40159629012, 40159629014, 40159629015, 40159629016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/kg	<3.9	12.9	11/03/17 11:53	
Acenaphthylene	ug/kg	<3.3	11.0	11/03/17 11:53	
Anthracene	ug/kg	<5.7	19.0	11/03/17 11:53	
Benzo(a)anthracene	ug/kg	<3.2	10.6	11/03/17 11:53	
Benzo(a)pyrene	ug/kg	<2.5	8.4	11/03/17 11:53	
Benzo(b)fluoranthene	ug/kg	<2.8	9.4	11/03/17 11:53	
Benzo(g,h,i)perylene	ug/kg	<2.0	6.8	11/03/17 11:53	
Benzo(k)fluoranthene	ug/kg	<2.5	8.4	11/03/17 11:53	
Chrysene	ug/kg	<3.4	11.2	11/03/17 11:53	
Dibenz(a,h)anthracene	ug/kg	<2.2	7.5	11/03/17 11:53	
Fluoranthene	ug/kg	<5.2	17.4	11/03/17 11:53	
Fluorene	ug/kg	<4.1	13.8	11/03/17 11:53	
Indeno(1,2,3-cd)pyrene	ug/kg	<2.2	7.3	11/03/17 11:53	
Naphthalene	ug/kg	<8.4	28.1	11/03/17 11:53	
Phenanthrene	ug/kg	<11.7	38.9	11/03/17 11:53	
Pyrene	ug/kg	<4.5	15.0	11/03/17 11:53	
2-Fluorobiphenyl (S)	%	90	23-106	11/03/17 11:53	
Terphenyl-d14 (S)	%	107	29-106	11/03/17 11:53	S3

LABORATORY CONTROL SAMPLE: 1605890

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	333	270	81	52-97	
Acenaphthylene	ug/kg	333	263	79	49-97	
Anthracene	ug/kg	333	274	82	62-101	
Benzo(a)anthracene	ug/kg	333	273	82	53-95	
Benzo(a)pyrene	ug/kg	333	287	86	57-108	
Benzo(b)fluoranthene	ug/kg	333	299	90	53-113	
Benzo(g,h,i)perylene	ug/kg	333	280	84	43-114	
Benzo(k)fluoranthene	ug/kg	333	265	80	66-116	
Chrysene	ug/kg	333	285	86	64-109	
Dibenz(a,h)anthracene	ug/kg	333	272	81	50-105	
Fluoranthene	ug/kg	333	309	93	58-107	
Fluorene	ug/kg	333	278	83	52-99	
Indeno(1,2,3-cd)pyrene	ug/kg	333	280	84	51-113	
Naphthalene	ug/kg	333	242	73	50-91	
Phenanthrene	ug/kg	333	287	86	57-101	
Pyrene	ug/kg	333	307	92	50-102	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

LABORATORY CONTROL SAMPLE: 1605890

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Fluorobiphenyl (S)	%			90	23-106	
Terphenyl-d14 (S)	%			104	29-106	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605891 1605892

Parameter	Units	40159681008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acenaphthene	ug/kg	21.4	390	390	359	385	87	93	46-97	7	26	
Acenaphthylene	ug/kg	8.1J	390	390	307	310	77	77	47-97	1	29	
Anthracene	ug/kg	19.1J	390	390	341	376	83	91	50-101	10	28	
Benzo(a)anthracene	ug/kg	30.5	390	390	337	393	79	93	48-95	15	28	
Benzo(a)pyrene	ug/kg	23.2	390	390	320	370	76	89	47-108	15	36	
Benzo(b)fluoranthene	ug/kg	18.4	390	390	289	377	69	92	42-113	26	34	
Benzo(g,h,i)perylene	ug/kg	18.2	390	390	327	354	79	86	18-114	8	30	
Benzo(k)fluoranthene	ug/kg	22.5	390	390	341	345	82	83	50-116	1	27	
Chrysene	ug/kg	39.8	390	390	366	432	84	101	55-109	17	28	
Dibenz(a,h)anthracene	ug/kg	5.5J	390	390	303	317	76	80	39-105	4	29	
Fluoranthene	ug/kg	110	390	390	570	831	118	185	41-107	37	28	M1,R1
Fluorene	ug/kg	26.0	390	390	377	418	90	101	48-99	10	28	M1
Indeno(1,2,3-cd)pyrene	ug/kg	12.8	390	390	313	343	77	85	27-113	9	30	
Naphthalene	ug/kg	36.8	390	390	327	316	74	71	40-91	3	37	
Phenanthrene	ug/kg	160	390	390	629	874	120	183	46-101	33	40	M1
Pyrene	ug/kg	82.5	390	390	510	691	110	156	50-102	30	31	M1
2-Fluorobiphenyl (S)	%						88	82	23-106			
Terphenyl-d14 (S)	%						90	81	29-106			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

QC Batch: 273106 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 40159629002, 40159629003, 40159629004, 40159629005

METHOD BLANK: 1607221 | Matrix: Solid
Associated Lab Samples: 40159629002, 40159629003, 40159629004, 40159629005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/kg	<3.9	12.9	11/06/17 12:56	
Acenaphthylene	ug/kg	<3.3	11.0	11/06/17 12:56	
Anthracene	ug/kg	<5.7	19.0	11/06/17 12:56	
Benzo(a)anthracene	ug/kg	<3.2	10.6	11/06/17 12:56	
Benzo(a)pyrene	ug/kg	<2.5	8.4	11/06/17 12:56	
Benzo(b)fluoranthene	ug/kg	<2.8	9.4	11/06/17 12:56	
Benzo(g,h,i)perylene	ug/kg	<2.0	6.8	11/06/17 12:56	
Benzo(k)fluoranthene	ug/kg	<2.5	8.4	11/06/17 12:56	
Chrysene	ug/kg	<3.4	11.2	11/06/17 12:56	
Dibenz(a,h)anthracene	ug/kg	<2.2	7.4	11/06/17 12:56	
Fluoranthene	ug/kg	<5.2	17.4	11/06/17 12:56	
Fluorene	ug/kg	<4.1	13.8	11/06/17 12:56	
Indeno(1,2,3-cd)pyrene	ug/kg	<2.2	7.3	11/06/17 12:56	
Naphthalene	ug/kg	<8.4	28.1	11/06/17 12:56	
Phenanthrene	ug/kg	<11.6	38.8	11/06/17 12:56	
Pyrene	ug/kg	<4.5	15.0	11/06/17 12:56	
2-Fluorobiphenyl (S)	%	74	23-106	11/06/17 12:56	
Terphenyl-d14 (S)	%	70	29-106	11/06/17 12:56	

LABORATORY CONTROL SAMPLE: 1607222

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	334	267	80	52-97	
Acenaphthylene	ug/kg	334	266	80	49-97	
Anthracene	ug/kg	334	266	80	62-101	
Benzo(a)anthracene	ug/kg	334	258	77	53-95	
Benzo(a)pyrene	ug/kg	334	272	81	57-108	
Benzo(b)fluoranthene	ug/kg	334	278	83	53-113	
Benzo(g,h,i)perylene	ug/kg	334	228	68	43-114	
Benzo(k)fluoranthene	ug/kg	334	276	83	66-116	
Chrysene	ug/kg	334	265	80	64-109	
Dibenz(a,h)anthracene	ug/kg	334	248	74	50-105	
Fluoranthene	ug/kg	334	273	82	58-107	
Fluorene	ug/kg	334	272	82	52-99	
Indeno(1,2,3-cd)pyrene	ug/kg	334	249	75	51-113	
Naphthalene	ug/kg	334	244	73	50-91	
Phenanthrene	ug/kg	334	265	79	57-101	
Pyrene	ug/kg	334	260	78	50-102	
2-Fluorobiphenyl (S)	%			91	23-106	
Terphenyl-d14 (S)	%			82	29-106	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1607223 1607224

Parameter	Units	40159682014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acenaphthene	ug/kg	<0.0040 mg/kg	345	345	254	245	74	71	46-97	4	26	
Acenaphthylene	ug/kg	<0.0034 mg/kg	345	345	256	242	74	70	47-97	5	29	
Anthracene	ug/kg	<0.0059 mg/kg	345	345	247	250	72	73	50-101	1	28	
Benzo(a)anthracene	ug/kg	<0.0033 mg/kg	345	345	238	243	69	71	48-95	2	28	
Benzo(a)pyrene	ug/kg	<0.0026 mg/kg	345	345	248	256	72	74	47-108	3	36	
Benzo(b)fluoranthene	ug/kg	<0.0029 mg/kg	345	345	241	260	70	75	42-113	8	34	
Benzo(g,h,i)perylene	ug/kg	<0.0021 mg/kg	345	345	211	216	61	63	18-114	3	30	
Benzo(k)fluoranthene	ug/kg	<0.0026 mg/kg	345	345	257	258	75	75	50-116	0	27	
Chrysene	ug/kg	<0.0035 mg/kg	345	345	245	250	71	73	55-109	2	28	
Dibenz(a,h)anthracene	ug/kg	<0.0023 mg/kg	345	345	228	234	66	68	39-105	2	29	
Fluoranthene	ug/kg	<0.0054 mg/kg	345	345	251	260	73	76	41-107	4	28	
Fluorene	ug/kg	<0.0043 mg/kg	345	345	256	254	74	74	48-99	1	28	
Indeno(1,2,3-cd)pyrene	ug/kg	<0.0023 mg/kg	345	345	228	235	66	68	27-113	3	30	
Naphthalene	ug/kg	<0.0087 mg/kg	345	345	242	203	70	59	40-91	17	37	
Phenanthrene	ug/kg	<0.012 mg/kg	345	345	244	251	71	73	46-101	3	40	
Pyrene	ug/kg	<0.0047 mg/kg	345	345	238	244	69	71	50-102	3	31	
2-Fluorobiphenyl (S)	%						83	77	23-106			
Terphenyl-d14 (S)	%						72	72	29-106			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

QC Batch: 272876 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40159629001, 40159629002, 40159629003, 40159629004, 40159629005, 40159629006, 40159629007, 40159629008, 40159629009, 40159629010

SAMPLE DUPLICATE: 1605601

Parameter	Units	40159969012 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	18.1	17.7	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

QC Batch: 272877 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40159629011, 40159629012, 40159629014, 40159629015, 40159629016

SAMPLE DUPLICATE: 1605725

Parameter	Units	40159794001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	25.7	25.6	0	10	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

QC Batch: 272849 | Analysis Method: EPA 9012
QC Batch Method: EPA 9012A | Analysis Description: 9012 Cyanide
Associated Lab Samples: 40159629001, 40159629002, 40159629003, 40159629004, 40159629005, 40159629006, 40159629007, 40159629008, 40159629009, 40159629010, 40159629011, 40159629012, 40159629014, 40159629015, 40159629016

METHOD BLANK: 1605217 | Matrix: Solid
Associated Lab Samples: 40159629001, 40159629002, 40159629003, 40159629004, 40159629005, 40159629006, 40159629007, 40159629008, 40159629009, 40159629010, 40159629011, 40159629012, 40159629014, 40159629015, 40159629016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/kg	<0.12	0.40	11/03/17 11:54	

LABORATORY CONTROL SAMPLE: 1605218

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/kg	3	2.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605219 1605220

Parameter	Units	40159629009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/kg	<0.13	3	3	2.8	2.6	89	83	80-120	6	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605221 1605222

Parameter	Units	40159681004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/kg	1.6	4.3	4.3	4.8	5.0	75	80	80-120	4	20	M0

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QUALIFIERS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated sample.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
W	Non-detect results are reported on a wet weight basis.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40159629002	**FT-SB40 (0-2)**	EPA 3050	272616	EPA 6020	272791
40159629003	**FT-SB41 (2-3.2)**	EPA 3050	272616	EPA 6020	272791
40159629004	**FT-SB42 (0-2)**	EPA 3050	272616	EPA 6020	272791
40159629005	**FT-SB43 (0-2)**	EPA 3050	272616	EPA 6020	272791
40159629006	**FT-SB44 (0-2)**	EPA 3050	272616	EPA 6020	272791
40159629007	**FT-SB39 (0-2)**	EPA 3050	272616	EPA 6020	272791
40159629008	**FT-SB46 (2-3.5)**	EPA 3050	272616	EPA 6020	272791
40159629009	**FT-SB45 (2-4)**	EPA 3050	272616	EPA 6020	272791
40159629010	**FT-SB48 (0-2)**	EPA 3050	272616	EPA 6020	272791
40159629011	**FT-SB47 (2-4)**	EPA 3050	272674	EPA 6020	272873
40159629012	**FT-SB47 (DUP)**	EPA 3050	272674	EPA 6020	272873
40159629014	**FT-SB49 (2-4)**	EPA 3050	272674	EPA 6020	272873
40159629015	**CG-SB96 (2-4)**	EPA 3050	272674	EPA 6020	272873
40159629016	**CG-SB103 (0-2)**	EPA 3050	272674	EPA 6020	272873
40159629002	**FT-SB40 (0-2)**	EPA 3546	273106	EPA 8270 by SIM	273133
40159629003	**FT-SB41 (2-3.2)**	EPA 3546	273106	EPA 8270 by SIM	273133
40159629004	**FT-SB42 (0-2)**	EPA 3546	273106	EPA 8270 by SIM	273133
40159629005	**FT-SB43 (0-2)**	EPA 3546	273106	EPA 8270 by SIM	273133
40159629006	**FT-SB44 (0-2)**	EPA 3546	272920	EPA 8270 by SIM	272972
40159629007	**FT-SB39 (0-2)**	EPA 3546	272920	EPA 8270 by SIM	272972
40159629008	**FT-SB46 (2-3.5)**	EPA 3546	272920	EPA 8270 by SIM	272972
40159629009	**FT-SB45 (2-4)**	EPA 3546	272920	EPA 8270 by SIM	272972
40159629010	**FT-SB48 (0-2)**	EPA 3546	272920	EPA 8270 by SIM	272972
40159629011	**FT-SB47 (2-4)**	EPA 3546	272920	EPA 8270 by SIM	272972
40159629012	**FT-SB47 (DUP)**	EPA 3546	272920	EPA 8270 by SIM	272972
40159629014	**FT-SB49 (2-4)**	EPA 3546	272920	EPA 8270 by SIM	272972
40159629015	**CG-SB96 (2-4)**	EPA 3546	272920	EPA 8270 by SIM	272972
40159629016	**CG-SB103 (0-2)**	EPA 3546	272920	EPA 8270 by SIM	272972
40159629002	**FT-SB40 (0-2)**	EPA 5035/5030B	273185	EPA 8260	273188
40159629003	**FT-SB41 (2-3.2)**	EPA 5035/5030B	272547	EPA 8260	272549
40159629004	**FT-SB42 (0-2)**	EPA 5035/5030B	272556	EPA 8260	272557
40159629005	**FT-SB43 (0-2)**	EPA 5035/5030B	272708	EPA 8260	272710
40159629006	**FT-SB44 (0-2)**	EPA 5035/5030B	272708	EPA 8260	272710
40159629007	**FT-SB39 (0-2)**	EPA 5035/5030B	272708	EPA 8260	272710
40159629008	**FT-SB46 (2-3.5)**	EPA 5035/5030B	272708	EPA 8260	272710
40159629009	**FT-SB45 (2-4)**	EPA 5035/5030B	272708	EPA 8260	272710
40159629010	**FT-SB48 (0-2)**	EPA 5035/5030B	272708	EPA 8260	272710
40159629011	**FT-SB47 (2-4)**	EPA 5035/5030B	272978	EPA 8260	272979
40159629012	**FT-SB47 (DUP)**	EPA 5035/5030B	272978	EPA 8260	272979
40159629013	**TB102617**	EPA 5035/5030B	273185	EPA 8260	273188
40159629014	**FT-SB49 (2-4)**	EPA 5035/5030B	273185	EPA 8260	273188
40159629015	**CG-SB96 (2-4)**	EPA 5035/5030B	273185	EPA 8260	273188
40159629016	**CG-SB103 (0-2)**	EPA 5035/5030B	273185	EPA 8260	273188
40159629001	**SOUTH CN PILE**	ASTM D2974-87	272876		

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2133/6.0 SOLVAY
Pace Project No.: 40159629

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40159629002	**FT-SB40 (0-2)**	ASTM D2974-87	272876		
40159629003	**FT-SB41 (2-3.2)**	ASTM D2974-87	272876		
40159629004	**FT-SB42 (0-2)**	ASTM D2974-87	272876		
40159629005	**FT-SB43 (0-2)**	ASTM D2974-87	272876		
40159629006	**FT-SB44 (0-2)**	ASTM D2974-87	272876		
40159629007	**FT-SB39 (0-2)**	ASTM D2974-87	272876		
40159629008	**FT-SB46 (2-3.5)**	ASTM D2974-87	272876		
40159629009	**FT-SB45 (2-4)**	ASTM D2974-87	272876		
40159629010	**FT-SB48 (0-2)**	ASTM D2974-87	272876		
40159629011	**FT-SB47 (2-4)**	ASTM D2974-87	272877		
40159629012	**FT-SB47 (DUP)**	ASTM D2974-87	272877		
40159629014	**FT-SB49 (2-4)**	ASTM D2974-87	272877		
40159629015	**CG-SB96 (2-4)**	ASTM D2974-87	272877		
40159629016	**CG-SB103 (0-2)**	ASTM D2974-87	272877		
40159629001	**SOUTH CN PILE**	EPA 9012A	272849	EPA 9012	272946
40159629002	**FT-SB40 (0-2)**	EPA 9012A	272849	EPA 9012	272946
40159629003	**FT-SB41 (2-3.2)**	EPA 9012A	272849	EPA 9012	272946
40159629004	**FT-SB42 (0-2)**	EPA 9012A	272849	EPA 9012	272946
40159629005	**FT-SB43 (0-2)**	EPA 9012A	272849	EPA 9012	272946
40159629006	**FT-SB44 (0-2)**	EPA 9012A	272849	EPA 9012	272946
40159629007	**FT-SB39 (0-2)**	EPA 9012A	272849	EPA 9012	272946
40159629008	**FT-SB46 (2-3.5)**	EPA 9012A	272849	EPA 9012	272946
40159629009	**FT-SB45 (2-4)**	EPA 9012A	272849	EPA 9012	272946
40159629010	**FT-SB48 (0-2)**	EPA 9012A	272849	EPA 9012	272946
40159629011	**FT-SB47 (2-4)**	EPA 9012A	272849	EPA 9012	272946
40159629012	**FT-SB47 (DUP)**	EPA 9012A	272849	EPA 9012	272946
40159629014	**FT-SB49 (2-4)**	EPA 9012A	272849	EPA 9012	272946
40159629015	**CG-SB96 (2-4)**	EPA 9012A	272849	EPA 9012	272946
40159629016	**CG-SB103 (0-2)**	EPA 9012A	272849	EPA 9012	272946

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UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Page 1 of 2

SSM

40159629

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	NRT
Branch/Location:	Milwaukee, WI
Project Contact:	Jay Karls
Phone:	414 837 3645
Project Number:	2133/6.0
Project Name:	Solvay
Project State:	WI
Sampled By (Print):	Keith Krukowski
Sampled By (Sign):	[signature]
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Jay Karls
Mail To Company:	Natural Resource Technology
Mail To Address:	234 W Florida St, 5th floor Milwaukee WI 53204
Invoice To Contact:	mkeap@obg.com
Invoice To Company:	
Invoice To Address:	Same
Invoice To Phone:	

Data Package Options (billable)
- ☐ EPA Level III
- ☐ EPA Level IV

MS/MSD
- ☐ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	PAHs 8270-SIM	Benzene 8260B	Arsenic 6020A	Cyanide 9012A	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
FILTERED? (YES/NO) Y/N					N	N	N	N			
PRESERVATION (CODE)* Pick Letter					A	J	A	A			
001	South CN Pile	10/25	1025	S				X	1-40zp A		
002	FT-SB40 (0-2)	10/25	1155	S	X	X	X	X		1-40zag A 1-40mlv F	
003	FT-SB41 (2-3.2)	10/25	1215	S	X	X	X	X			
004	FT-SB42 (0-2)	10/25	1245	S	X	X	X	X			
005	FT-SB43 (0-2)	10/25	1320	S	X	X	X	X			
006	FT-SB44 (0-2)	10/25	1335	S	X	X	X	X			
007	FT-SB39 (0-2)	10/25	1400	S	X	X	X	X			
008	FT-SB46 (2-3.5)	10/25	1435	S	X	X	X	X			
009	FT-SB45 (2-4)	10/26	1200	S	X	X	X	X			
010	FT-SB48 (0-2)	10/26	1250	S	X	X	X	X			
011	FT-SB47 (2-4)	10/26	1315	S	X	X	X	X			
012	FT-SB47 (DUP)	10/26	1316	S	X	X	X	X			
013	TB 102617	10/26	1800	S	X	X	X	X			

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):
Email #1: Jay.Karls@obg.com
Email #2:
Telephone:
Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	10/27/17 1200	Kate Johnson Pace	10/27/17 1335

PACE Project No. 40159629
Receipt Temp = RO1 °C
Sample Receipt pH OK / Adjusted
Cooler Custody Seal Present / Not Present Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

40159629

UPPER MIDWEST REGION
MN: 612-607-1700 **WI:** 920-469-2436

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CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	
Branch/Location:	
Project Contact:	
Phone:	
Project Number:	
Project Name:	
Project State:	
Sampled By (Print):	
Sampled By (Sign):	
PO #:	Regulatory Program:

SAME

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

SAME

Data Package Options (billable)
- ☐ EPA Level III
- ☐ EPA Level IV

MS/MSD
- ☐ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	PAHs 8270-SIM	Benzene 8260B	Arsenic 6020A	Cyanide 9012A	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
FILTERED? (YES/NO) Y/N					N	N	N	N			
PRESERVATION (CODE)* Pick Letter					A	I	A	A			
014	FT-SB49 (2-4)	10/26	1340	S	X	X	X	X	1-40zpA	1-40zagA	1-40mlvF
015	CG-SB96 (2-4)	10/26	1430	S	X	X	X	X			
016	CG-SB103 (0-2)	10/26	1335	S	X	X	X	X			

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	Jay.Karls@obg.com
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	10/27/17 1200	Kate Schramm Pace	10/27/17 1335

PACE Project No. 40159629

Receipt Temp = R01 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Pace Analytical™

Project #: WO#: 40159629

40159629

Client Name: NRT

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☑ Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no KJ 10/27/17

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Thermometer Used NA **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: /Corr: RO1 **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents:
Date: 10/27/17
Initials: KJ

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2. Olle time 1535 KJ 10/27/17
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4. first pg only KJ 10/27/17
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: S		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes ☑No	Initial when completed / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	14.
Trip Blank Present:	☑Yes ☐No ☐N/A	15.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 67-561		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 10/31/17

F-GB-C-031-Rev.04 (12Dec2016) SCUR.xls
Pace Analytical Services LLC. - Green Bay WI

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

November 20, 2017

Andrew Cawrse
Natural Resource Technology
234 W Florida St
Milwaukee, WI 53204

RE: Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Dear Andrew Cawrse:
Enclosed are the analytical results for sample(s) received by the laboratory on November 03, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Steven Mleczko for
Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: NRT Data, Natural Resource Technologies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY
Jay Karls, Natural Resource Technology
Robert Paulson, We Energies

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CERTIFICATIONS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40160110001	**NORTH CN PILE**	Solid	10/31/17 08:50	11/03/17 07:55
40160110002	**CEMENT FINES**	Solid	10/31/17 09:15	11/03/17 07:55
40160110003	**BRICK FINES**	Solid	10/31/17 09:25	11/03/17 07:55
40160110004	**CS-SB46(0-2)**	Solid	11/01/17 09:20	11/03/17 07:55
40160110005	**CS-SB50(2-4)**	Solid	11/01/17 10:00	11/03/17 07:55
40160110006	**CS-SB50(DUP)**	Solid	11/01/17 10:01	11/03/17 07:55
40160110007	**CS-SB45(0-2)**	Solid	11/01/17 10:45	11/03/17 07:55
40160110008	**CS-SB40(2-4)**	Solid	11/01/17 11:30	11/03/17 07:55
40160110009	**CS-SB36(0-2)**	Solid	11/01/17 12:30	11/03/17 07:55
40160110010	**CS-SB38(0-2)**	Solid	11/01/17 13:30	11/03/17 07:55
40160110011	**CG-SB84(2-4)**	Solid	11/01/17 14:15	11/03/17 07:55
40160110012	**CG-SB65(2-4)**	Solid	11/01/17 15:20	11/03/17 07:55

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SAMPLE ANALYTE COUNT

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40160110001	**NORTH CN PILE**	EPA 6020	DS1	1	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
		EPA 9014	PAS	1	PASI-PA
		EPA 9012	DAW	1	PASI-G
40160110002	**CEMENT FINES**	EPA 8082	BLM	10	PASI-G
		EPA 6020	DS1	7	PASI-G
		EPA 7471	AJT	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		EPA 8260	SMT	64	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
		EPA 9012	DAW	1	PASI-G
40160110003	**BRICK FINES**	EPA 8082	BLM	10	PASI-G
		EPA 6020	DS1	7	PASI-G
		EPA 7471	AJT	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		EPA 8260	SMT	64	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
		EPA 9012	DAW	1	PASI-G
40160110004	**CS-SB46(0-2)**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by SIM	ARO	18	PASI-G
		EPA 8260	SMT	4	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
		EPA 9012	DAW	1	PASI-G
40160110005	**CS-SB50(2-4)**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by SIM	ARO	18	PASI-G
		EPA 8260	SMT	4	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
		EPA 9012	DAW	1	PASI-G
40160110006	**CS-SB50(DUP)**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by SIM	ARO	18	PASI-G
		EPA 8260	SMT	4	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
		EPA 9012	DAW	1	PASI-G
40160110007	**CS-SB45(0-2)**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by SIM	ARO	18	PASI-G
		EPA 8260	SMT	4	PASI-G
		ASTM D2974-87	SKW	1	PASI-G

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SAMPLE ANALYTE COUNT

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9012	DAW	1	PASI-G
40160110008	**CS-SB40(2-4)**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by SIM	ARO	18	PASI-G
		EPA 8260	SMT	4	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
		EPA 9012	DAW	1	PASI-G
40160110009	**CS-SB36(0-2)**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by SIM	ARO	18	PASI-G
		EPA 8260	SMT	4	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
		EPA 9012	DAW	1	PASI-G
40160110010	**CS-SB38(0-2)**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by SIM	ARO	18	PASI-G
		EPA 8260	SMT	4	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
		EPA 9012	DAW	1	PASI-G
40160110011	**CG-SB84(2-4)**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by SIM	ARO	18	PASI-G
		EPA 8260	SMT	4	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
		EPA 9012	DAW	1	PASI-G
40160110012	**CG-SB65(2-4)**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by SIM	ARO	18	PASI-G
		EPA 8260	SMT	4	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
		EPA 9012	DAW	1	PASI-G

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: NORTH CN PILE **Lab ID: 40160110001** Collected: 10/31/17 08:50 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**9.2**	mg/kg	0.94	0.28	6.667	11/13/17 07:56	11/14/17 05:42	7440-38-2	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**6.1**	%	0.10	0.10	1		11/10/17 08:37		
733C S Reactive Cyanide	Analytical Method: EPA 9014 Preparation Method: SW-846 7.3.3.2								
Cyanide, Reactive	**<0.43**	mg/kg	1.1	0.43	1	11/17/17 18:36	11/17/17 22:38		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**3.6**	mg/kg	0.42	0.12	1	11/09/17 10:00	11/09/17 13:18	57-12-5	

Sample: CEMENT FINES **Lab ID: 40160110002** Collected: 10/31/17 09:15 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541								
PCB-1016 (Aroclor 1016)	**<28.2**	ug/kg	56.4	28.2	1	11/06/17 13:22	11/07/17 13:58	12674-11-2	
PCB-1221 (Aroclor 1221)	**<28.2**	ug/kg	56.4	28.2	1	11/06/17 13:22	11/07/17 13:58	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.2**	ug/kg	56.4	28.2	1	11/06/17 13:22	11/07/17 13:58	11141-16-5	
PCB-1242 (Aroclor 1242)	**<28.2**	ug/kg	56.4	28.2	1	11/06/17 13:22	11/07/17 13:58	53469-21-9	
PCB-1248 (Aroclor 1248)	**42.3J**	ug/kg	56.4	28.2	1	11/06/17 13:22	11/07/17 13:58	12672-29-6	
PCB-1254 (Aroclor 1254)	**59.9**	ug/kg	56.4	28.2	1	11/06/17 13:22	11/07/17 13:58	11097-69-1	
PCB-1260 (Aroclor 1260)	**50.7J**	ug/kg	56.4	28.2	1	11/06/17 13:22	11/07/17 13:58	11096-82-5	
PCB, Total	**153**	ug/kg	56.4	28.2	1	11/06/17 13:22	11/07/17 13:58	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81	%	50-102		1	11/06/17 13:22	11/07/17 13:58	877-09-8	
Decachlorobiphenyl (S)	61	%	53-105		1	11/06/17 13:22	11/07/17 13:58	2051-24-3	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**7.7**	mg/kg	0.97	0.29	6.667	11/13/17 07:56	11/14/17 06:09	7440-38-2	
Barium	**157**	mg/kg	0.84	0.25	6.667	11/13/17 07:56	11/14/17 06:09	7440-39-3	
Cadmium	**0.58J**	mg/kg	0.73	0.11	6.667	11/13/17 07:56	11/14/17 06:09	7440-43-9	D3
Chromium	**16.3**	mg/kg	4.9	1.5	6.667	11/13/17 07:56	11/14/17 06:09	7440-47-3	
Lead	**214**	mg/kg	0.73	0.20	6.667	11/13/17 07:56	11/14/17 06:09	7439-92-1	
Selenium	**2.1**	mg/kg	0.73	0.20	6.667	11/13/17 07:56	11/14/17 06:09	7782-49-2	
Silver	**0.14J**	mg/kg	0.37	0.11	6.667	11/13/17 07:56	11/14/17 06:09	7440-22-4	D3
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.10**	mg/kg	0.040	0.012	1	11/10/17 06:17	11/13/17 11:32	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**3170**	ug/kg	2910	876	200	11/09/17 08:28	11/10/17 10:12	83-32-9	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: CEMENT FINES **Lab ID: 40160110002** Collected: 10/31/17 09:15 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthylene	**<744**	ug/kg	2480	744	200	11/09/17 08:28	11/10/17 10:12	208-96-8	
Anthracene	**7370**	ug/kg	4290	1290	200	11/09/17 08:28	11/10/17 10:12	120-12-7	
Benzo(a)anthracene	**12800**	ug/kg	2390	716	200	11/09/17 08:28	11/10/17 10:12	56-55-3	
Benzo(a)pyrene	**10400**	ug/kg	1890	567	200	11/09/17 08:28	11/10/17 10:12	50-32-8	
Benzo(b)fluoranthene	**10100**	ug/kg	2120	637	200	11/09/17 08:28	11/10/17 10:12	205-99-2	
Benzo(g,h,i)perylene	**6040**	ug/kg	1530	459	200	11/09/17 08:28	11/10/17 10:12	191-24-2	
Benzo(k)fluoranthene	**9670**	ug/kg	1890	566	200	11/09/17 08:28	11/10/17 10:12	207-08-9	
Chrysene	**13300**	ug/kg	2530	761	200	11/09/17 08:28	11/10/17 10:12	218-01-9	
Dibenz(a,h)anthracene	**2120**	ug/kg	1680	505	200	11/09/17 08:28	11/10/17 10:12	53-70-3	
Fluoranthene	**41100**	ug/kg	3930	1180	200	11/09/17 08:28	11/10/17 10:12	206-44-0	
Fluorene	**3690**	ug/kg	3120	934	200	11/09/17 08:28	11/10/17 10:12	86-73-7	
Indeno(1,2,3-cd)pyrene	**5600**	ug/kg	1650	496	200	11/09/17 08:28	11/10/17 10:12	193-39-5	
1-Methylnaphthalene	**<908**	ug/kg	3020	908	200	11/09/17 08:28	11/10/17 10:12	90-12-0	
2-Methylnaphthalene	**<1130**	ug/kg	3770	1130	200	11/09/17 08:28	11/10/17 10:12	91-57-6	
Naphthalene	**<1900**	ug/kg	6340	1900	200	11/09/17 08:28	11/10/17 10:12	91-20-3	
Phenanthrene	**29300**	ug/kg	8760	2630	200	11/09/17 08:28	11/10/17 10:12	85-01-8	
Pyrene	**28900**	ug/kg	3390	1020	200	11/09/17 08:28	11/10/17 10:12	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	0	%	23-106		200	11/09/17 08:28	11/10/17 10:12	321-60-8	S4
Terphenyl-d14 (S)	0	%	29-106		200	11/09/17 08:28	11/10/17 10:12	1718-51-0	S4
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	630-20-6	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	71-55-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	79-34-5	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	79-00-5	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	75-34-3	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	75-35-4	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	563-58-6	W
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	87-61-6	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	96-18-4	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	11/06/17 07:30	11/06/17 21:31	120-82-1	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	95-63-6	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	11/06/17 07:30	11/06/17 21:31	96-12-8	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	106-93-4	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	95-50-1	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	107-06-2	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	78-87-5	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	108-67-8	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	541-73-1	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	142-28-9	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	106-46-7	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	594-20-7	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	106-43-4	W

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: CEMENT FINES **Lab ID: 40160110002** Collected: 10/31/17 09:15 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**29.7J**	ug/kg	67.7	28.2	1	11/06/17 07:30	11/06/17 21:31	71-43-2	
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	11/06/17 07:30	11/06/17 21:31	74-83-9	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	11/06/17 07:30	11/06/17 21:31	75-00-3	W
Chloroform	**<46.4**	ug/kg	250	46.4	1	11/06/17 07:30	11/06/17 21:31	67-66-3	W
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	74-87-3	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	124-48-1	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	74-95-3	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	75-71-8	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	98-82-8	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	1634-04-4	W
Methylene Chloride	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	75-09-2	W
Naphthalene	**234J**	ug/kg	282	45.2	1	11/06/17 07:30	11/06/17 21:31	91-20-3	
Styrene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	100-42-5	W
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	127-18-4	W
Toluene	**169**	ug/kg	67.7	28.2	1	11/06/17 07:30	11/06/17 21:31	108-88-3	
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	75-69-4	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	75-01-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	156-59-2	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	10061-01-5	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	11/06/17 07:30	11/06/17 21:31	179601-23-1	W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	104-51-8	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	103-65-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	95-47-6	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	99-87-6	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	98-06-6	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	156-60-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:31	10061-02-6	W
Surrogates									
Dibromofluoromethane (S)	100	%	68-130		1	11/06/17 07:30	11/06/17 21:31	1868-53-7	
Toluene-d8 (S)	100	%	68-149		1	11/06/17 07:30	11/06/17 21:31	2037-26-5	
4-Bromofluorobenzene (S)	93	%	58-141		1	11/06/17 07:30	11/06/17 21:31	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.4**	%	0.10	0.10	1		11/10/17 08:37		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: CEMENT FINES **Lab ID: 40160110002** Collected: 10/31/17 09:15 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.92**	mg/kg	0.37	0.11	1	11/09/17 10:00	11/09/17 13:19	57-12-5	B

Sample: BRICK FINES **Lab ID: 40160110003** Collected: 10/31/17 09:25 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541								
PCB-1016 (Aroclor 1016)	**<29.1**	ug/kg	58.1	29.1	1	11/06/17 13:22	11/07/17 14:16	12674-11-2	
PCB-1221 (Aroclor 1221)	**<29.1**	ug/kg	58.1	29.1	1	11/06/17 13:22	11/07/17 14:16	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.1**	ug/kg	58.1	29.1	1	11/06/17 13:22	11/07/17 14:16	11141-16-5	
PCB-1242 (Aroclor 1242)	**<29.1**	ug/kg	58.1	29.1	1	11/06/17 13:22	11/07/17 14:16	53469-21-9	
PCB-1248 (Aroclor 1248)	**<29.1**	ug/kg	58.1	29.1	1	11/06/17 13:22	11/07/17 14:16	12672-29-6	
PCB-1254 (Aroclor 1254)	**<29.1**	ug/kg	58.1	29.1	1	11/06/17 13:22	11/07/17 14:16	11097-69-1	
PCB-1260 (Aroclor 1260)	**50.1J**	ug/kg	58.1	29.1	1	11/06/17 13:22	11/07/17 14:16	11096-82-5	
PCB, Total	**50.1J**	ug/kg	58.1	29.1	1	11/06/17 13:22	11/07/17 14:16	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	77	%	50-102		1	11/06/17 13:22	11/07/17 14:16	877-09-8	
Decachlorobiphenyl (S)	62	%	53-105		1	11/06/17 13:22	11/07/17 14:16	2051-24-3	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**27.8**	mg/kg	1.0	0.31	6.667	11/13/17 07:56	11/14/17 06:23	7440-38-2	
Barium	**106**	mg/kg	0.89	0.27	6.667	11/13/17 07:56	11/14/17 06:23	7440-39-3	
Cadmium	**2.3**	mg/kg	0.77	0.11	6.667	11/13/17 07:56	11/14/17 06:23	7440-43-9	
Chromium	**36.4**	mg/kg	5.2	1.6	6.667	11/13/17 07:56	11/14/17 06:23	7440-47-3	
Lead	**247**	mg/kg	0.77	0.21	6.667	11/13/17 07:56	11/14/17 06:23	7439-92-1	
Selenium	**3.4**	mg/kg	0.77	0.21	6.667	11/13/17 07:56	11/14/17 06:23	7782-49-2	
Silver	**0.30J**	mg/kg	0.39	0.11	6.667	11/13/17 07:56	11/14/17 06:23	7440-22-4	D3
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.52**	mg/kg	0.043	0.013	1	11/10/17 06:17	11/13/17 11:35	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**93.7J**	ug/kg	300	90.2	20	11/09/17 08:28	11/10/17 09:54	83-32-9	
Acenaphthylene	**280**	ug/kg	256	76.6	20	11/09/17 08:28	11/10/17 09:54	208-96-8	
Anthracene	**1050**	ug/kg	441	133	20	11/09/17 08:28	11/10/17 09:54	120-12-7	
Benzo(a)anthracene	**2500**	ug/kg	246	73.7	20	11/09/17 08:28	11/10/17 09:54	56-55-3	
Benzo(a)pyrene	**2000**	ug/kg	194	58.4	20	11/09/17 08:28	11/10/17 09:54	50-32-8	
Benzo(b)fluoranthene	**2580**	ug/kg	219	65.6	20	11/09/17 08:28	11/10/17 09:54	205-99-2	
Benzo(g,h,i)perylene	**1440**	ug/kg	157	47.2	20	11/09/17 08:28	11/10/17 09:54	191-24-2	
Benzo(k)fluoranthene	**2030**	ug/kg	194	58.3	20	11/09/17 08:28	11/10/17 09:54	207-08-9	
Chrysene	**3310**	ug/kg	260	78.4	20	11/09/17 08:28	11/10/17 09:54	218-01-9	
Dibenz(a,h)anthracene	**538**	ug/kg	173	52.0	20	11/09/17 08:28	11/10/17 09:54	53-70-3	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: BRICK FINES **Lab ID: 40160110003** Collected: 10/31/17 09:25 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Fluoranthene	**5470**	ug/kg	404	121	20	11/09/17 08:28	11/10/17 09:54	206-44-0	
Fluorene	**199J**	ug/kg	321	96.2	20	11/09/17 08:28	11/10/17 09:54	86-73-7	
Indeno(1,2,3-cd)pyrene	**1270**	ug/kg	170	51.1	20	11/09/17 08:28	11/10/17 09:54	193-39-5	
1-Methylnaphthalene	**183J**	ug/kg	311	93.5	20	11/09/17 08:28	11/10/17 09:54	90-12-0	
2-Methylnaphthalene	**316J**	ug/kg	388	116	20	11/09/17 08:28	11/10/17 09:54	91-57-6	
Naphthalene	**647J**	ug/kg	653	196	20	11/09/17 08:28	11/10/17 09:54	91-20-3	
Phenanthrene	**2940**	ug/kg	902	271	20	11/09/17 08:28	11/10/17 09:54	85-01-8	
Pyrene	**4020**	ug/kg	349	105	20	11/09/17 08:28	11/10/17 09:54	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	68	%	23-106		20	11/09/17 08:28	11/10/17 09:54	321-60-8	
Terphenyl-d14 (S)	66	%	29-106		20	11/09/17 08:28	11/10/17 09:54	1718-51-0	
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	630-20-6	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	71-55-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	79-34-5	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	79-00-5	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	75-34-3	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	75-35-4	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	563-58-6	W
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	87-61-6	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	96-18-4	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	11/06/17 07:30	11/06/17 21:54	120-82-1	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	95-63-6	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	11/06/17 07:30	11/06/17 21:54	96-12-8	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	106-93-4	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	95-50-1	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	107-06-2	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	78-87-5	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	108-67-8	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	541-73-1	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	142-28-9	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	106-46-7	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	594-20-7	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	106-43-4	W
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	71-43-2	W
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	11/06/17 07:30	11/06/17 21:54	74-83-9	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	11/06/17 07:30	11/06/17 21:54	75-00-3	W

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: BRICK FINES **Lab ID: 40160110003** Collected: 10/31/17 09:25 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Chloroform	**<46.4**	ug/kg	250	46.4	1	11/06/17 07:30	11/06/17 21:54	67-66-3	W
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	74-87-3	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	124-48-1	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	74-95-3	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	75-71-8	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	98-82-8	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	1634-04-4	W
Methylene Chloride	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	75-09-2	W
Naphthalene	**226J**	ug/kg	291	46.5	1	11/06/17 07:30	11/06/17 21:54	91-20-3	
Styrene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	100-42-5	W
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	127-18-4	W
Toluene	**122**	ug/kg	69.7	29.1	1	11/06/17 07:30	11/06/17 21:54	108-88-3	
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	75-69-4	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	75-01-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	156-59-2	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	10061-01-5	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	11/06/17 07:30	11/06/17 21:54	179601-23-1	W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	104-51-8	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	103-65-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	95-47-6	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	99-87-6	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	98-06-6	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	156-60-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	11/06/17 07:30	11/06/17 21:54	10061-02-6	W
Surrogates									
Dibromofluoromethane (S)	101	%	68-130		1	11/06/17 07:30	11/06/17 21:54	1868-53-7	
Toluene-d8 (S)	101	%	68-149		1	11/06/17 07:30	11/06/17 21:54	2037-26-5	
4-Bromofluorobenzene (S)	92	%	58-141		1	11/06/17 07:30	11/06/17 21:54	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**14.0**	%	0.10	0.10	1		11/10/17 08:37		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**8.8**	mg/kg	0.43	0.13	1	11/09/17 10:00	11/09/17 13:21	57-12-5	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: CS-SB46(0-2) **Lab ID: 40160110004** Collected: 11/01/17 09:20 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**8.1**	mg/kg	0.97	0.29	6.667	11/13/17 07:56	11/14/17 06:30	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**102J**	ug/kg	115	34.5	8	11/14/17 09:42	11/15/17 17:10	83-32-9	
Acenaphthylene	**285**	ug/kg	97.6	29.3	8	11/14/17 09:42	11/15/17 17:10	208-96-8	
Anthracene	**682**	ug/kg	169	50.7	8	11/14/17 09:42	11/15/17 17:10	120-12-7	
Benzo(a)anthracene	**1380**	ug/kg	94.1	28.1	8	11/14/17 09:42	11/15/17 17:10	56-55-3	
Benzo(a)pyrene	**1440**	ug/kg	74.3	22.3	8	11/14/17 09:42	11/15/17 17:10	50-32-8	
Benzo(b)fluoranthene	**1380**	ug/kg	83.5	25.1	8	11/14/17 09:42	11/15/17 17:10	205-99-2	
Benzo(g,h,i)perylene	**824**	ug/kg	60.1	18.0	8	11/14/17 09:42	11/15/17 17:10	191-24-2	
Benzo(k)fluoranthene	**1480**	ug/kg	74.2	22.3	8	11/14/17 09:42	11/15/17 17:10	207-08-9	
Chrysene	**1600**	ug/kg	99.4	29.9	8	11/14/17 09:42	11/15/17 17:10	218-01-9	
Dibenz(a,h)anthracene	**352**	ug/kg	66.1	19.8	8	11/14/17 09:42	11/15/17 17:10	53-70-3	
Fluoranthene	**2730**	ug/kg	154	46.2	8	11/14/17 09:42	11/15/17 17:10	206-44-0	
Fluorene	**158**	ug/kg	123	36.7	8	11/14/17 09:42	11/15/17 17:10	86-73-7	
Indeno(1,2,3-cd)pyrene	**748**	ug/kg	65.1	19.5	8	11/14/17 09:42	11/15/17 17:10	193-39-5	
Naphthalene	**1520**	ug/kg	249	74.8	8	11/14/17 09:42	11/15/17 17:10	91-20-3	
Phenanthrene	**2250**	ug/kg	344	103	8	11/14/17 09:42	11/15/17 17:10	85-01-8	
Pyrene	**2380**	ug/kg	133	40.1	8	11/14/17 09:42	11/15/17 17:10	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	63	%	23-106		8	11/14/17 09:42	11/15/17 17:10	321-60-8	
Terphenyl-d14 (S)	63	%	29-106		8	11/14/17 09:42	11/15/17 17:10	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**81.5**	ug/kg	78.4	32.7	1	11/06/17 12:30	11/07/17 00:36	71-43-2	
Surrogates									
Dibromofluoromethane (S)	83	%	68-130		1	11/06/17 12:30	11/07/17 00:36	1868-53-7	
4-Bromofluorobenzene (S)	77	%	58-141		1	11/06/17 12:30	11/07/17 00:36	460-00-4	
Toluene-d8 (S)	80	%	68-149		1	11/06/17 12:30	11/07/17 00:36	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.9**	%	0.10	0.10	1		11/10/17 08:38		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.68**	mg/kg	0.47	0.14	1	11/09/17 10:00	11/09/17 13:22	57-12-5	B

Sample: CS-SB50(2-4) **Lab ID: 40160110005** Collected: 11/01/17 10:00 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**3.7**	mg/kg	0.94	0.28	6.667	11/13/17 07:56	11/14/17 06:50	7440-38-2	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: CS-SB50(2-4) **Lab ID: 40160110005** Collected: 11/01/17 10:00 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**541J**	ug/kg	1130	341	80	11/14/17 09:42	11/15/17 10:44	83-32-9	
Acenaphthylene	**1900**	ug/kg	967	290	80	11/14/17 09:42	11/15/17 10:44	208-96-8	
Anthracene	**3460**	ug/kg	1670	502	80	11/14/17 09:42	11/15/17 10:44	120-12-7	
Benzo(a)anthracene	**5730**	ug/kg	932	279	80	11/14/17 09:42	11/15/17 10:44	56-55-3	
Benzo(a)pyrene	**4260**	ug/kg	736	221	80	11/14/17 09:42	11/15/17 10:44	50-32-8	
Benzo(b)fluoranthene	**4110**	ug/kg	828	248	80	11/14/17 09:42	11/15/17 10:44	205-99-2	
Benzo(g,h,i)perylene	**1730**	ug/kg	595	179	80	11/14/17 09:42	11/15/17 10:44	191-24-2	
Benzo(k)fluoranthene	**3620**	ug/kg	735	221	80	11/14/17 09:42	11/15/17 10:44	207-08-9	
Chrysene	**5950**	ug/kg	985	297	80	11/14/17 09:42	11/15/17 10:44	218-01-9	
Dibenz(a,h)anthracene	**700**	ug/kg	655	197	80	11/14/17 09:42	11/15/17 10:44	53-70-3	
Fluoranthene	**16800**	ug/kg	1530	458	80	11/14/17 09:42	11/15/17 10:44	206-44-0	
Fluorene	**3690**	ug/kg	1210	364	80	11/14/17 09:42	11/15/17 10:44	86-73-7	
Indeno(1,2,3-cd)pyrene	**1850**	ug/kg	645	193	80	11/14/17 09:42	11/15/17 10:44	193-39-5	
Naphthalene	**7220**	ug/kg	2470	741	80	11/14/17 09:42	11/15/17 10:44	91-20-3	
Phenanthrene	**11800**	ug/kg	3410	1020	80	11/14/17 09:42	11/15/17 10:44	85-01-8	
Pyrene	**11000**	ug/kg	1320	397	80	11/14/17 09:42	11/15/17 10:44	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	0	%	23-106		80	11/14/17 09:42	11/15/17 10:44	321-60-8	S4
Terphenyl-d14 (S)	0	%	29-106		80	11/14/17 09:42	11/15/17 10:44	1718-51-0	S4
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**296**	ug/kg	78.5	32.7	1	11/06/17 12:30	11/07/17 00:59	71-43-2	
Surrogates									
Dibromofluoromethane (S)	82	%	68-130		1	11/06/17 12:30	11/07/17 00:59	1868-53-7	
4-Bromofluorobenzene (S)	83	%	58-141		1	11/06/17 12:30	11/07/17 00:59	460-00-4	
Toluene-d8 (S)	83	%	68-149		1	11/06/17 12:30	11/07/17 00:59	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.0**	%	0.10	0.10	1		11/10/17 08:38		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.14J**	mg/kg	0.39	0.12	1	11/09/17 10:00	11/09/17 13:23	57-12-5	B

Sample: CS-SB50(DUP) **Lab ID: 40160110006** Collected: 11/01/17 10:01 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**4.6**	mg/kg	0.93	0.28	6.667	11/13/17 07:56	11/14/17 06:57	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**417**	ug/kg	285	85.6	20	11/14/17 09:42	11/15/17 10:26	83-32-9	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: CS-SB50(DUP) **Lab ID: 40160110006** Collected: 11/01/17 10:01 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthylene	**901**	ug/kg	243	72.7	20	11/14/17 09:42	11/15/17 10:26	208-96-8	
Anthracene	**1830**	ug/kg	419	126	20	11/14/17 09:42	11/15/17 10:26	120-12-7	
Benzo(a)anthracene	**3100**	ug/kg	234	70.0	20	11/14/17 09:42	11/15/17 10:26	56-55-3	
Benzo(a)pyrene	**2490**	ug/kg	185	55.4	20	11/14/17 09:42	11/15/17 10:26	50-32-8	
Benzo(b)fluoranthene	**2320**	ug/kg	208	62.3	20	11/14/17 09:42	11/15/17 10:26	205-99-2	
Benzo(g,h,i)perylene	**1160**	ug/kg	149	44.8	20	11/14/17 09:42	11/15/17 10:26	191-24-2	
Benzo(k)fluoranthene	**2260**	ug/kg	184	55.4	20	11/14/17 09:42	11/15/17 10:26	207-08-9	
Chrysene	**3380**	ug/kg	247	74.4	20	11/14/17 09:42	11/15/17 10:26	218-01-9	
Dibenz(a,h)anthracene	**474**	ug/kg	164	49.3	20	11/14/17 09:42	11/15/17 10:26	53-70-3	
Fluoranthene	**9250**	ug/kg	384	115	20	11/14/17 09:42	11/15/17 10:26	206-44-0	
Fluorene	**2260**	ug/kg	305	91.3	20	11/14/17 09:42	11/15/17 10:26	86-73-7	
Indeno(1,2,3-cd)pyrene	**1210**	ug/kg	162	48.5	20	11/14/17 09:42	11/15/17 10:26	193-39-5	
Naphthalene	**5870**	ug/kg	620	186	20	11/14/17 09:42	11/15/17 10:26	91-20-3	
Phenanthrene	**6950**	ug/kg	856	257	20	11/14/17 09:42	11/15/17 10:26	85-01-8	
Pyrene	**6260**	ug/kg	331	99.6	20	11/14/17 09:42	11/15/17 10:26	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	52	%	23-106		20	11/14/17 09:42	11/15/17 10:26	321-60-8	
Terphenyl-d14 (S)	52	%	29-106		20	11/14/17 09:42	11/15/17 10:26	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**283**	ug/kg	66.8	27.8	1	11/06/17 12:30	11/07/17 01:22	71-43-2	
Surrogates									
Dibromofluoromethane (S)	96	%	68-130		1	11/06/17 12:30	11/07/17 01:22	1868-53-7	
4-Bromofluorobenzene (S)	97	%	58-141		1	11/06/17 12:30	11/07/17 01:22	460-00-4	
Toluene-d8 (S)	96	%	68-149		1	11/06/17 12:30	11/07/17 01:22	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.3**	%	0.10	0.10	1		11/10/17 08:38		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.26J**	mg/kg	0.45	0.13	1	11/09/17 10:00	11/09/17 13:23	57-12-5	B

Sample: CS-SB45(0-2) **Lab ID: 40160110007** Collected: 11/01/17 10:45 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**5.1**	mg/kg	0.90	0.27	6.667	11/13/17 07:56	11/14/17 07:04	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**256**	ug/kg	113	34.1	8	11/14/17 09:42	11/15/17 17:27	83-32-9	
Acenaphthylene	**89.2J**	ug/kg	96.6	28.9	8	11/14/17 09:42	11/15/17 17:27	208-96-8	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: CS-SB45(0-2) **Lab ID: 40160110007** Collected: 11/01/17 10:45 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Anthracene	**846**	ug/kg	167	50.1	8	11/14/17 09:42	11/15/17 17:27	120-12-7	
Benzo(a)anthracene	**1260**	ug/kg	93.1	27.8	8	11/14/17 09:42	11/15/17 17:27	56-55-3	
Benzo(a)pyrene	**1080**	ug/kg	73.5	22.1	8	11/14/17 09:42	11/15/17 17:27	50-32-8	
Benzo(b)fluoranthene	**948**	ug/kg	82.6	24.8	8	11/14/17 09:42	11/15/17 17:27	205-99-2	
Benzo(g,h,i)perylene	**438**	ug/kg	59.4	17.8	8	11/14/17 09:42	11/15/17 17:27	191-24-2	
Benzo(k)fluoranthene	**1140**	ug/kg	73.4	22.0	8	11/14/17 09:42	11/15/17 17:27	207-08-9	
Chrysene	**1380**	ug/kg	98.3	29.6	8	11/14/17 09:42	11/15/17 17:27	218-01-9	
Dibenz(a,h)anthracene	**197**	ug/kg	65.4	19.6	8	11/14/17 09:42	11/15/17 17:27	53-70-3	
Fluoranthene	**3840**	ug/kg	153	45.7	8	11/14/17 09:42	11/15/17 17:27	206-44-0	
Fluorene	**421**	ug/kg	121	36.3	8	11/14/17 09:42	11/15/17 17:27	86-73-7	
Indeno(1,2,3-cd)pyrene	**509**	ug/kg	64.3	19.3	8	11/14/17 09:42	11/15/17 17:27	193-39-5	
Naphthalene	**715**	ug/kg	247	73.9	8	11/14/17 09:42	11/15/17 17:27	91-20-3	
Phenanthrene	**3370**	ug/kg	341	102	8	11/14/17 09:42	11/15/17 17:27	85-01-8	
Pyrene	**2820**	ug/kg	132	39.6	8	11/14/17 09:42	11/15/17 17:27	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	49	%	23-106		8	11/14/17 09:42	11/15/17 17:27	321-60-8	
Terphenyl-d14 (S)	50	%	29-106		8	11/14/17 09:42	11/15/17 17:27	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**78.0**	ug/kg	65.9	27.5	1	11/06/17 12:30	11/07/17 10:40	71-43-2	
Surrogates									
Dibromofluoromethane (S)	96	%	68-130		1	11/06/17 12:30	11/07/17 10:40	1868-53-7	
4-Bromofluorobenzene (S)	90	%	58-141		1	11/06/17 12:30	11/07/17 10:40	460-00-4	
Toluene-d8 (S)	96	%	68-149		1	11/06/17 12:30	11/07/17 10:40	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.0**	%	0.10	0.10	1		11/10/17 08:38		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.25J**	mg/kg	0.34	0.10	1	11/09/17 10:00	11/09/17 13:27	57-12-5	B

Sample: CS-SB40(2-4) **Lab ID: 40160110008** Collected: 11/01/17 11:30 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**4.4**	mg/kg	0.98	0.29	6.667	11/13/17 07:56	11/14/17 07:11	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**1450J**	ug/kg	1480	444	100	11/14/17 09:42	11/15/17 11:02	83-32-9	
Acenaphthylene	**2720**	ug/kg	1260	377	100	11/14/17 09:42	11/15/17 11:02	208-96-8	
Anthracene	**5680**	ug/kg	2170	654	100	11/14/17 09:42	11/15/17 11:02	120-12-7	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: CS-SB40(2-4) **Lab ID: 40160110008** Collected: 11/01/17 11:30 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Benzo(a)anthracene	**7220**	ug/kg	1210	363	100	11/14/17 09:42	11/15/17 11:02	56-55-3	
Benzo(a)pyrene	**5460**	ug/kg	958	288	100	11/14/17 09:42	11/15/17 11:02	50-32-8	
Benzo(b)fluoranthene	**5200**	ug/kg	1080	323	100	11/14/17 09:42	11/15/17 11:02	205-99-2	
Benzo(g,h,i)perylene	**2300**	ug/kg	775	233	100	11/14/17 09:42	11/15/17 11:02	191-24-2	
Benzo(k)fluoranthene	**4920**	ug/kg	957	287	100	11/14/17 09:42	11/15/17 11:02	207-08-9	
Chrysene	**7350**	ug/kg	1280	386	100	11/14/17 09:42	11/15/17 11:02	218-01-9	
Dibenz(a,h)anthracene	**878**	ug/kg	853	256	100	11/14/17 09:42	11/15/17 11:02	53-70-3	
Fluoranthene	**22000**	ug/kg	1990	596	100	11/14/17 09:42	11/15/17 11:02	206-44-0	
Fluorene	**5030**	ug/kg	1580	474	100	11/14/17 09:42	11/15/17 11:02	86-73-7	
Indeno(1,2,3-cd)pyrene	**2470**	ug/kg	839	252	100	11/14/17 09:42	11/15/17 11:02	193-39-5	
Naphthalene	**7920**	ug/kg	3220	964	100	11/14/17 09:42	11/15/17 11:02	91-20-3	
Phenanthrene	**23500**	ug/kg	4440	1330	100	11/14/17 09:42	11/15/17 11:02	85-01-8	
Pyrene	**14800**	ug/kg	1720	516	100	11/14/17 09:42	11/15/17 11:02	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	0	%	23-106		100	11/14/17 09:42	11/15/17 11:02	321-60-8	S4
Terphenyl-d14 (S)	0	%	29-106		100	11/14/17 09:42	11/15/17 11:02	1718-51-0	S4
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**106**	ug/kg	68.7	28.6	1	11/06/17 12:30	11/07/17 12:59	71-43-2	
Surrogates									
Dibromofluoromethane (S)	93	%	68-130		1	11/06/17 12:30	11/07/17 12:59	1868-53-7	
4-Bromofluorobenzene (S)	87	%	58-141		1	11/06/17 12:30	11/07/17 12:59	460-00-4	
Toluene-d8 (S)	94	%	68-149		1	11/06/17 12:30	11/07/17 12:59	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**12.7**	%	0.10	0.10	1		11/10/17 08:38		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.74**	mg/kg	0.37	0.11	1	11/09/17 10:00	11/09/17 13:27	57-12-5	B

Sample: CS-SB36(0-2) **Lab ID: 40160110009** Collected: 11/01/17 12:30 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**3.5**	mg/kg	1.1	0.33	6.667	11/13/17 07:56	11/14/17 07:17	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**4870**	ug/kg	3240	976	200	11/14/17 09:42	11/15/17 17:44	83-32-9	
Acenaphthylene	**17800**	ug/kg	2760	828	200	11/14/17 09:42	11/15/17 17:44	208-96-8	
Anthracene	**31300**	ug/kg	4780	1440	200	11/14/17 09:42	11/15/17 17:44	120-12-7	
Benzo(a)anthracene	**41100**	ug/kg	2660	797	200	11/14/17 09:42	11/15/17 17:44	56-55-3	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: CS-SB36(0-2) **Lab ID: 40160110009** Collected: 11/01/17 12:30 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Benzo(a)pyrene	**32900**	ug/kg	2100	631	200	11/14/17 09:42	11/15/17 17:44	50-32-8	
Benzo(b)fluoranthene	**25700**	ug/kg	2370	710	200	11/14/17 09:42	11/15/17 17:44	205-99-2	
Benzo(g,h,i)perylene	**12000**	ug/kg	1700	511	200	11/14/17 09:42	11/15/17 17:44	191-24-2	
Benzo(k)fluoranthene	**30200**	ug/kg	2100	631	200	11/14/17 09:42	11/15/17 17:44	207-08-9	
Chrysene	**41700**	ug/kg	2820	848	200	11/14/17 09:42	11/15/17 17:44	218-01-9	
Dibenz(a,h)anthracene	**5270**	ug/kg	1870	562	200	11/14/17 09:42	11/15/17 17:44	53-70-3	
Fluoranthene	**141000**	ug/kg	4370	1310	200	11/14/17 09:42	11/15/17 17:44	206-44-0	
Fluorene	**45100**	ug/kg	3470	1040	200	11/14/17 09:42	11/15/17 17:44	86-73-7	
Indeno(1,2,3-cd)pyrene	**13900**	ug/kg	1840	553	200	11/14/17 09:42	11/15/17 17:44	193-39-5	
Naphthalene	**83300**	ug/kg	7060	2120	200	11/14/17 09:42	11/15/17 17:44	91-20-3	
Phenanthrene	**192000**	ug/kg	9750	2930	200	11/14/17 09:42	11/15/17 17:44	85-01-8	
Pyrene	**93900**	ug/kg	3770	1130	200	11/14/17 09:42	11/15/17 17:44	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	0	%	23-106		200	11/14/17 09:42	11/15/17 17:44	321-60-8	S4
Terphenyl-d14 (S)	0	%	29-106		200	11/14/17 09:42	11/15/17 17:44	1718-51-0	S4
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**316**	ug/kg	75.4	31.4	1	11/06/17 12:30	11/07/17 11:03	71-43-2	
Surrogates									
Dibromofluoromethane (S)	95	%	68-130		1	11/06/17 12:30	11/07/17 11:03	1868-53-7	
4-Bromofluorobenzene (S)	83	%	58-141		1	11/06/17 12:30	11/07/17 11:03	460-00-4	
Toluene-d8 (S)	92	%	68-149		1	11/06/17 12:30	11/07/17 11:03	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**20.4**	%	0.10	0.10	1		11/10/17 08:38		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.56J**	mg/kg	0.58	0.17	1	11/09/17 10:00	11/09/17 13:31	57-12-5	B

Sample: CS-SB38(0-2) **Lab ID: 40160110010** Collected: 11/01/17 13:30 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**5.3**	mg/kg	1.0	0.31	6.667	11/13/17 07:56	11/14/17 07:24	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**16300**	ug/kg	3070	923	200	11/14/17 09:42	11/15/17 11:19	83-32-9	
Acenaphthylene	**3450**	ug/kg	2620	784	200	11/14/17 09:42	11/15/17 11:19	208-96-8	
Anthracene	**31500**	ug/kg	4520	1360	200	11/14/17 09:42	11/15/17 11:19	120-12-7	
Benzo(a)anthracene	**26200**	ug/kg	2520	755	200	11/14/17 09:42	11/15/17 11:19	56-55-3	
Benzo(a)pyrene	**17700**	ug/kg	1990	598	200	11/14/17 09:42	11/15/17 11:19	50-32-8	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: CS-SB38(0-2) **Lab ID: 40160110010** Collected: 11/01/17 13:30 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Benzo(b)fluoranthene	**18900**	ug/kg	2240	672	200	11/14/17 09:42	11/15/17 11:19	205-99-2	
Benzo(g,h,i)perylene	**7570**	ug/kg	1610	484	200	11/14/17 09:42	11/15/17 11:19	191-24-2	
Benzo(k)fluoranthene	**18100**	ug/kg	1990	597	200	11/14/17 09:42	11/15/17 11:19	207-08-9	
Chrysene	**28900**	ug/kg	2670	802	200	11/14/17 09:42	11/15/17 11:19	218-01-9	
Dibenz(a,h)anthracene	**3340**	ug/kg	1770	532	200	11/14/17 09:42	11/15/17 11:19	53-70-3	
Fluoranthene	**98700**	ug/kg	4140	1240	200	11/14/17 09:42	11/15/17 11:19	206-44-0	
Fluorene	**15500**	ug/kg	3280	985	200	11/14/17 09:42	11/15/17 11:19	86-73-7	
Indeno(1,2,3-cd)pyrene	**8230**	ug/kg	1740	523	200	11/14/17 09:42	11/15/17 11:19	193-39-5	
Naphthalene	**24000**	ug/kg	6690	2000	200	11/14/17 09:42	11/15/17 11:19	91-20-3	
Phenanthrene	**119000**	ug/kg	9230	2770	200	11/14/17 09:42	11/15/17 11:19	85-01-8	
Pyrene	**63100**	ug/kg	3570	1070	200	11/14/17 09:42	11/15/17 11:19	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	0	%	23-106		200	11/14/17 09:42	11/15/17 11:19	321-60-8	S4
Terphenyl-d14 (S)	0	%	29-106		200	11/14/17 09:42	11/15/17 11:19	1718-51-0	S4
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<149**	ug/kg	357	149	5	11/06/17 12:30	11/07/17 04:27	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	77	%	68-130		5	11/06/17 12:30	11/07/17 04:27	1868-53-7	D3
4-Bromofluorobenzene (S)	70	%	58-141		5	11/06/17 12:30	11/07/17 04:27	460-00-4	
Toluene-d8 (S)	75	%	68-149		5	11/06/17 12:30	11/07/17 04:27	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**15.9**	%	0.10	0.10	1		11/10/17 08:38		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.76**	mg/kg	0.53	0.16	1	11/09/17 10:00	11/09/17 13:31	57-12-5	B

Sample: CG-SB84(2-4) **Lab ID: 40160110011** Collected: 11/01/17 14:15 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**8.7**	mg/kg	0.96	0.29	6.667	11/13/17 07:56	11/14/17 07:31	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**49.9J**	ug/kg	120	36.0	8	11/14/17 09:42	11/15/17 11:54	83-32-9	
Acenaphthylene	**88.5J**	ug/kg	102	30.5	8	11/14/17 09:42	11/15/17 11:54	208-96-8	
Anthracene	**587**	ug/kg	176	52.9	8	11/14/17 09:42	11/15/17 11:54	120-12-7	
Benzo(a)anthracene	**1920**	ug/kg	98.2	29.4	8	11/14/17 09:42	11/15/17 11:54	56-55-3	
Benzo(a)pyrene	**2000**	ug/kg	77.6	23.3	8	11/14/17 09:42	11/15/17 11:54	50-32-8	
Benzo(b)fluoranthene	**2030**	ug/kg	87.2	26.2	8	11/14/17 09:42	11/15/17 11:54	205-99-2	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: CG-SB84(2-4) **Lab ID: 40160110011** Collected: 11/01/17 14:15 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Benzo(g,h,i)perylene	**1100**	ug/kg	62.7	18.8	8	11/14/17 09:42	11/15/17 11:54	191-24-2	
Benzo(k)fluoranthene	**2140**	ug/kg	77.5	23.3	8	11/14/17 09:42	11/15/17 11:54	207-08-9	
Chrysene	**2290**	ug/kg	104	31.3	8	11/14/17 09:42	11/15/17 11:54	218-01-9	
Dibenz(a,h)anthracene	**525**	ug/kg	69.0	20.7	8	11/14/17 09:42	11/15/17 11:54	53-70-3	
Fluoranthene	**2690**	ug/kg	161	48.3	8	11/14/17 09:42	11/15/17 11:54	206-44-0	
Fluorene	**68.8J**	ug/kg	128	38.4	8	11/14/17 09:42	11/15/17 11:54	86-73-7	
Indeno(1,2,3-cd)pyrene	**1170**	ug/kg	67.9	20.4	8	11/14/17 09:42	11/15/17 11:54	193-39-5	
Naphthalene	**688**	ug/kg	260	78.0	8	11/14/17 09:42	11/15/17 11:54	91-20-3	
Phenanthrene	**3040**	ug/kg	360	108	8	11/14/17 09:42	11/15/17 11:54	85-01-8	
Pyrene	**2190**	ug/kg	139	41.8	8	11/14/17 09:42	11/15/17 11:54	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	46	%	23-106		8	11/14/17 09:42	11/15/17 11:54	321-60-8	
Terphenyl-d14 (S)	45	%	29-106		8	11/14/17 09:42	11/15/17 11:54	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**44.5J**	ug/kg	69.5	29.0	1	11/06/17 12:30	11/07/17 11:26	71-43-2	
Surrogates									
Dibromofluoromethane (S)	105	%	68-130		1	11/06/17 12:30	11/07/17 11:26	1868-53-7	
4-Bromofluorobenzene (S)	97	%	58-141		1	11/06/17 12:30	11/07/17 11:26	460-00-4	
Toluene-d8 (S)	107	%	68-149		1	11/06/17 12:30	11/07/17 11:26	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**13.6**	%	0.10	0.10	1		11/10/17 08:38		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**4.4**	mg/kg	0.45	0.13	1	11/09/17 10:00	11/09/17 13:34	57-12-5	

Sample: CG-SB65(2-4) **Lab ID: 40160110012** Collected: 11/01/17 15:20 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**6.6**	mg/kg	1.1	0.32	6.667	11/13/17 07:56	11/14/17 07:38	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**80.0J**	ug/kg	125	37.5	8	11/14/17 09:42	11/15/17 11:36	83-32-9	
Acenaphthylene	**162**	ug/kg	106	31.8	8	11/14/17 09:42	11/15/17 11:36	208-96-8	
Anthracene	**419**	ug/kg	184	55.2	8	11/14/17 09:42	11/15/17 11:36	120-12-7	
Benzo(a)anthracene	**1370**	ug/kg	102	30.6	8	11/14/17 09:42	11/15/17 11:36	56-55-3	
Benzo(a)pyrene	**1570**	ug/kg	80.8	24.3	8	11/14/17 09:42	11/15/17 11:36	50-32-8	
Benzo(b)fluoranthene	**1320**	ug/kg	90.9	27.3	8	11/14/17 09:42	11/15/17 11:36	205-99-2	
Benzo(g,h,i)perylene	**918**	ug/kg	65.4	19.6	8	11/14/17 09:42	11/15/17 11:36	191-24-2	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Sample: CG-SB65(2-4) **Lab ID: 40160110012** Collected: 11/01/17 15:20 Received: 11/03/17 07:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Benzo(k)fluoranthene	**1260**	ug/kg	80.7	24.2	8	11/14/17 09:42	11/15/17 11:36	207-08-9	
Chrysene	**1440**	ug/kg	108	32.6	8	11/14/17 09:42	11/15/17 11:36	218-01-9	
Dibenz(a,h)anthracene	**303**	ug/kg	72.0	21.6	8	11/14/17 09:42	11/15/17 11:36	53-70-3	
Fluoranthene	**2880**	ug/kg	168	50.3	8	11/14/17 09:42	11/15/17 11:36	206-44-0	
Fluorene	**87.3J**	ug/kg	133	40.0	8	11/14/17 09:42	11/15/17 11:36	86-73-7	
Indeno(1,2,3-cd)pyrene	**899**	ug/kg	70.8	21.2	8	11/14/17 09:42	11/15/17 11:36	193-39-5	
Naphthalene	**803**	ug/kg	271	81.3	8	11/14/17 09:42	11/15/17 11:36	91-20-3	
Phenanthrene	**1560**	ug/kg	375	113	8	11/14/17 09:42	11/15/17 11:36	85-01-8	
Pyrene	**2360**	ug/kg	145	43.6	8	11/14/17 09:42	11/15/17 11:36	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	70	%	23-106		8	11/14/17 09:42	11/15/17 11:36	321-60-8	
Terphenyl-d14 (S)	70	%	29-106		8	11/14/17 09:42	11/15/17 11:36	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**564**	ug/kg	72.3	30.1	1	11/06/17 12:30	11/07/17 11:50	71-43-2	
Surrogates									
Dibromofluoromethane (S)	89	%	68-130		1	11/06/17 12:30	11/07/17 11:50	1868-53-7	
4-Bromofluorobenzene (S)	84	%	58-141		1	11/06/17 12:30	11/07/17 11:50	460-00-4	
Toluene-d8 (S)	92	%	68-149		1	11/06/17 12:30	11/07/17 11:50	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**17.1**	%	0.10	0.10	1		11/10/17 08:38		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**1.3**	mg/kg	0.37	0.11	1	11/09/17 10:00	11/09/17 13:34	57-12-5	B

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

QC Batch: 273632 | Analysis Method: EPA 7471
QC Batch Method: EPA 7471 | Analysis Description: 7471 Mercury
Associated Lab Samples: 40160110002, 40160110003

METHOD BLANK: 1609804 | Matrix: Solid
Associated Lab Samples: 40160110002, 40160110003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.011	0.037	11/13/17 10:36	

LABORATORY CONTROL SAMPLE: 1609805

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.83	0.83	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1609806 1609807

Parameter	Units	40160174001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	2.4	1.7	1.7	4.0	4.5	93	121	85-115	11	20	M0

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

QC Batch: 273686 | Analysis Method: EPA 6020
QC Batch Method: EPA 3050 | Analysis Description: 6020 MET
Associated Lab Samples: 40160110001, 40160110002, 40160110003, 40160110004, 40160110005, 40160110006, 40160110007, 40160110008, 40160110009, 40160110010, 40160110011, 40160110012

METHOD BLANK: 1610291 | Matrix: Solid
Associated Lab Samples: 40160110001, 40160110002, 40160110003, 40160110004, 40160110005, 40160110006, 40160110007, 40160110008, 40160110009, 40160110010, 40160110011, 40160110012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	<0.040	0.13	11/14/17 05:28	
Barium	mg/kg	<0.034	0.11	11/14/17 05:28	
Cadmium	mg/kg	<0.015	0.10	11/14/17 05:28	
Chromium	mg/kg	<0.20	0.67	11/14/17 05:28	
Lead	mg/kg	<0.027	0.10	11/14/17 05:28	
Selenium	mg/kg	<0.027	0.10	11/14/17 05:28	
Silver	mg/kg	<0.014	0.050	11/14/17 05:28	

LABORATORY CONTROL SAMPLE: 1610292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	50.0	100	80-120	
Barium	mg/kg	50	48.6	97	80-120	
Cadmium	mg/kg	50	54.5	109	80-120	
Chromium	mg/kg	50	48.9	98	80-120	
Lead	mg/kg	50	49.2	98	80-120	
Selenium	mg/kg	50	52.0	104	80-120	
Silver	mg/kg	25	24.7	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1610293 1610294

Parameter	Units	40160110001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	9.2	52.8	51.4	61.2	64.1	98	107	75-125	5	20	
Barium	mg/kg	86.8	52.8	51.4	164	148	147	119	75-125	10	20	M0
Cadmium	mg/kg	0.42J	52.8	51.4	51.7	51.3	97	99	75-125	1	20	
Chromium	mg/kg	10.7	52.8	51.4	65.3	68.3	103	112	75-125	4	20	
Lead	mg/kg	200	52.8	51.4	238	233	71	64	75-125	2	20	M0
Selenium	mg/kg	2.2	52.8	51.4	54.9	56.1	100	105	75-125	2	20	
Silver	mg/kg	<0.10	26.4	25.7	25.6	25.3	97	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

QC Batch: 273174 | Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B | Analysis Description: 8260 MSV Med Level Normal List
Associated Lab Samples: 40160110002, 40160110003

METHOD BLANK: 1607436 | Matrix: Solid
Associated Lab Samples: 40160110002, 40160110003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<13.7	50.0	11/06/17 08:57	
1,1,1-Trichloroethane	ug/kg	<14.4	50.0	11/06/17 08:57	
1,1,2,2-Tetrachloroethane	ug/kg	<17.5	50.0	11/06/17 08:57	
1,1,2-Trichloroethane	ug/kg	<20.2	50.0	11/06/17 08:57	
1,1-Dichloroethane	ug/kg	<17.6	50.0	11/06/17 08:57	
1,1-Dichloroethene	ug/kg	<17.6	50.0	11/06/17 08:57	
1,1-Dichloropropene	ug/kg	<14.0	50.0	11/06/17 08:57	
1,2,3-Trichlorobenzene	ug/kg	<17.0	50.0	11/06/17 08:57	
1,2,3-Trichloropropane	ug/kg	<22.3	50.0	11/06/17 08:57	
1,2,4-Trichlorobenzene	ug/kg	<47.6	250	11/06/17 08:57	
1,2,4-Trimethylbenzene	ug/kg	<12.2	50.0	11/06/17 08:57	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	250	11/06/17 08:57	
1,2-Dibromoethane (EDB)	ug/kg	<14.7	50.0	11/06/17 08:57	
1,2-Dichlorobenzene	ug/kg	<16.2	50.0	11/06/17 08:57	
1,2-Dichloroethane	ug/kg	<15.0	50.0	11/06/17 08:57	
1,2-Dichloropropane	ug/kg	<16.8	50.0	11/06/17 08:57	
1,3,5-Trimethylbenzene	ug/kg	<14.5	50.0	11/06/17 08:57	
1,3-Dichlorobenzene	ug/kg	<13.2	50.0	11/06/17 08:57	
1,3-Dichloropropane	ug/kg	<12.0	50.0	11/06/17 08:57	
1,4-Dichlorobenzene	ug/kg	<15.9	50.0	11/06/17 08:57	
2,2-Dichloropropane	ug/kg	<12.6	50.0	11/06/17 08:57	
2-Chlorotoluene	ug/kg	<15.8	50.0	11/06/17 08:57	
4-Chlorotoluene	ug/kg	<13.0	50.0	11/06/17 08:57	
Benzene	ug/kg	<9.2	20.0	11/06/17 08:57	
Bromobenzene	ug/kg	<20.6	50.0	11/06/17 08:57	
Bromochloromethane	ug/kg	<21.4	50.0	11/06/17 08:57	
Bromodichloromethane	ug/kg	<9.8	50.0	11/06/17 08:57	
Bromoform	ug/kg	<19.8	50.0	11/06/17 08:57	
Bromomethane	ug/kg	<69.9	250	11/06/17 08:57	
Carbon tetrachloride	ug/kg	<12.1	50.0	11/06/17 08:57	
Chlorobenzene	ug/kg	<14.8	50.0	11/06/17 08:57	
Chloroethane	ug/kg	<67.0	250	11/06/17 08:57	
Chloroform	ug/kg	<46.4	250	11/06/17 08:57	
Chloromethane	ug/kg	<20.4	50.0	11/06/17 08:57	
cis-1,2-Dichloroethene	ug/kg	<16.6	50.0	11/06/17 08:57	
cis-1,3-Dichloropropene	ug/kg	<16.6	50.0	11/06/17 08:57	
Dibromochloromethane	ug/kg	<17.9	50.0	11/06/17 08:57	
Dibromomethane	ug/kg	<19.3	50.0	11/06/17 08:57	
Dichlorodifluoromethane	ug/kg	<12.3	50.0	11/06/17 08:57	
Diisopropyl ether	ug/kg	<17.7	50.0	11/06/17 08:57	
Ethylbenzene	ug/kg	<12.4	50.0	11/06/17 08:57	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

METHOD BLANK: 1607436 Matrix: Solid
Associated Lab Samples: 40160110002, 40160110003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/kg	<24.5	50.0	11/06/17 08:57	
Isopropylbenzene (Cumene)	ug/kg	<12.6	50.0	11/06/17 08:57	
m&p-Xylene	ug/kg	<34.4	100	11/06/17 08:57	
Methyl-tert-butyl ether	ug/kg	<12.7	50.0	11/06/17 08:57	
Methylene Chloride	ug/kg	<16.2	50.0	11/06/17 08:57	
n-Butylbenzene	ug/kg	<10.5	50.0	11/06/17 08:57	
n-Propylbenzene	ug/kg	<11.6	50.0	11/06/17 08:57	
Naphthalene	ug/kg	<40.0	250	11/06/17 08:57	
o-Xylene	ug/kg	<14.0	50.0	11/06/17 08:57	
p-Isopropyltoluene	ug/kg	<12.0	50.0	11/06/17 08:57	
sec-Butylbenzene	ug/kg	<11.9	50.0	11/06/17 08:57	
Styrene	ug/kg	<9.0	50.0	11/06/17 08:57	
tert-Butylbenzene	ug/kg	<9.5	50.0	11/06/17 08:57	
Tetrachloroethene	ug/kg	<12.9	50.0	11/06/17 08:57	
Toluene	ug/kg	<11.2	50.0	11/06/17 08:57	
trans-1,2-Dichloroethene	ug/kg	<16.5	50.0	11/06/17 08:57	
trans-1,3-Dichloropropene	ug/kg	<14.4	50.0	11/06/17 08:57	
Trichloroethene	ug/kg	<23.6	50.0	11/06/17 08:57	
Trichlorofluoromethane	ug/kg	<24.7	50.0	11/06/17 08:57	
Vinyl chloride	ug/kg	<21.1	50.0	11/06/17 08:57	
4-Bromofluorobenzene (S)	%	80	58-141	11/06/17 08:57	
Dibromofluoromethane (S)	%	89	68-130	11/06/17 08:57	
Toluene-d8 (S)	%	89	68-149	11/06/17 08:57	

LABORATORY CONTROL SAMPLE: 1607437

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2340	94	61-122	
1,1,2,2-Tetrachloroethane	ug/kg	2500	2420	97	73-130	
1,1,2-Trichloroethane	ug/kg	2500	2550	102	70-130	
1,1-Dichloroethane	ug/kg	2500	2150	86	63-124	
1,1-Dichloroethene	ug/kg	2500	1770	71	53-117	
1,2,4-Trichlorobenzene	ug/kg	2500	1950	78	78-130	
1,2-Dibromo-3-chloropropane	ug/kg	2500	1920	77	49-140	
1,2-Dibromoethane (EDB)	ug/kg	2500	2460	99	70-130	
1,2-Dichlorobenzene	ug/kg	2500	2380	95	70-130	
1,2-Dichloroethane	ug/kg	2500	2180	87	56-135	
1,2-Dichloropropane	ug/kg	2500	2220	89	77-122	
1,3-Dichlorobenzene	ug/kg	2500	2300	92	70-130	
1,4-Dichlorobenzene	ug/kg	2500	2300	92	70-130	
Benzene	ug/kg	2500	2340	93	66-130	
Bromodichloromethane	ug/kg	2500	2350	94	62-135	
Bromoform	ug/kg	2500	2150	86	68-130	
Bromomethane	ug/kg	2500	2140	86	29-137	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

LABORATORY CONTROL SAMPLE: 1607437

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/kg	2500	2350	94	57-130	
Chlorobenzene	ug/kg	2500	2390	96	70-130	
Chloroethane	ug/kg	2500	2160	86	36-144	
Chloroform	ug/kg	2500	2300	92	69-115	
Chloromethane	ug/kg	2500	1390	56	32-126	
cis-1,2-Dichloroethene	ug/kg	2500	2230	89	65-130	
cis-1,3-Dichloropropene	ug/kg	2500	2000	80	70-130	
Dibromochloromethane	ug/kg	2500	2210	88	70-130	
Dichlorodifluoromethane	ug/kg	2500	1030	41	10-99	
Ethylbenzene	ug/kg	2500	2360	95	82-122	
Isopropylbenzene (Cumene)	ug/kg	2500	2480	99	70-130	
m&p-Xylene	ug/kg	5000	5060	101	70-130	
Methyl-tert-butyl ether	ug/kg	2500	2230	89	63-134	
Methylene Chloride	ug/kg	2500	2290	92	56-123	
o-Xylene	ug/kg	2500	2410	96	70-130	
Styrene	ug/kg	2500	2550	102	70-130	
Tetrachloroethene	ug/kg	2500	2420	97	70-131	
Toluene	ug/kg	2500	2410	96	80-120	
trans-1,2-Dichloroethene	ug/kg	2500	2390	96	66-130	
trans-1,3-Dichloropropene	ug/kg	2500	2100	84	68-130	
Trichloroethene	ug/kg	2500	2300	92	70-130	
Trichlorofluoromethane	ug/kg	2500	2240	90	37-149	
Vinyl chloride	ug/kg	2500	1700	68	43-128	
4-Bromofluorobenzene (S)	%			95	58-141	
Dibromofluoromethane (S)	%			93	68-130	
Toluene-d8 (S)	%			92	68-149	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1607438 1607439

Parameter	Units	40160096021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/kg	<25.0	1440	1440	1220	1270	85	88	57-123	4	20	
1,1,2,2-Tetrachloroethane	ug/kg	<25.0	1440	1440	1380	1380	96	96	73-135	0	20	
1,1,2-Trichloroethane	ug/kg	<25.0	1440	1440	1440	1440	101	100	70-130	1	20	
1,1-Dichloroethane	ug/kg	<25.0	1440	1440	1230	1250	86	87	63-124	2	20	
1,1-Dichloroethene	ug/kg	<25.0	1440	1440	776	983	54	68	48-117	24	23	R1
1,2,4-Trichlorobenzene	ug/kg	<47.6	1440	1440	1350	1310	91	88	78-145	3	20	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	1440	1440	1080	1120	75	78	38-168	3	22	
1,2-Dibromoethane (EDB)	ug/kg	<25.0	1440	1440	1380	1450	96	101	70-130	5	20	
1,2-Dichlorobenzene	ug/kg	<25.0	1440	1440	1380	1420	96	99	70-130	3	20	
1,2-Dichloroethane	ug/kg	<25.0	1440	1440	1230	1270	86	88	56-145	3	20	
1,2-Dichloropropane	ug/kg	<25.0	1440	1440	1210	1290	84	90	77-123	6	20	
1,3-Dichlorobenzene	ug/kg	<25.0	1440	1440	1340	1380	93	96	70-130	3	20	
1,4-Dichlorobenzene	ug/kg	<25.0	1440	1440	1450	1360	101	95	70-130	7	20	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1607438 1607439

Parameter	Units	40160096021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	<25.0	1440	1440	1300	1350	90	94	65-130	4	20	
Bromodichloromethane	ug/kg	<25.0	1440	1440	1250	1310	87	91	59-141	4	20	
Bromoform	ug/kg	<25.0	1440	1440	1240	1220	86	85	59-141	1	20	
Bromomethane	ug/kg	<69.9	1450	1450	1460	1520	101	105	28-139	4	20	
Carbon tetrachloride	ug/kg	<25.0	1440	1440	1180	1290	82	90	50-130	9	20	
Chlorobenzene	ug/kg	<25.0	1440	1440	1370	1350	95	94	70-130	1	20	
Chloroethane	ug/kg	<67.0	1450	1450	1320	1410	91	98	36-144	7	20	
Chloroform	ug/kg	<46.4	1440	1440	1280	1310	89	91	68-122	2	20	
Chloromethane	ug/kg	<25.0	1450	1450	871	906	60	63	30-126	4	20	
cis-1,2-Dichloroethene	ug/kg	<25.0	1440	1440	1230	1290	86	90	63-130	4	20	
cis-1,3-Dichloropropene	ug/kg	<25.0	1440	1440	1180	1200	82	84	70-130	1	20	
Dibromochloromethane	ug/kg	<25.0	1440	1440	1260	1290	88	90	66-136	2	20	
Dichlorodifluoromethane	ug/kg	<25.0	1450	1450	720	796	50	55	10-99	10	33	
Ethylbenzene	ug/kg	<25.0	1440	1440	1260	1300	88	90	80-122	3	20	
Isopropylbenzene (Cumene)	ug/kg	<25.0	1440	1440	1270	1340	89	93	70-130	5	20	
m&p-Xylene	ug/kg	<50.0	2870	2870	2730	2770	95	96	70-130	2	20	
Methyl-tert-butyl ether	ug/kg	<25.0	1440	1440	1250	1260	87	88	63-134	1	20	
Methylene Chloride	ug/kg	<25.0	1440	1440	1270	1200	89	83	56-127	6	20	
o-Xylene	ug/kg	<25.0	1440	1440	1290	1330	90	93	70-130	3	20	
Styrene	ug/kg	<25.0	1440	1440	1380	1430	96	100	70-130	4	20	
Tetrachloroethene	ug/kg	<25.0	1440	1440	1300	1320	90	92	70-131	2	20	
Toluene	ug/kg	<25.0	1440	1440	1320	1360	92	95	80-120	3	20	
trans-1,2-Dichloroethene	ug/kg	<25.0	1440	1440	1310	1360	91	95	60-130	4	20	
trans-1,3-Dichloropropene	ug/kg	<25.0	1440	1440	1200	1230	84	86	68-130	2	20	
Trichloroethene	ug/kg	<25.0	1440	1440	1290	1330	90	93	70-130	3	20	
Trichlorofluoromethane	ug/kg	<25.0	1450	1450	1250	1390	86	96	37-149	11	24	
Vinyl chloride	ug/kg	<25.0	1450	1450	990	1040	68	72	39-128	5	20	
4-Bromofluorobenzene (S)	%						91	89	58-141			
Dibromofluoromethane (S)	%						90	89	68-130			
Toluene-d8 (S)	%						88	87	68-149			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

QC Batch: 273180 | Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B | Analysis Description: 8260 MSV Med Level Short List
Associated Lab Samples: 40160110004, 40160110005, 40160110006, 40160110007, 40160110008, 40160110009, 40160110010, 40160110011, 40160110012

METHOD BLANK: 1607455 | Matrix: Solid
Associated Lab Samples: 40160110004, 40160110005, 40160110006, 40160110007, 40160110008, 40160110009, 40160110010, 40160110011, 40160110012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	<9.2	20.0	11/06/17 18:25	
4-Bromofluorobenzene (S)	%	87	58-141	11/06/17 18:25	
Dibromofluoromethane (S)	%	95	68-130	11/06/17 18:25	
Toluene-d8 (S)	%	95	68-149	11/06/17 18:25	

LABORATORY CONTROL SAMPLE: 1607456

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2500	2400	96	66-130	
4-Bromofluorobenzene (S)	%			89	58-141	
Dibromofluoromethane (S)	%			90	68-130	
Toluene-d8 (S)	%			86	68-149	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

QC Batch: 273161 | Analysis Method: EPA 8082
QC Batch Method: EPA 3541 | Analysis Description: 8082 GCS PCB
Associated Lab Samples: 40160110002, 40160110003

METHOD BLANK: 1607408 | Matrix: Solid
Associated Lab Samples: 40160110002, 40160110003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<25.0	50.0	11/07/17 08:42	
PCB-1221 (Aroclor 1221)	ug/kg	<25.0	50.0	11/07/17 08:42	
PCB-1232 (Aroclor 1232)	ug/kg	<25.0	50.0	11/07/17 08:42	
PCB-1242 (Aroclor 1242)	ug/kg	<25.0	50.0	11/07/17 08:42	
PCB-1248 (Aroclor 1248)	ug/kg	<25.0	50.0	11/07/17 08:42	
PCB-1254 (Aroclor 1254)	ug/kg	<25.0	50.0	11/07/17 08:42	
PCB-1260 (Aroclor 1260)	ug/kg	<25.0	50.0	11/07/17 08:42	
Decachlorobiphenyl (S)	%	84	53-105	11/07/17 08:42	
Tetrachloro-m-xylene (S)	%	83	50-102	11/07/17 08:42	

LABORATORY CONTROL SAMPLE: 1607409

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<25.0			
PCB-1221 (Aroclor 1221)	ug/kg		<25.0			
PCB-1232 (Aroclor 1232)	ug/kg		<25.0			
PCB-1242 (Aroclor 1242)	ug/kg		<25.0			
PCB-1248 (Aroclor 1248)	ug/kg		<25.0			
PCB-1254 (Aroclor 1254)	ug/kg		<25.0			
PCB-1260 (Aroclor 1260)	ug/kg	500	387	77	59-106	
Decachlorobiphenyl (S)	%			76	53-105	
Tetrachloro-m-xylene (S)	%			84	50-102	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1607410 1607411

Parameter	Units	40159829009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<30.4			<30.4	<30.4					20	
PCB-1221 (Aroclor 1221)	ug/kg	<30.4			<30.4	<30.4					20	
PCB-1232 (Aroclor 1232)	ug/kg	<30.4			<30.4	<30.4					20	
PCB-1242 (Aroclor 1242)	ug/kg	<30.4			<30.4	<30.4					20	
PCB-1248 (Aroclor 1248)	ug/kg	<30.4			<30.4	<30.4					20	
PCB-1254 (Aroclor 1254)	ug/kg	<30.4			<30.4	<30.4					20	
PCB-1260 (Aroclor 1260)	ug/kg	<30.4	608	608	414	419	68	69	51-109	1	20	
Decachlorobiphenyl (S)	%						69	69	53-105			
Tetrachloro-m-xylene (S)	%						83	76	50-102			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

QC Batch: 273560 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 40160110002, 40160110003

METHOD BLANK: 1609467 | Matrix: Solid
Associated Lab Samples: 40160110002, 40160110003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/kg	<4.0	13.4	11/09/17 12:43	
2-Methylnaphthalene	ug/kg	<5.0	16.7	11/09/17 12:43	
Acenaphthene	ug/kg	<3.9	12.9	11/09/17 12:43	
Acenaphthylene	ug/kg	<3.3	11.0	11/09/17 12:43	
Anthracene	ug/kg	<5.7	19.0	11/09/17 12:43	
Benzo(a)anthracene	ug/kg	<3.2	10.6	11/09/17 12:43	
Benzo(a)pyrene	ug/kg	<2.5	8.4	11/09/17 12:43	
Benzo(b)fluoranthene	ug/kg	<2.8	9.4	11/09/17 12:43	
Benzo(g,h,i)perylene	ug/kg	<2.0	6.8	11/09/17 12:43	
Benzo(k)fluoranthene	ug/kg	<2.5	8.4	11/09/17 12:43	
Chrysene	ug/kg	<3.4	11.2	11/09/17 12:43	
Dibenz(a,h)anthracene	ug/kg	<2.2	7.4	11/09/17 12:43	
Fluoranthene	ug/kg	<5.2	17.4	11/09/17 12:43	
Fluorene	ug/kg	<4.1	13.8	11/09/17 12:43	
Indeno(1,2,3-cd)pyrene	ug/kg	<2.2	7.3	11/09/17 12:43	
Naphthalene	ug/kg	<8.4	28.1	11/09/17 12:43	
Phenanthrene	ug/kg	<11.6	38.8	11/09/17 12:43	
Pyrene	ug/kg	<4.5	15.0	11/09/17 12:43	
2-Fluorobiphenyl (S)	%	96	23-106	11/09/17 12:43	
Terphenyl-d14 (S)	%	116	29-106	11/09/17 12:43	S3

LABORATORY CONTROL SAMPLE: 1609468

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/kg	333	251	75	49-102	
2-Methylnaphthalene	ug/kg	333	242	73	47-91	
Acenaphthene	ug/kg	333	267	80	52-97	
Acenaphthylene	ug/kg	333	256	77	49-97	
Anthracene	ug/kg	333	299	90	62-101	
Benzo(a)anthracene	ug/kg	333	272	82	53-95	
Benzo(a)pyrene	ug/kg	333	278	83	57-108	
Benzo(b)fluoranthene	ug/kg	333	278	83	53-113	
Benzo(g,h,i)perylene	ug/kg	333	268	80	43-114	
Benzo(k)fluoranthene	ug/kg	333	262	79	66-116	
Chrysene	ug/kg	333	289	87	64-109	
Dibenz(a,h)anthracene	ug/kg	333	265	80	50-105	
Fluoranthene	ug/kg	333	316	95	58-107	
Fluorene	ug/kg	333	270	81	52-99	
Indeno(1,2,3-cd)pyrene	ug/kg	333	278	83	51-113	
Naphthalene	ug/kg	333	240	72	50-91	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

LABORATORY CONTROL SAMPLE: 1609468

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenanthrene	ug/kg	333	282	85	57-101	
Pyrene	ug/kg	333	298	89	50-102	
2-Fluorobiphenyl (S)	%			86	23-106	
Terphenyl-d14 (S)	%			99	29-106	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1609469 1609470

Parameter	Units	40160068009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/kg	16.5	372	374	276	279	70	70	37-102	1	29	
2-Methylnaphthalene	ug/kg	25.0	372	374	270	270	66	66	44-91	0	36	
Acenaphthene	ug/kg	<4.3	372	374	282	289	76	77	46-97	2	26	
Acenaphthylene	ug/kg	<3.7	372	374	270	282	72	75	47-97	4	29	
Anthracene	ug/kg	<6.4	372	374	294	311	79	83	50-101	6	28	
Benzo(a)anthracene	ug/kg	<3.5	372	374	263	270	70	72	48-95	3	28	
Benzo(a)pyrene	ug/kg	<2.8	372	374	257	279	69	75	47-108	8	36	
Benzo(b)fluoranthene	ug/kg	<3.2	372	374	244	274	65	74	42-113	12	34	
Benzo(g,h,i)perylene	ug/kg	<2.3	372	374	241	253	65	68	18-114	5	30	
Benzo(k)fluoranthene	ug/kg	<2.8	372	374	251	261	67	70	50-116	4	27	
Chrysene	ug/kg	<3.8	372	374	268	278	72	75	55-109	4	28	
Dibenz(a,h)anthracene	ug/kg	<2.5	372	374	241	258	65	69	39-105	7	29	
Fluoranthene	ug/kg	<5.8	372	374	305	321	82	86	41-107	5	28	
Fluorene	ug/kg	<4.6	372	374	275	285	74	76	48-99	3	28	
Indeno(1,2,3-cd)pyrene	ug/kg	<2.5	372	374	249	268	67	72	27-113	7	30	
Naphthalene	ug/kg	42.6	372	374	284	280	65	64	40-91	1	37	
Phenanthrene	ug/kg	<13.0	372	374	279	295	75	79	46-101	6	40	
Pyrene	ug/kg	<5.0	372	374	289	298	77	80	50-102	3	31	
2-Fluorobiphenyl (S)	%						81	84	23-106			
Terphenyl-d14 (S)	%						85	87	29-106			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

QC Batch: 273894 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 40160110004, 40160110005, 40160110006, 40160110007, 40160110008, 40160110009, 40160110010, 40160110011, 40160110012

METHOD BLANK: 1612266 | Matrix: Solid
Associated Lab Samples: 40160110004, 40160110005, 40160110006, 40160110007, 40160110008, 40160110009, 40160110010, 40160110011, 40160110012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/kg	<3.9	12.9	11/14/17 16:31	
Acenaphthylene	ug/kg	<3.3	11.0	11/14/17 16:31	
Anthracene	ug/kg	<5.7	19.0	11/14/17 16:31	
Benzo(a)anthracene	ug/kg	<3.2	10.6	11/14/17 16:31	
Benzo(a)pyrene	ug/kg	<2.5	8.4	11/14/17 16:31	
Benzo(b)fluoranthene	ug/kg	<2.8	9.4	11/14/17 16:31	
Benzo(g,h,i)perylene	ug/kg	<2.0	6.8	11/14/17 16:31	
Benzo(k)fluoranthene	ug/kg	<2.5	8.4	11/14/17 16:31	
Chrysene	ug/kg	<3.4	11.2	11/14/17 16:31	
Dibenz(a,h)anthracene	ug/kg	<2.2	7.4	11/14/17 16:31	
Fluoranthene	ug/kg	<5.2	17.4	11/14/17 16:31	
Fluorene	ug/kg	<4.1	13.8	11/14/17 16:31	
Indeno(1,2,3-cd)pyrene	ug/kg	<2.2	7.3	11/14/17 16:31	
Naphthalene	ug/kg	<8.4	28.1	11/14/17 16:31	
Phenanthrene	ug/kg	<11.6	38.8	11/14/17 16:31	
Pyrene	ug/kg	<4.5	15.0	11/14/17 16:31	
2-Fluorobiphenyl (S)	%	73	23-106	11/14/17 16:31	
Terphenyl-d14 (S)	%	83	29-106	11/14/17 16:31	

LABORATORY CONTROL SAMPLE: 1612267

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	333	239	72	52-97	
Acenaphthylene	ug/kg	333	228	68	49-97	
Anthracene	ug/kg	333	265	80	62-101	
Benzo(a)anthracene	ug/kg	333	237	71	53-95	
Benzo(a)pyrene	ug/kg	333	236	71	57-108	
Benzo(b)fluoranthene	ug/kg	333	244	73	53-113	
Benzo(g,h,i)perylene	ug/kg	333	176	53	43-114	
Benzo(k)fluoranthene	ug/kg	333	223	67	66-116	
Chrysene	ug/kg	333	248	75	64-109	
Dibenz(a,h)anthracene	ug/kg	333	208	63	50-105	
Fluoranthene	ug/kg	333	279	84	58-107	
Fluorene	ug/kg	333	246	74	52-99	
Indeno(1,2,3-cd)pyrene	ug/kg	333	209	63	51-113	
Naphthalene	ug/kg	333	224	67	50-91	
Phenanthrene	ug/kg	333	248	75	57-101	
Pyrene	ug/kg	333	268	81	50-102	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

LABORATORY CONTROL SAMPLE: 1612267

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Fluorobiphenyl (S)	%			77	23-106	
Terphenyl-d14 (S)	%			86	29-106	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1612268 1612269

Parameter	Units	40160068022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acenaphthene	ug/kg	<4.5	384	384	234	224	61	58	46-97	5	26	
Acenaphthylene	ug/kg	<3.8	384	384	221	213	58	56	47-97	4	29	
Anthracene	ug/kg	<6.6	384	384	254	240	66	63	50-101	5	28	
Benzo(a)anthracene	ug/kg	<3.6	384	384	221	210	58	55	48-95	5	28	
Benzo(a)pyrene	ug/kg	<2.9	384	384	225	215	58	56	47-108	4	36	
Benzo(b)fluoranthene	ug/kg	<3.2	384	384	217	212	56	55	42-113	2	34	
Benzo(g,h,i)perylene	ug/kg	<2.3	384	384	171	150	44	39	18-114	13	30	
Benzo(k)fluoranthene	ug/kg	<2.9	384	384	209	200	54	52	50-116	4	27	
Chrysene	ug/kg	<3.9	384	384	230	216	60	56	55-109	6	28	
Dibenz(a,h)anthracene	ug/kg	<2.6	384	384	201	181	52	47	39-105	10	29	
Fluoranthene	ug/kg	<6.0	384	384	256	250	67	65	41-107	3	28	
Fluorene	ug/kg	<4.8	384	384	238	226	62	59	48-99	5	28	
Indeno(1,2,3-cd)pyrene	ug/kg	<2.5	384	384	202	181	53	47	27-113	11	30	
Naphthalene	ug/kg	<9.7	384	384	222	218	58	57	40-91	2	37	
Phenanthrene	ug/kg	<13.4	384	384	241	228	63	60	46-101	5	40	
Pyrene	ug/kg	<5.2	384	384	256	240	67	63	50-102	6	31	
2-Fluorobiphenyl (S)	%						63	60	23-106			
Terphenyl-d14 (S)	%						69	64	29-106			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

QC Batch: 273724 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40160110001, 40160110002, 40160110003, 40160110004, 40160110005, 40160110006, 40160110007, 40160110008, 40160110009, 40160110010, 40160110011, 40160110012

SAMPLE DUPLICATE: 1610497

Parameter	Units	40160116007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.8	8.5	4	10	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

QC Batch: 279577
QC Batch Method: SW-846 7.3.3.2
Analysis Method: EPA 9014
Analysis Description: 733C Reactive Cyanide
Associated Lab Samples: 40160110001

METHOD BLANK: 1372996
Matrix: Solid
Associated Lab Samples: 40160110001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide, Reactive	mg/kg	<0.40	0.99	11/17/17 22:32	

LABORATORY CONTROL SAMPLE: 1372997

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide, Reactive	mg/kg	99.5	<0.40	0	0-8	

SAMPLE DUPLICATE: 1372998

Parameter	Units	30236240001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cyanide, Reactive	mg/kg	ND	<0.40		20	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

QC Batch: 273491 | Analysis Method: EPA 9012
QC Batch Method: EPA 9012A | Analysis Description: 9012 Cyanide
Associated Lab Samples: 40160110001, 40160110002, 40160110003, 40160110004, 40160110005, 40160110006, 40160110007, 40160110008, 40160110009, 40160110010, 40160110011, 40160110012

METHOD BLANK: 1609032 | Matrix: Solid
Associated Lab Samples: 40160110001, 40160110002, 40160110003, 40160110004, 40160110005, 40160110006, 40160110007, 40160110008, 40160110009, 40160110010, 40160110011, 40160110012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/kg	0.14J	0.40	11/09/17 13:14	

LABORATORY CONTROL SAMPLE: 1609033

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/kg	3	3.2	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1609034 1609035

Parameter	Units	40160110008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/kg	0.74	2.9	2.9	3.3	3.3	89	90	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1609036 1609037

Parameter	Units	40160174006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/kg	1.0	4.2	4.1	4.6	5.0	87	98	80-120	8	20	

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QUALIFIERS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay
PASI-PA	Pace Analytical Services - Greensburg

BATCH QUALIFIERS

Batch: 274139

[IP]	Benzo(b)fluoranthene and benzo(k)fluoranthene were in the check standard but did not meet the resolution criteria in SW846 Method 8270C. Whereas sample results included are reported as individual isomers, the lab and the customer must recognize them as an isomeric pair.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
R1	RPD value was outside control limits.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated sample.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
W	Non-detect results are reported on a wet weight basis.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40160110002	**CEMENT FINES**	EPA 3541	273161	EPA 8082	273164
40160110003	**BRICK FINES**	EPA 3541	273161	EPA 8082	273164
40160110001	**NORTH CN PILE**	EPA 3050	273686	EPA 6020	273960
40160110002	**CEMENT FINES**	EPA 3050	273686	EPA 6020	273960
40160110003	**BRICK FINES**	EPA 3050	273686	EPA 6020	273960
40160110004	**CS-SB46(0-2)**	EPA 3050	273686	EPA 6020	273960
40160110005	**CS-SB50(2-4)**	EPA 3050	273686	EPA 6020	273960
40160110006	**CS-SB50(DUP)**	EPA 3050	273686	EPA 6020	273960
40160110007	**CS-SB45(0-2)**	EPA 3050	273686	EPA 6020	273960
40160110008	**CS-SB40(2-4)**	EPA 3050	273686	EPA 6020	273960
40160110009	**CS-SB36(0-2)**	EPA 3050	273686	EPA 6020	273960
40160110010	**CS-SB38(0-2)**	EPA 3050	273686	EPA 6020	273960
40160110011	**CG-SB84(2-4)**	EPA 3050	273686	EPA 6020	273960
40160110012	**CG-SB65(2-4)**	EPA 3050	273686	EPA 6020	273960
40160110002	**CEMENT FINES**	EPA 7471	273632	EPA 7471	273728
40160110003	**BRICK FINES**	EPA 7471	273632	EPA 7471	273728
40160110002	**CEMENT FINES**	EPA 3546	273560	EPA 8270 by SIM	273598
40160110003	**BRICK FINES**	EPA 3546	273560	EPA 8270 by SIM	273598
40160110004	**CS-SB46(0-2)**	EPA 3546	273894	EPA 8270 by SIM	274139
40160110005	**CS-SB50(2-4)**	EPA 3546	273894	EPA 8270 by SIM	274139
40160110006	**CS-SB50(DUP)**	EPA 3546	273894	EPA 8270 by SIM	274139
40160110007	**CS-SB45(0-2)**	EPA 3546	273894	EPA 8270 by SIM	274139
40160110008	**CS-SB40(2-4)**	EPA 3546	273894	EPA 8270 by SIM	274139
40160110009	**CS-SB36(0-2)**	EPA 3546	273894	EPA 8270 by SIM	274139
40160110010	**CS-SB38(0-2)**	EPA 3546	273894	EPA 8270 by SIM	274139
40160110011	**CG-SB84(2-4)**	EPA 3546	273894	EPA 8270 by SIM	274139
40160110012	**CG-SB65(2-4)**	EPA 3546	273894	EPA 8270 by SIM	274139
40160110002	**CEMENT FINES**	EPA 5035/5030B	273174	EPA 8260	273178
40160110003	**BRICK FINES**	EPA 5035/5030B	273174	EPA 8260	273178
40160110004	**CS-SB46(0-2)**	EPA 5035/5030B	273180	EPA 8260	273182
40160110005	**CS-SB50(2-4)**	EPA 5035/5030B	273180	EPA 8260	273182
40160110006	**CS-SB50(DUP)**	EPA 5035/5030B	273180	EPA 8260	273182
40160110007	**CS-SB45(0-2)**	EPA 5035/5030B	273180	EPA 8260	273182
40160110008	**CS-SB40(2-4)**	EPA 5035/5030B	273180	EPA 8260	273182
40160110009	**CS-SB36(0-2)**	EPA 5035/5030B	273180	EPA 8260	273182
40160110010	**CS-SB38(0-2)**	EPA 5035/5030B	273180	EPA 8260	273182
40160110011	**CG-SB84(2-4)**	EPA 5035/5030B	273180	EPA 8260	273182
40160110012	**CG-SB65(2-4)**	EPA 5035/5030B	273180	EPA 8260	273182
40160110001	**NORTH CN PILE**	ASTM D2974-87	273724		
40160110002	**CEMENT FINES**	ASTM D2974-87	273724		
40160110003	**BRICK FINES**	ASTM D2974-87	273724		
40160110004	**CS-SB46(0-2)**	ASTM D2974-87	273724		
40160110005	**CS-SB50(2-4)**	ASTM D2974-87	273724		
40160110006	**CS-SB50(DUP)**	ASTM D2974-87	273724		
40160110007	**CS-SB45(0-2)**	ASTM D2974-87	273724		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160110

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40160110008	**CS-SB40(2-4)**	ASTM D2974-87	273724		
40160110009	**CS-SB36(0-2)**	ASTM D2974-87	273724		
40160110010	**CS-SB38(0-2)**	ASTM D2974-87	273724		
40160110011	**CG-SB84(2-4)**	ASTM D2974-87	273724		
40160110012	**CG-SB65(2-4)**	ASTM D2974-87	273724		
40160110001	**NORTH CN PILE**	SW-846 7.3.3.2	279577	EPA 9014	279609
40160110001	**NORTH CN PILE**	EPA 9012A	273491	EPA 9012	273611
40160110002	**CEMENT FINES**	EPA 9012A	273491	EPA 9012	273611
40160110003	**BRICK FINES**	EPA 9012A	273491	EPA 9012	273611
40160110004	**CS-SB46(0-2)**	EPA 9012A	273491	EPA 9012	273611
40160110005	**CS-SB50(2-4)**	EPA 9012A	273491	EPA 9012	273611
40160110006	**CS-SB50(DUP)**	EPA 9012A	273491	EPA 9012	273611
40160110007	**CS-SB45(0-2)**	EPA 9012A	273491	EPA 9012	273611
40160110008	**CS-SB40(2-4)**	EPA 9012A	273491	EPA 9012	273611
40160110009	**CS-SB36(0-2)**	EPA 9012A	273491	EPA 9012	273611
40160110010	**CS-SB38(0-2)**	EPA 9012A	273491	EPA 9012	273611
40160110011	**CG-SB84(2-4)**	EPA 9012A	273491	EPA 9012	273611
40160110012	**CG-SB65(2-4)**	EPA 9012A	273491	EPA 9012	273611

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(Please Print Clearly)

Company Name:	Natural Resource Technology
Branch/Location:	Milwaukee WI
Project Contact:	Jay Karls
Phone:	414 837 3645
Project Number:	2133/6.0
Project Name:	Solvay
Project State:	WI
Sampled By (Print):	Keith Krukowski
Sampled By (Sign):	
PO #:	Regulatory Program:

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MN: 612-607-1700 WI: 920-469-2436

Page 1 of 1

40160110

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	
Mail To Contact:	Jay Karls
Mail To Company:	Natural Resource Technology
Mail To Address:	234 W. Florida St, 5th Floor Milwaukee WI 53204
Invoice To Contact:	mkeap@obg.com
Invoice To Company:	SAME
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
- ☐ EPA Level III
- ☐ EPA Level IV

MS/MSD
- ☐ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	VOCs 8260B	PAHs 8270-SIM	RCRA Metals	PCBs 8082A	Cyanide 9012A	Benzene 8260B	Arsenic 6020A	Reactive Cn	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
Pick Letter					F	A	A	A	A	F	A				
Y/N					N	N	N	N	N	N	N				
001	North CN Pile	10/31	0850	S					X			X		1-402gA	
002	Cement Fines	10/31	0915		X	X	X	X	X					1-40mlVF 2-402agA 1-202gA	
003	Brick Fines	10/31	0925		X	X	X	X	X						
004	CS-SB46 (0-2)	11/1	0920			X			X	X	X			1-402agA	
005	CS-SB50 (2-4)	11/1	1000			X			X	X	X				
006	CS-SB50 (DUP)	11/1	1001			X			X	X	X				
007	CS-SB45 (0-2)	11/1	1045			X			X	X	X				
008	CS-SB40 (2-4)	11/1	1130			X			X	X	X				
009	CS-SB36 (0-2)	11/1	1230			X			X	X	X		① Added pm JK 11-15-17		
010	CS-SB38 (0-2)	11/1	1330			X			X	X	X				
011	CG-SB84 (2-4)	11/1	1415			X			X	X	X				
012	CG-SB85 (2-4)	11/1	1520			X			X	X	X				

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	Jay.Karls@obg.com
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
KJK	11/2/17 1000	Pace	11/3/17 0755

PACE Project No. 40160110

Receipt Temp = R01 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal: Present / Not Present; Intact / Not Intact

C019a(27Jun2006)

Version 6.0, 06/14/06

ORIGINAL

Pace Analytical™

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project #: **WO#: 40160110**

40160110

Client Name: NRT

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: CSLogistics

Tracking #: 1581.1102 17

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Thermometer Used NA **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: /Corr: R01 **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents:
Date: 11/3/17
Initials: AM

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☐Yes ☑No ☐N/A	8. NO MS/MSD AM 11/3/17
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: S		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes ☑No	Initial when completed / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	14.
Trip Blank Present:	☐Yes ☐No ☑N/A	15.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution: 604 tare weight covered AM 11/3/17

Project Manager Review: **Date:** 11-6-17

F-GB-C-031-Rev.04 (12Dec2016) SCUR.xls
Pace Analytical Services LLC. - Green Bay WI

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

November 29, 2017

Andrew Cawrse
Natural Resource Technology
234 W Florida St
Milwaukee, WI 53204

RE: Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

Dear Andrew Cawrse:
Enclosed are the analytical results for sample(s) received by the laboratory on November 09, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: NRT Data, Natural Resource Technologies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY
Jay Karls, Natural Resource Technology
Robert Paulson, We Energies

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CERTIFICATIONS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40160477001	**CS-SB43 (2-4)**	Solid	11/07/17 11:00	11/09/17 08:50
40160477002	**CG-SB74 (0-2)**	Solid	11/07/17 12:00	11/09/17 08:50
40160477003	**CG-SB75 (2-4)**	Solid	11/07/17 12:45	11/09/17 08:50
40160477004	**CG-SB69 (2-4)**	Solid	11/08/17 09:35	11/09/17 08:50

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SAMPLE ANALYTE COUNT

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40160477001	**CS-SB43 (2-4)**	EPA 6020	DS1	1
		EPA 8270 by SIM	RJN	18
		EPA 8260	HNW	4
		ASTM D2974-87	SKW	1
		EPA 9012	DAW	1
40160477002	**CG-SB74 (0-2)**	EPA 6020	DS1	1
		EPA 8270 by SIM	RJN	18
		EPA 8260	SMT	4
		ASTM D2974-87	SKW	1
		EPA 9012	DAW	1
40160477003	**CG-SB75 (2-4)**	EPA 6020	DS1	1
		EPA 8270 by SIM	RJN	18
		EPA 8260	SMT	4
		ASTM D2974-87	SKW	1
		EPA 9012	DAW	1
40160477004	**CG-SB69 (2-4)**	EPA 6020	DS1	1
		EPA 8270 by SIM	RJN	18
		EPA 8260	SMT	4
		ASTM D2974-87	SKW	1
		EPA 9012	DAW	1

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

Sample: CS-SB43 (2-4) **Lab ID: 40160477001** Collected: 11/07/17 11:00 Received: 11/09/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**3.7**	mg/kg	0.88	0.26	6.667	11/21/17 06:28	11/28/17 10:48	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**391**	ug/kg	282	84.9	20	11/20/17 09:57	11/20/17 15:03	83-32-9	
Acenaphthylene	**<72.1**	ug/kg	241	72.1	20	11/20/17 09:57	11/20/17 15:03	208-96-8	
Anthracene	**942**	ug/kg	415	125	20	11/20/17 09:57	11/20/17 15:03	120-12-7	
Benzo(a)anthracene	**1780**	ug/kg	232	69.3	20	11/20/17 09:57	11/20/17 15:03	56-55-3	
Benzo(a)pyrene	**1640**	ug/kg	183	54.9	20	11/20/17 09:57	11/20/17 15:03	50-32-8	
Benzo(b)fluoranthene	**1320**	ug/kg	206	61.8	20	11/20/17 09:57	11/20/17 15:03	205-99-2	
Benzo(g,h,i)perylene	**1110**	ug/kg	148	44.4	20	11/20/17 09:57	11/20/17 15:03	191-24-2	
Benzo(k)fluoranthene	**1620**	ug/kg	183	54.9	20	11/20/17 09:57	11/20/17 15:03	207-08-9	
Chrysene	**2080**	ug/kg	245	73.7	20	11/20/17 09:57	11/20/17 15:03	218-01-9	
Dibenz(a,h)anthracene	**292**	ug/kg	163	48.9	20	11/20/17 09:57	11/20/17 15:03	53-70-3	
Fluoranthene	**4940**	ug/kg	380	114	20	11/20/17 09:57	11/20/17 15:03	206-44-0	
Fluorene	**453**	ug/kg	302	90.5	20	11/20/17 09:57	11/20/17 15:03	86-73-7	
Indeno(1,2,3-cd)pyrene	**945**	ug/kg	160	48.1	20	11/20/17 09:57	11/20/17 15:03	193-39-5	
Naphthalene	**395J**	ug/kg	614	184	20	11/20/17 09:57	11/20/17 15:03	91-20-3	
Phenanthrene	**3110**	ug/kg	848	255	20	11/20/17 09:57	11/20/17 15:03	85-01-8	
Pyrene	**3950**	ug/kg	328	98.7	20	11/20/17 09:57	11/20/17 15:03	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	62	%	23-106		20	11/20/17 09:57	11/20/17 15:03	321-60-8	
Terphenyl-d14 (S)	68	%	29-106		20	11/20/17 09:57	11/20/17 15:03	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/16/17 07:45	11/16/17 11:21	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	108	%	68-130		1	11/16/17 07:45	11/16/17 11:21	1868-53-7	
4-Bromofluorobenzene (S)	91	%	58-141		1	11/16/17 07:45	11/16/17 11:21	460-00-4	
Toluene-d8 (S)	115	%	68-149		1	11/16/17 07:45	11/16/17 11:21	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**8.5**	%	0.10	0.10	1		11/13/17 14:18		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**0.92**	mg/kg	0.29	0.085	1	11/15/17 10:05	11/15/17 14:21	57-12-5	

Sample: CG-SB74 (0-2) **Lab ID: 40160477002** Collected: 11/07/17 12:00 Received: 11/09/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**12.1**	mg/kg	0.98	0.29	6.667	11/21/17 06:28	11/28/17 10:56	7440-38-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

Sample: CG-SB74 (0-2) **Lab ID: 40160477002** Collected: 11/07/17 12:00 Received: 11/09/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<96.7**	ug/kg	321	96.7	20	11/17/17 08:33	11/19/17 00:52	83-32-9	
Acenaphthylene	**563**	ug/kg	274	82.1	20	11/17/17 08:33	11/19/17 00:52	208-96-8	
Anthracene	**1590**	ug/kg	473	142	20	11/17/17 08:33	11/19/17 00:52	120-12-7	
Benzo(a)anthracene	**1410**	ug/kg	264	79.0	20	11/17/17 08:33	11/19/17 00:52	56-55-3	
Benzo(a)pyrene	**1280**	ug/kg	209	62.6	20	11/17/17 08:33	11/19/17 00:52	50-32-8	
Benzo(b)fluoranthene	**1810**	ug/kg	234	70.4	20	11/17/17 08:33	11/19/17 00:52	205-99-2	
Benzo(g,h,i)perylene	**1210**	ug/kg	169	50.6	20	11/17/17 08:33	11/19/17 00:52	191-24-2	
Benzo(k)fluoranthene	**1590**	ug/kg	208	62.5	20	11/17/17 08:33	11/19/17 00:52	207-08-9	
Chrysene	**2210**	ug/kg	279	84.0	20	11/17/17 08:33	11/19/17 00:52	218-01-9	
Dibenz(a,h)anthracene	**404**	ug/kg	186	55.7	20	11/17/17 08:33	11/19/17 00:52	53-70-3	
Fluoranthene	**2930**	ug/kg	434	130	20	11/17/17 08:33	11/19/17 00:52	206-44-0	
Fluorene	**142J**	ug/kg	344	103	20	11/17/17 08:33	11/19/17 00:52	86-73-7	
Indeno(1,2,3-cd)pyrene	**1100**	ug/kg	183	54.8	20	11/17/17 08:33	11/19/17 00:52	193-39-5	
Naphthalene	**927**	ug/kg	700	210	20	11/17/17 08:33	11/19/17 00:52	91-20-3	
Phenanthrene	**2810**	ug/kg	967	290	20	11/17/17 08:33	11/19/17 00:52	85-01-8	
Pyrene	**2340**	ug/kg	374	112	20	11/17/17 08:33	11/19/17 00:52	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	58	%	23-106		20	11/17/17 08:33	11/19/17 00:52	321-60-8	
Terphenyl-d14 (S)	65	%	29-106		20	11/17/17 08:33	11/19/17 00:52	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/10/17 08:15	11/10/17 12:45	71-43-2	W
Surrogates									
Dibromofluoromethane (S)	91	%	68-130		1	11/10/17 08:15	11/10/17 12:45	1868-53-7	
4-Bromofluorobenzene (S)	80	%	58-141		1	11/10/17 08:15	11/10/17 12:45	460-00-4	
Toluene-d8 (S)	102	%	68-149		1	11/10/17 08:15	11/10/17 12:45	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**19.7**	%	0.10	0.10	1		11/13/17 14:18		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**1.2**	mg/kg	0.46	0.14	1	11/15/17 10:05	11/15/17 14:23	57-12-5	

Sample: CG-SB75 (2-4) **Lab ID: 40160477003** Collected: 11/07/17 12:45 Received: 11/09/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**10**	mg/kg	0.95	0.29	6.667	11/21/17 06:28	11/28/17 11:03	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<450**	ug/kg	1500	450	100	11/17/17 08:33	11/19/17 01:10	83-32-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

Sample: CG-SB75 (2-4) **Lab ID: 40160477003** Collected: 11/07/17 12:45 Received: 11/09/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthylene	**1170J**	ug/kg	1280	383	100	11/17/17 08:33	11/19/17 01:10	208-96-8	
Anthracene	**3840**	ug/kg	2200	663	100	11/17/17 08:33	11/19/17 01:10	120-12-7	
Benzo(a)anthracene	**7540**	ug/kg	1230	368	100	11/17/17 08:33	11/19/17 01:10	56-55-3	
Benzo(a)pyrene	**5960**	ug/kg	971	292	100	11/17/17 08:33	11/19/17 01:10	50-32-8	
Benzo(b)fluoranthene	**5840**	ug/kg	1090	328	100	11/17/17 08:33	11/19/17 01:10	205-99-2	
Benzo(g,h,i)perylene	**3160**	ug/kg	786	236	100	11/17/17 08:33	11/19/17 01:10	191-24-2	
Benzo(k)fluoranthene	**6000**	ug/kg	970	291	100	11/17/17 08:33	11/19/17 01:10	207-08-9	
Chrysene	**8920**	ug/kg	1300	391	100	11/17/17 08:33	11/19/17 01:10	218-01-9	
Dibenz(a,h)anthracene	**1030**	ug/kg	865	259	100	11/17/17 08:33	11/19/17 01:10	53-70-3	
Fluoranthene	**14200**	ug/kg	2020	604	100	11/17/17 08:33	11/19/17 01:10	206-44-0	
Fluorene	**678J**	ug/kg	1600	480	100	11/17/17 08:33	11/19/17 01:10	86-73-7	
Indeno(1,2,3-cd)pyrene	**3020**	ug/kg	851	255	100	11/17/17 08:33	11/19/17 01:10	193-39-5	
Naphthalene	**1880J**	ug/kg	3260	977	100	11/17/17 08:33	11/19/17 01:10	91-20-3	
Phenanthrene	**8140**	ug/kg	4500	1350	100	11/17/17 08:33	11/19/17 01:10	85-01-8	
Pyrene	**11100**	ug/kg	1740	524	100	11/17/17 08:33	11/19/17 01:10	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	0	%	23-106		100	11/17/17 08:33	11/19/17 01:10	321-60-8	S4
Terphenyl-d14 (S)	0	%	29-106		100	11/17/17 08:33	11/19/17 01:10	1718-51-0	S4
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**45.5J**	ug/kg	69.7	29.1	1	11/10/17 08:15	11/10/17 13:07	71-43-2	
Surrogates									
Dibromofluoromethane (S)	101	%	68-130		1	11/10/17 08:15	11/10/17 13:07	1868-53-7	
4-Bromofluorobenzene (S)	88	%	58-141		1	11/10/17 08:15	11/10/17 13:07	460-00-4	
Toluene-d8 (S)	110	%	68-149		1	11/10/17 08:15	11/10/17 13:07	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**14.0**	%	0.10	0.10	1		11/13/17 14:18		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**5.7**	mg/kg	0.43	0.13	1	11/15/17 10:05	11/15/17 14:24	57-12-5	

Sample: CG-SB69 (2-4) **Lab ID: 40160477004** Collected: 11/08/17 09:35 Received: 11/09/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
Arsenic	**40.5**	mg/kg	0.89	0.27	6.667	11/21/17 06:28	11/28/17 11:11	7440-38-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**89.8J**	ug/kg	148	44.4	10	11/17/17 08:33	11/19/17 01:27	83-32-9	
Acenaphthylene	**319**	ug/kg	126	37.7	10	11/17/17 08:33	11/19/17 01:27	208-96-8	

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ANALYTICAL RESULTS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

Sample: CG-SB69 (2-4) **Lab ID: 40160477004** Collected: 11/08/17 09:35 Received: 11/09/17 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Anthracene	**616**	ug/kg	217	65.3	10	11/17/17 08:33	11/19/17 01:27	120-12-7	
Benzo(a)anthracene	**796**	ug/kg	121	36.3	10	11/17/17 08:33	11/19/17 01:27	56-55-3	
Benzo(a)pyrene	**846**	ug/kg	95.7	28.7	10	11/17/17 08:33	11/19/17 01:27	50-32-8	
Benzo(b)fluoranthene	**687**	ug/kg	108	32.3	10	11/17/17 08:33	11/19/17 01:27	205-99-2	
Benzo(g,h,i)perylene	**1430**	ug/kg	77.4	23.2	10	11/17/17 08:33	11/19/17 01:27	191-24-2	
Benzo(k)fluoranthene	**587**	ug/kg	95.6	28.7	10	11/17/17 08:33	11/19/17 01:27	207-08-9	
Chrysene	**906**	ug/kg	128	38.6	10	11/17/17 08:33	11/19/17 01:27	218-01-9	
Dibenz(a,h)anthracene	**265**	ug/kg	85.2	25.6	10	11/17/17 08:33	11/19/17 01:27	53-70-3	
Fluoranthene	**2050**	ug/kg	199	59.6	10	11/17/17 08:33	11/19/17 01:27	206-44-0	
Fluorene	**150J**	ug/kg	158	47.3	10	11/17/17 08:33	11/19/17 01:27	86-73-7	
Indeno(1,2,3-cd)pyrene	**799**	ug/kg	83.8	25.1	10	11/17/17 08:33	11/19/17 01:27	193-39-5	
Naphthalene	**1930**	ug/kg	321	96.3	10	11/17/17 08:33	11/19/17 01:27	91-20-3	
Phenanthrene	**1530**	ug/kg	444	133	10	11/17/17 08:33	11/19/17 01:27	85-01-8	
Pyrene	**1680**	ug/kg	172	51.6	10	11/17/17 08:33	11/19/17 01:27	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	60	%	23-106		10	11/17/17 08:33	11/19/17 01:27	321-60-8	
Terphenyl-d14 (S)	62	%	29-106		10	11/17/17 08:33	11/19/17 01:27	1718-51-0	
8260 MSV Med Level Short List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**1270**	ug/kg	68.6	28.6	1	11/10/17 08:15	11/10/17 13:30	71-43-2	
Surrogates									
Dibromofluoromethane (S)	97	%	68-130		1	11/10/17 08:15	11/10/17 13:30	1868-53-7	
4-Bromofluorobenzene (S)	83	%	58-141		1	11/10/17 08:15	11/10/17 13:30	460-00-4	
Toluene-d8 (S)	100	%	68-149		1	11/10/17 08:15	11/10/17 13:30	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**12.6**	%	0.10	0.10	1		11/13/17 14:18		
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012A								
Cyanide	**1.3**	mg/kg	0.55	0.16	1	11/15/17 10:05	11/15/17 14:25	57-12-5	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

QC Batch: 274821 | Analysis Method: EPA 6020
QC Batch Method: EPA 3050 | Analysis Description: 6020 MET
Associated Lab Samples: 40160477001, 40160477002, 40160477003, 40160477004

METHOD BLANK: 1617040 | Matrix: Solid
Associated Lab Samples: 40160477001, 40160477002, 40160477003, 40160477004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	<0.040	0.13	11/28/17 09:11	

LABORATORY CONTROL SAMPLE: 1617041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	47.0	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1617042 1617043

Parameter	Units	40160684003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	12.3	56.1	55.9	64.2	64.2	93	93	75-125	0	20	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

QC Batch: 273765 | Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B | Analysis Description: 8260 MSV Med Level Short List
Associated Lab Samples: 40160477002, 40160477003, 40160477004

METHOD BLANK: 1610663 | Matrix: Solid
Associated Lab Samples: 40160477002, 40160477003, 40160477004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	<9.2	20.0	11/10/17 10:29	
4-Bromofluorobenzene (S)	%	81	58-141	11/10/17 10:29	
Dibromofluoromethane (S)	%	95	68-130	11/10/17 10:29	
Toluene-d8 (S)	%	102	68-149	11/10/17 10:29	

LABORATORY CONTROL SAMPLE: 1610664

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2500	2710	108	66-130	
4-Bromofluorobenzene (S)	%			88	58-141	
Dibromofluoromethane (S)	%			101	68-130	
Toluene-d8 (S)	%			102	68-149	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

QC Batch: 274432
QC Batch Method: EPA 5035/5030B
Associated Lab Samples: 40160477001

Analysis Method: EPA 8260
Analysis Description: 8260 MSV Med Level Short List

METHOD BLANK: 1614783
Matrix: Solid
Associated Lab Samples: 40160477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	<9.2	20.0	11/16/17 09:51	
4-Bromofluorobenzene (S)	%	87	58-141	11/16/17 09:51	
Dibromofluoromethane (S)	%	103	68-130	11/16/17 09:51	
Toluene-d8 (S)	%	111	68-149	11/16/17 09:51	

LABORATORY CONTROL SAMPLE: 1614784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2500	2950	118	66-130	
4-Bromofluorobenzene (S)	%			92	58-141	
Dibromofluoromethane (S)	%			104	68-130	
Toluene-d8 (S)	%			109	68-149	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1614785 1614786

Parameter	Units	40160477001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	<25.0	1360	1360	1540	1510	112	110	65-130	2	20	
4-Bromofluorobenzene (S)	%						93	91	58-141			
Dibromofluoromethane (S)	%						107	105	68-130			
Toluene-d8 (S)	%						113	111	68-149			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

QC Batch: 274568 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 40160477002, 40160477003, 40160477004

METHOD BLANK: 1615509 | Matrix: Solid
Associated Lab Samples: 40160477002, 40160477003, 40160477004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/kg	<3.9	12.9	11/17/17 11:53	
Acenaphthylene	ug/kg	<3.3	11.0	11/17/17 11:53	
Anthracene	ug/kg	<5.7	19.0	11/17/17 11:53	
Benzo(a)anthracene	ug/kg	<3.2	10.6	11/17/17 11:53	
Benzo(a)pyrene	ug/kg	<2.5	8.4	11/17/17 11:53	
Benzo(b)fluoranthene	ug/kg	<2.8	9.4	11/17/17 11:53	
Benzo(g,h,i)perylene	ug/kg	<2.0	6.8	11/17/17 11:53	
Benzo(k)fluoranthene	ug/kg	<2.5	8.4	11/17/17 11:53	
Chrysene	ug/kg	<3.4	11.2	11/17/17 11:53	
Dibenz(a,h)anthracene	ug/kg	<2.2	7.5	11/17/17 11:53	
Fluoranthene	ug/kg	<5.2	17.4	11/17/17 11:53	
Fluorene	ug/kg	<4.1	13.8	11/17/17 11:53	
Indeno(1,2,3-cd)pyrene	ug/kg	<2.2	7.3	11/17/17 11:53	
Naphthalene	ug/kg	<8.4	28.1	11/17/17 11:53	
Phenanthrene	ug/kg	<11.7	38.8	11/17/17 11:53	
Pyrene	ug/kg	<4.5	15.0	11/17/17 11:53	
2-Fluorobiphenyl (S)	%	88	23-106	11/17/17 11:53	
Terphenyl-d14 (S)	%	96	29-106	11/17/17 11:53	

LABORATORY CONTROL SAMPLE: 1615510

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	333	305	92	52-97	
Acenaphthylene	ug/kg	333	299	90	49-97	
Anthracene	ug/kg	333	307	92	62-101	
Benzo(a)anthracene	ug/kg	333	286	86	53-95	
Benzo(a)pyrene	ug/kg	333	298	90	57-108	
Benzo(b)fluoranthene	ug/kg	333	301	91	53-113	
Benzo(g,h,i)perylene	ug/kg	333	260	78	43-114	
Benzo(k)fluoranthene	ug/kg	333	313	94	66-116	
Chrysene	ug/kg	333	299	90	64-109	
Dibenz(a,h)anthracene	ug/kg	333	276	83	50-105	
Fluoranthene	ug/kg	333	295	89	58-107	
Fluorene	ug/kg	333	303	91	52-99	
Indeno(1,2,3-cd)pyrene	ug/kg	333	287	86	51-113	
Naphthalene	ug/kg	333	279	84	50-91	
Phenanthrene	ug/kg	333	298	89	57-101	
Pyrene	ug/kg	333	295	89	50-102	
2-Fluorobiphenyl (S)	%			102	23-106	
Terphenyl-d14 (S)	%			108	29-106	S0

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1615511 1615512

Parameter	Units	40160685017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acenaphthene	ug/kg	<0.0046 mg/kg	396	396	299	319	75	80	46-97	7	26	
Acenaphthylene	ug/kg	<0.0039 mg/kg	396	396	293	319	74	80	47-97	8	29	
Anthracene	ug/kg	<0.0068 mg/kg	396	396	292	314	73	78	50-101	7	28	
Benzo(a)anthracene	ug/kg	<0.0038 mg/kg	396	396	282	301	71	76	48-95	7	28	
Benzo(a)pyrene	ug/kg	<0.0030 mg/kg	396	396	282	306	70	77	47-108	8	36	
Benzo(b)fluoranthene	ug/kg	<0.0034 mg/kg	396	396	288	311	72	78	42-113	8	34	
Benzo(g,h,i)perylene	ug/kg	0.0068J mg/kg	396	396	247	270	61	66	18-114	9	30	
Benzo(k)fluoranthene	ug/kg	<0.0030 mg/kg	396	396	289	312	73	78	50-116	7	27	
Chrysene	ug/kg	0.0096J mg/kg	396	396	296	317	72	77	55-109	7	28	
Dibenz(a,h)anthracene	ug/kg	<0.0027 mg/kg	396	396	261	285	66	72	39-105	9	29	
Fluoranthene	ug/kg	<0.0062 mg/kg	396	396	287	312	71	78	41-107	9	28	
Fluorene	ug/kg	<0.0049 mg/kg	396	396	297	329	75	83	48-99	10	28	
Indeno(1,2,3-cd)pyrene	ug/kg	<0.0026 mg/kg	396	396	268	295	67	74	27-113	10	30	
Naphthalene	ug/kg	<0.010 mg/kg	396	396	292	306	73	76	40-91	5	37	
Phenanthrene	ug/kg	<0.014 mg/kg	396	396	295	325	72	80	46-101	10	40	
Pyrene	ug/kg	0.012J mg/kg	396	396	299	313	73	76	50-102	4	31	
2-Fluorobiphenyl (S)	%						80	89	23-106			
Terphenyl-d14 (S)	%						71	92	29-106			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

QC Batch: 274786
QC Batch Method: EPA 3546
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 40160477001

METHOD BLANK: 1616966
Matrix: Solid
Associated Lab Samples: 40160477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/kg	<3.9	12.9	11/20/17 13:53	
Acenaphthylene	ug/kg	<3.3	11.0	11/20/17 13:53	
Anthracene	ug/kg	<5.7	19.0	11/20/17 13:53	
Benzo(a)anthracene	ug/kg	<3.2	10.6	11/20/17 13:53	
Benzo(a)pyrene	ug/kg	<2.5	8.4	11/20/17 13:53	
Benzo(b)fluoranthene	ug/kg	<2.8	9.4	11/20/17 13:53	
Benzo(g,h,i)perylene	ug/kg	<2.0	6.8	11/20/17 13:53	
Benzo(k)fluoranthene	ug/kg	<2.5	8.3	11/20/17 13:53	
Chrysene	ug/kg	<3.4	11.2	11/20/17 13:53	
Dibenz(a,h)anthracene	ug/kg	<2.2	7.4	11/20/17 13:53	
Fluoranthene	ug/kg	<5.2	17.4	11/20/17 13:53	
Fluorene	ug/kg	<4.1	13.8	11/20/17 13:53	
Indeno(1,2,3-cd)pyrene	ug/kg	<2.2	7.3	11/20/17 13:53	
Naphthalene	ug/kg	<8.4	28.1	11/20/17 13:53	
Phenanthrene	ug/kg	<11.6	38.7	11/20/17 13:53	
Pyrene	ug/kg	<4.5	15.0	11/20/17 13:53	
2-Fluorobiphenyl (S)	%	75	23-106	11/20/17 13:53	
Terphenyl-d14 (S)	%	91	29-106	11/20/17 13:53	

LABORATORY CONTROL SAMPLE: 1616967

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	333	241	72	52-97	
Acenaphthylene	ug/kg	333	229	69	49-97	
Anthracene	ug/kg	333	272	82	62-101	
Benzo(a)anthracene	ug/kg	333	238	72	53-95	
Benzo(a)pyrene	ug/kg	333	242	73	57-108	
Benzo(b)fluoranthene	ug/kg	333	214	64	53-113	
Benzo(g,h,i)perylene	ug/kg	333	218	65	43-114	
Benzo(k)fluoranthene	ug/kg	333	264	79	66-116	
Chrysene	ug/kg	333	292	88	64-109	
Dibenz(a,h)anthracene	ug/kg	333	205	61	50-105	
Fluoranthene	ug/kg	333	283	85	58-107	
Fluorene	ug/kg	333	238	72	52-99	
Indeno(1,2,3-cd)pyrene	ug/kg	333	218	65	51-113	
Naphthalene	ug/kg	333	215	64	50-91	
Phenanthrene	ug/kg	333	237	71	57-101	
Pyrene	ug/kg	333	268	80	50-102	
2-Fluorobiphenyl (S)	%			82	23-106	
Terphenyl-d14 (S)	%			92	29-106	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616968 1616969

Parameter	Units	40160453003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acenaphthene	ug/kg	<15.5	400	401	288	263	72	65	46-97	9	26	
Acenaphthylene	ug/kg	<13.2	400	401	268	247	67	62	47-97	8	29	
Anthracene	ug/kg	<22.8	400	401	304	310	76	77	50-101	2	28	
Benzo(a)anthracene	ug/kg	<12.7	400	401	273	249	68	61	48-95	9	28	
Benzo(a)pyrene	ug/kg	<10.1	400	401	267	265	67	66	47-108	1	36	
Benzo(b)fluoranthene	ug/kg	<11.3	400	401	236	236	59	59	42-113	0	34	
Benzo(g,h,i)perylene	ug/kg	<8.1	400	401	240	218	60	54	18-114	10	30	
Benzo(k)fluoranthene	ug/kg	<10.1	400	401	299	283	75	71	50-116	6	27	
Chrysene	ug/kg	<13.5	400	401	325	309	81	77	55-109	5	28	
Dibenz(a,h)anthracene	ug/kg	<9.0	400	401	226	209	57	52	39-105	8	29	
Fluoranthene	ug/kg	<20.9	400	401	325	315	81	79	41-107	3	28	
Fluorene	ug/kg	<16.6	400	401	277	251	69	63	48-99	10	28	
Indeno(1,2,3-cd)pyrene	ug/kg	<8.8	400	401	241	222	60	55	27-113	8	30	
Naphthalene	ug/kg	<33.8	400	401	261	255	65	64	40-91	2	37	
Phenanthrene	ug/kg	<46.7	400	401	280	273	70	68	46-101	2	40	
Pyrene	ug/kg	<18.0	400	401	301	271	75	68	50-102	11	31	
2-Fluorobiphenyl (S)	%						77	63	23-106			
Terphenyl-d14 (S)	%						80	65	29-106			

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

QC Batch: 273966 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40160477001, 40160477002, 40160477003, 40160477004

SAMPLE DUPLICATE: 1612514

Parameter	Units	40160244001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	18.8	18.4	2	10	

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QUALITY CONTROL DATA

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

QC Batch: 274150 | Analysis Method: EPA 9012
QC Batch Method: EPA 9012A | Analysis Description: 9012 Cyanide
Associated Lab Samples: 40160477001, 40160477002, 40160477003, 40160477004

METHOD BLANK: 1613240 | Matrix: Solid
Associated Lab Samples: 40160477001, 40160477002, 40160477003, 40160477004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/kg	<0.12	0.40	11/15/17 13:59	

LABORATORY CONTROL SAMPLE: 1613241

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/kg	3	3.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1613242 1613243

Parameter	Units	40160368011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/kg	<0.18	4.6	4.8	4.9	5.1	104	105	80-120	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1613244 1613245

Parameter	Units	40160548002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/kg	0.63	2.8	2.5	1.6	0.75	34	5	80-120	70	20	M0,R1

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QUALIFIERS

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 274635

[1] A surrogate failed high in the LCS, all target compounds met QC requirements.

ANALYTE QUALIFIERS

M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
W	Non-detect results are reported on a wet weight basis.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2133/6.0 SOLVAY
Pace Project No.: 40160477

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40160477001	**CS-SB43 (2-4)**	EPA 3050	274821	EPA 6020	275028
40160477002	**CG-SB74 (0-2)**	EPA 3050	274821	EPA 6020	275028
40160477003	**CG-SB75 (2-4)**	EPA 3050	274821	EPA 6020	275028
40160477004	**CG-SB69 (2-4)**	EPA 3050	274821	EPA 6020	275028
40160477001	**CS-SB43 (2-4)**	EPA 3546	274786	EPA 8270 by SIM	274849
40160477002	**CG-SB74 (0-2)**	EPA 3546	274568	EPA 8270 by SIM	274635
40160477003	**CG-SB75 (2-4)**	EPA 3546	274568	EPA 8270 by SIM	274635
40160477004	**CG-SB69 (2-4)**	EPA 3546	274568	EPA 8270 by SIM	274635
40160477001	**CS-SB43 (2-4)**	EPA 5035/5030B	274432	EPA 8260	274435
40160477002	**CG-SB74 (0-2)**	EPA 5035/5030B	273765	EPA 8260	273768
40160477003	**CG-SB75 (2-4)**	EPA 5035/5030B	273765	EPA 8260	273768
40160477004	**CG-SB69 (2-4)**	EPA 5035/5030B	273765	EPA 8260	273768
40160477001	**CS-SB43 (2-4)**	ASTM D2974-87	273966		
40160477002	**CG-SB74 (0-2)**	ASTM D2974-87	273966		
40160477003	**CG-SB75 (2-4)**	ASTM D2974-87	273966		
40160477004	**CG-SB69 (2-4)**	ASTM D2974-87	273966		
40160477001	**CS-SB43 (2-4)**	EPA 9012A	274150	EPA 9012	274259
40160477002	**CG-SB74 (0-2)**	EPA 9012A	274150	EPA 9012	274259
40160477003	**CG-SB75 (2-4)**	EPA 9012A	274150	EPA 9012	274259
40160477004	**CG-SB69 (2-4)**	EPA 9012A	274150	EPA 9012	274259

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(Please Print Clearly)

Company Name:	Natural Resource Technology
Branch/Location:	Milwaukee WF
Project Contact:	Jay Karls
Phone:	414 837 3645
Project Number:	2133/6.0
Project Name:	Solvay
Project State:	WI
Sampled By (Print):	Keith Krakowski
Sampled By (Sign):	[signature]
PO #:	
Regulatory Program:	

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UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Page 1 of

40160477

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	
Mail To Contact:	Jay Karls
Mail To Company:	Natural Resource Technology
Mail To Address:	234 W. Florida St, 5th Floor Milwaukee WI 53204
Invoice To Contact:	mkeap@obg.com
Invoice To Company:	
Invoice To Address:	same
Invoice To Phone:	

Data Package Options (billable)
- ☐ EPA Level III
- ☐ EPA Level IV

MS/MSD
- ☐ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	PAHs 8270-SIM (Y/N: N, Pick Letter: A)	BENZENE 8260B (Y/N: N, Pick Letter: F)	ARSENIC 6020A (Y/N: N, Pick Letter: A)	CYANIDE 9012A (Y/N: N, Pick Letter: A)	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	CS-SB43(2-4)	11-7-17	11:00	S	X	X	X	X	1-4ozag A	1-4ozp A	1-40ab F
002	CG-SB74(0-2)	11-7-17	12:00	S	X	X	X	X			
003	CG-SB75(2-4)	11-7-17	12:45	S	X	X	X	X			
004	CG-SB69(2-4)	11-8-17	0935	S	X	X	X	X			

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	Jay.Karls@obg.com
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	11/8/17 1600	[signature]	
[signature]	11-9-17 0830	[signature]	11/9/17 0830

PACE Project No. 40160477

Receipt Temp = RO °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

C019a(27Jun2006)

Version 6.0 06/14/06

Pace Analytical

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Client Name: NRT

Project #: **WO# : 40160477**

40160477

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: Walter

Tracking #:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Thermometer Used N/A **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROT /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents:
Date: 11-9-17
Initials: SM

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes	☐No		Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume: 11/9/17	☐Yes	☑No	☐N/A	8. No MS/MSD Volume 11-9-17
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
-Pace IR Containers Used:	☐Yes	☐No	☑N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: S				
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☐Yes	☐No	☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☐Yes	☐No	☑N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes	☑No		Initial when completed / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14.
Trip Blank Present:	☐Yes	☐No	☑N/A	15.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:** 11-9-17

Data Validation Report

Solvay Soils October and November 2017 Level 4 Data Validation

Work Order Task Order Number: 2133

Soil Sample Analyses Performed by

Pace Analytical, Green Bay

Prepared for

NATURAL RESOURCE TECHNOLOGY

Prepared by

SHEPHERD TECHNICAL SERVICES

December 6, 2017

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1.0 INTRODUCTION

All data validation was performed by Shepherd Technical Services following US EPA September 2016 National Functional Guidelines (NFG), where applicable, using electronic deliverables. Guidance and requirements appearing in the NRT Multi-Site Quality Assurance Project Plan, Rev. 2, 2007 ("Multi-Site QAPP") were also used in the validation process.

Pace Analytical Services, Inc., Green Bay, WI performed most of the analyses on the soil samples. The Pace Green Bay laboratory is accredited under the National Environmental Laboratory Accreditation Program (NELAP) by the Florida Department of Health Environmental Laboratory Certification Program (ID #E87948).

Sample analyses for cyanide were performed by Pace Analytical Services, Inc., Pittsburgh, PA. The Pace Pittsburgh laboratory is accredited under the National Environmental Laboratory Accreditation Program (NELAP) by the Pennsylvania Department of Environmental Protection (PA DEP #65-00282).

The laboratories provided all analytical data, including all internal laboratory QC results in an electronic deliverable format.

Qualifiers applied to the data tables, in this report have been applied by the laboratory reporting the sample results as a consequence of their internal data review and reporting processes. Table 1-1 lists the laboratory qualifier descriptions.

Table 1-1. Qualifier Descriptions

Qualifier	Description
B	Analyte was detected in the associated method blank.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
J	Estimated concentration at or above the LOD and below the LOQ.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

Qualifier	Description
U	Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.
W	Non-detect results are reported on a wet weight basis.

All analyses were performed as specified on the chains of custody, or the provided "Data Tracker" (field logs).

A total of 27 soil samples and one trip blank were collected October 25, 2017 through November 8, 2017 at the Solvay site. Upon collection, all samples were held securely prior to shipping to the laboratory. Samples were organized into three sample delivery groups (SDGs, or laboratory lot numbers) for Pace. Samples were analyzed for the indicated parameters using the methods listed in Table 1-2.

Table 1-2. Sample/SDG Cross Reference

Field ID	*Lab Sample ID*	*ASTM D2974-87*	*EPA 6020 As*	*EPA 8260*	*EPA 8270 by SIM*	*EPA 9012*
CG-SB103 (0-2)	40159629016	X	X	X	X	X
CG-SB65(2-4)	40160110012	X	X	X	X	X
CG-SB69 (2-4)	40160477004	X	X	X	X	X
CG-SB74 (0-2)	40160477002	X	X	X	X	X
CG-SB75 (2-4)	40160477003	X	X	X	X	X
CG-SB84(2-4)	40160110011	X	X	X	X	X
CG-SB96 (2-4)	40159629015	X	X	X	X	X
CS-SB36(0-2)	40160110009	X	X	X	X	X
CS-SB38(0-2)	40160110010	X	X	X	X	X
CS-SB40(2-4)	40160110008	X	X	X	X	X
CS-SB43 (2-4)	40160477001	X	X	X	X	X
CS-SB45(0-2)	40160110007	X	X	X	X	X
CS-SB46(0-2)	40160110004	X	X	X	X	X
CS-SB50(2-4)	40160110005	X	X	X	X	X
CS-SB50(DUP)	40160110006	X	X	X	X	X
FT-SB39 (0-2)	40159629007	X	X	X	X	X
FT-SB40 (0-2)	40159629002	X	X	X	X	X
FT-SB41 (2-3.2)	40159629003	X	X	X	X	X
FT-SB42 (0-2)	40159629004	X	X	X	X	X
FT-SB43 (0-2)	40159629005	X	X	X	X	X
FT-SB44 (0-2)	40159629006	X	X	X	X	X
FT-SB45 (2-4)	40159629009	X	X	X	X	X
FT-SB46 (2-3.5)	40159629008	X	X	X	X	X

Field ID	Lab Sample ID	ASTM D2974-87	EPA 6020 As	EPA 8260	EPA 8270 by SIM	EPA 9012
FT-SB47 (2-4)	40159629011	X	X	X	X	X
FT-SB47 (DUP)	40159629012	X	X	X	X	X
FT-SB48 (0-2)	40159629010	X	X	X	X	X
FT-SB49 (2-4)	40159629014	X	X	X	X	X
TB102617	40159629013			X		

2.0 INORGANIC DATA REVIEW

2.1 Summary

Blank, spiked, and duplicate results were provided. Overall, QC data indicated acceptable precision and accuracy. The results of the QC review are presented below.

2.2 Sample Receipt and Methodology

The soil samples were analyzed for inorganic parameters following the methods cited in Table 2-1.

Table 2-1. Inorganic Analytes and Methods Summary

Analytical Method	Analyte
EPA 6020	Arsenic
ASTM D2974-87	Percent Moisture
EPA 9012	Cyanide

Generally, the samples arrived at the laboratories properly preserved and in good condition. All samples were analyzed within the prescribed holding times, where holding times have been defined. Therefore, no data are qualified based upon sample receipt or hold time conditions

2.3 Calibration

Initial instrument calibrations for each of the methods were all well within acceptance criteria. All parameters were calibrated using multi-point curves with appropriate first order regression models applied.

All of the initial calibration verification checks (ICVs) for these analyses met the stated ±10% acceptance criterion used by the laboratory and required by the methods. No data are qualified based off the initial calibration verification data.

The laboratory also performed the requisite interference checks (ICS A, ICS AB) with each metals calibration. All of the interference checks gave acceptable results. Hence, no data are qualified as a consequence of the interference check sample data.

Continuing calibration verification checks were performed at the required frequencies for all methods. All of the continuing calibration verification checks (CCVs) for these analyses met the ±10% acceptance criterion used by the laboratory and required by the methods. No data are qualified as a consequence of the continuing calibration data.

2.4 Method Blanks, Laboratory Blanks

One method blank was prepared and analyzed with each analytical batch of samples.

One batch for cyanide had cyanide detected in the method blank that was above the limit of detection but below the reporting limit. The batches are detailed in the method blank tables below. The affected sample results that are above the detection limit but below the reporting limit will be reported at the reporting limit and qualified with a ("U"). Results that are above the reporting limit, but less than ten times the reporting limit, will be qualified as estimated ("J") due to the low levels of the results. Results that are greater than ten times the reporting limit will not be qualified.

The method blanks for arsenic showed no contamination above the detection limit. Hence, no arsenic data are qualified as a consequence of the method blank data.

The ICB/CCBs for cyanide and arsenic showed no contamination above the detection limit. Hence, no cyanide or arsenic data are qualified as a consequence of the continuing calibration data.

The method blank results are summarized in Tables 2-2 through 2-3.

Table 2-2. Cyanide EPA 9012 Method Blank Results Soil Samples

Parameter	*Batch*	*Units*	*Result*
Cyanide	272849	mg/kg	0.12 U
	273491	mg/kg	***0.14 J***
	274150	mg/kg	0.12 U

Table 2-3. Arsenic EPA 6020 Method Blank Results Soil Samples

Parameter	*Units*	*QC Batch: 272616*	*QC Batch: 272674*	*QC Batch: 274821*
Arsenic	mg/kg	40.0 U	40.0 U	40.0 U

2.5 Laboratory Control Samples

Laboratory control samples (LCS) were prepared using commercially available reference materials and were analyzed with each of the data sets. The recovery limits used by the laboratory for LCS results are either those given in the method guidance or are based upon laboratory performance. All recoveries for all analytes/all methods were within the specified limits. No data are qualified as a consequence of the LCS results.

Recoveries are given along with the acceptance limits in Tables 2-4 through 2-5.

Table 2-4. Arsenic EPA 6020 LCS Results Soil Samples

QC Batch for EPA 6020	*Parameter*	*Recovery Limits (%)*		*Spike (mg/kg)*	*Result (mg/kg)*	*Recovery*
		Lower	Upper			
272616	Arsenic	80	120	50	51400	103
272674		80	120	50	51100	102
274821		80	120	50	47000	94

Table 2-5. Cyanide EPA 9012 LCS Results Soil Samples

QC Batch for EPA 9012	*Parameter*	*Recovery Limits (%)*		*Spike (mg/kg)*	*Result (mg/kg)*	*Recovery*
		Lower	Upper			
272849	Cyanide	80	120	3	2.9	98
273491		80	120	3	3.2	106
274150		80	120	3	3.1	103

2.6 Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were evaluated for each of the parameters at appropriate frequencies. However, there were no project specified samples, hence in some cases a client sample was utilized as the MS/MSD for the batch. Those results are included below.

As shown in the tables below client samples were analyzed as matrix spike/matrix spike duplicate for cyanide. All results met the specified limits. Therefore no data are qualified based on MS/MSD results.

The MS/MSD data are given in Tables 2-6.

Table 2-6. Total Cyanide EPA 9012 MS/MSD Recoveries Soil Samples

Sample ID	*Parameter*	*Spike (mg/kg)*	*MS Result (mg/kg)*	*Rec (%)*	*Spike (mg/kg)*	*MSD Result (mg/kg)*	*Rec (%)*	*RPD*	*Lab Sample Result (mg/kg)*	*Max RPD*
FT-SB45 (2-4)	Cyanide	3	2.8	89	3	2.6	83	6	0.13 U	20
CS-SB40(2-4)	Cyanide	2.9	3.3	89	2.9	3.3	90	0	0.74 B	20

2.7 Internal Standards

The NFG requires the relative intensity (%RI) for ICP/MS internal standards to fall within 60-125% for each sample analysis relative to the calibration standards. All samples met these criteria therefore no samples are qualified based on internal standard responses.

2.8 ICP/MS Serial Dilutions

Serial dilution tests were performed by the laboratory on an analytical batch basis. All RPD values fell within the 10% limit defined by the NFG. Values in excess of 10% RPD occurred only in cases where the sample concentration was <50x the analyte MDL. In these cases the 10% criterion does not apply. Consequently, no data are qualified as consequence of the serial dilution results.

2.10 Field Duplicates

Field duplicates were collected and analyzed for the arsenic, total cyanide, and Percent Moisture parameters. Field duplicates generally show poor agreement for all of the analytes where the values are above 5X the sample quantitation limit. Precision is only calculated where both the sample and the duplicate sample gave a positive result. Duplicate "NDs", however, are reported with 0% RPDs.

Criteria for evaluating field duplicate precision is provided in the Multi-Site QAPP Addendum dated March 12, 2012. Worksheet #28 of that addendum for inorganic parameters defines an upper limit of 30% RPD when both sample and duplicate analyses are above 5X the limit of quantitation. Some of the RPDs that are greater than 30% for the duplicate analyses gave

results greater than 5x the limit of quantitation for both samples of the duplicate pair. Therefore the parent and duplicate samples that have RPDs greater than 30% (FT-SB47(2-4) for arsenic) will be qualified as estimated ("J").

The results of the duplicate analyses are given in Tables 2-7 through 2-9.

Table 2-7. Field Duplicates Cyanide EPA 9012 Soil Samples

Parameter	*Dup Sample ID*	*Sample ID*	*Result (mg/kg)*	*Lab Flag*	*LOQ*	*RPD*
Cyanide	CS-SB50 (2-4)	CS-SB50(2-4)	0.14	JB	0.39	
		CS-SB50(DUP)	0.26	JB	0.45	***60.0***
	FT-SB47(2-4)	FT-SB47 (2-4)	0.2	J	0.32	
		FT-SB47 (DUP)	0.12	U	0.41	NC

Table 2-8. Field Duplicates Arsenic EPA 6020 Soil Samples

Parameter	*Dup Sample ID*	*Sample ID*	*Result (mg/kg)*	*Lab Flag*	*LOQ*	*RPD*
Arsenic	CS-SB50 (2-4)	CS-SB50(2-4)	3700		940	
		CS-SB50(DUP)	4600		930	0.0
	FT-SB47(2-4)	FT-SB47 (2-4)	17500		980	
		FT-SB47 (DUP)	7300		1000	***82.3***

Table 2-9. Field Duplicates Percent Moisture Soil Samples

Parameter	*Dup Sample ID*	*Sample ID*	*Result (%)*	*Lab Flag*	*LOQ*	*RPD*
Percent Moisture	CS-SB50 (2-4)	CS-SB50(2-4)	9		0.10	
		CS-SB50(DUP)	9.3		0.10	3.3
	FT-SB47(2-4)	FT-SB47 (2-4)	12.5		0.10	
		FT-SB47 (DUP)	12.5		0.10	0.0

3.0 ORGANIC DATA REVIEW

Blank, spiked, and duplicate results were provided. The results of the QC review are presented below. One method blank was prepared and analyzed with each analytical batch of samples. Ottawa sand was used as the matrix for VOC method blank analysis for soil samples and organic free water was used as the method blank for water samples. Sodium sulfate was used as

the matrix for method blanks for the semivolatile organics (PAHs) analyses for the soil samples and organic free water was used as the method blank for water samples.

Samples were analyzed for organic compounds following SW-846 Methods or laboratory developed methods as shown in Table 3-1.

Table 3-1. Organic Analytes and Methods Summary

Analytical Method	*Analytes*
EPA 8260	Purgeable Volatile Organic Compounds (PVOC)
EPA 8270 by SIM	Polycyclic Aromatic Hydrocarbons (PAH)

3.1 SW-846 Method 8260B – Purgeable Volatile Organic Compounds

3.1.1 Summary

SW-846 Method 8260B employs gas chromatographic separation with a mass spectrometer as a detector.

3.1.2 Method Blanks

The samples were analyzed in multiple analytical batches. The method blanks, showed no contamination above the detection limit for the target compounds. Hence, no data are qualified as a consequence of the method blank data.

The method blank data are summarized in Table 3-2.

Table 3-2. Benzene Method 8260 Method Blank Results Soil Samples

Parameter	*Batch*	*Units*	*Result*
Benzene	272547	µg/Kg	9.2 U
	272556	µg/Kg	9.2 U
	272708	µg/Kg	9.2 U
	272978	µg/Kg	9.2 U
	273180	µg/Kg	9.2 U
	273185	µg/Kg	9.2 U
	273765	µg/Kg	9.2 U
	274432	µg/Kg	9.2 U

3.1.3 Trip Blank

One trip blanks was provided with this sample set. None of the blanks associated with these samples gave results above the detection limit. No data are qualified as a consequence of any of the field quality control blanks.

The trip blank data is summarized in Tables 3-3.

Table 3-3. Method 8260 Trip Blank Results Soil Samples

Parameter	*Units*	*TB Field ID: TB102617*
Benzene	µg/Kg	25.0 UW

3.1.4 Calibration

The initial instrument calibration performed for this method gave satisfactory results with response factors over the calibration range <15% RSD for all analytes. Average response factor calibration model was used to quantitate results for all analytes. No data are qualified as a result of the initial calibration data.

For evaluating calibration verifications, the September 2016 CLP National Functional Guidelines have established a drift or difference acceptability criterion for all target analytes. The calibration verification associated with this data set did not exceed the difference criterion in place for all target analytes. Consequently, no data are qualified as a result of the calibration verification data.

3.1.5 Internal Standard Areas

None of the sample analyses reported in this data set gave internal standard areas greater than 200% or less than 50% of the area response of the corresponding continuing calibration verification. No data are qualified due to failed internal standard responses.

3.1.6 Surrogate Compound Recoveries

Three surrogate compounds, 4-bromofluorobenzene, toluene-d_8, and dibromofluoromethane were spiked into each soil field sample to monitor analyte recovery in the analytical system. The surrogates used by the laboratory are acceptable to measure recovery under EPA SW-846 guidance for this analytical method and in the 1999 National Functional Guidelines. Later versions of the NFG require different surrogates ("Deuterated

Monitoring Compounds") and hence are not applicable to SW-846 analyses. In this case it is the validator's professional judgement that the 1999 NFG provide the most appropriate guidance.

The only surrogates that recovered outside of the laboratory limits occurred when the sample was diluted. In this case the National Functional Guidelines state that surrogates that fail due to sample dilution do not require qualification. Based on this guidance, no data require qualification based upon surrogate recoveries.

Recoveries for all surrogates for all samples are presented in Table 3-4.

Table 3-4. Method 8260 Surrogate Compound Recovery Data Soil Samples

Lab Sample Number	*Field ID*	*Dilution*	*4-Bromofluoro-benzene*		*Dibromofluoro-methane*		*Toluene-d_8*	
		Limits:	58	141	68	130	68	149
40159629002	FT-SB40 (0-2)	1	94		119		117	
40159629003	FT-SB41 (2-3.2)	1	89		92		94	
40159629004	FT-SB42 (0-2)	1	92		114		108	
40159629005	FT-SB43 (0-2)	1	89		111		108	
40159629006	FT-SB44 (0-2)	1	83		111		109	
40159629007	FT-SB39 (0-2)	1	87		104		102	
40159629008	FT-SB46 (2-3.5)	1	87		112		106	
40159629009	FT-SB45 (2-4)	1	79		104		97	
40159629010	FT-SB48 (0-2)	1	81		103		100	
40159629011	FT-SB47 (2-4)	1	93		129		122	
40159629012	FT-SB47 (DUP)	1	91		116		115	
40159629013	TB102617	1	79		97		94	
40159629014	FT-SB49 (2-4)	1	79		102		98	
40159629015	CG-SB96 (2-4)	40	***0***	***S4***	***0***	***S4***	***0***	***S4***
40159629016	CG-SB103 (0-2)	1	88		111		112	
40160110004	CS-SB46(0-2)	1	77		83		80	
40160110005	CS-SB50(2-4)	1	83		82		83	
40160110006	CS-SB50(DUP)	1	97		96		96	
40160110007	CS-SB45(0-2)	1	90		96		96	
40160110008	CS-SB40(2-4)	1	87		93		94	
40160110009	CS-SB36(0-2)	1	83		95		92	
40160110010	CS-SB38(0-2)	5	70		77	D3	75	
40160110011	CG-SB84(2-4)	1	97		105		107	
40160110012	CG-SB65(2-4)	1	84		89		92	

Lab Sample Number	Field ID	Dilution	4-Bromofluoro-benzene		Dibromofluoro-methane		Toluene-d_8	
40160477001	CS-SB43 (2-4)	1	91		108		115	
40160477002	CG-SB74 (0-2)	1	80		91		102	
40160477003	CG-SB75 (2-4)	1	88		101		110	
40160477004	CG-SB69 (2-4)	1	83		97		100	

3.1.7 Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed for samples at appropriate frequencies. When viewed with the Laboratory Control Sample data discussed below, no data are qualified as a result of the MS/MSD recoveries. No data will be qualified based on matrix spike and matrix spike duplicates.

The MS/MSD results are summarized in Table 3-5.

Table 3-5. Method 8260 MS/MSD Soil Sample Recoveries

Sample ID	Parameter	Spike (µg/Kg)	MS Result (µg/Kg)	Rec (%)	Spike (µg/Kg)	MSD Result (µg/Kg)	Rec (%)	RPD	Lab Sample Result (µg/Kg)	Max RPD
FT-SB41 (2-3.2)	Benzene	1510	1420	93	1510	1410	92	1	25.0 UW	20
FT-SB42 (0-2)	Benzene	1310	1550	118	1310	1530	117	1	25.0 UW	20
FT-SB47 (2-4)	Benzene	1420	1560	110	1420	1650	116	5	25.0 UW	20

3.1.8 Laboratory Control Samples

Protocols for analyses under the 2016 NFG do not include requirements for a laboratory control sample (LCS). The need for a separate LCS is obviated with the incorporation of the numerous Deuterated Monitoring Compounds required in the 2016 protocols. However, incorporation of an LCS is relevant (and required) under SW-846 protocols and laboratory accreditation standards.

A laboratory control sample was prepared and analyzed on each day of analysis and for each analytical batch. No data are qualified due to failed LCS recoveries

The LCS results are summarized in Table 3-6.

Table 3-6. LCS Recoveries 8260 Soil Samples

QC Batch for EPA 8260	Parameter	Recovery Limits (%)		Spike (µg/Kg)	Result (µg/Kg)	Recovery
		Lower	Upper			
272547	Benzene	66	130	2500	2320	93
272556	Benzene	66	130	2500	2880	115
272708	Benzene	66	130	2500	2910	117
272978	Benzene	66	130	2500	2770	111
273180	Benzene	66	130	2500	2400	96
273185	Benzene	66	130	2500	2750	110
273765	Benzene	66	130	2500	2710	108
274432	Benzene	66	130	2500	2950	118

3.1.9 Field Duplicates

Field duplicates gave good agreement for all analytes with all RPD values <30%. Precision is only calculated where both the sample and the duplicate sample gave a positive result. Duplicate "NDs", however, are reported with 0% RPDs.

The National Functional Guidelines do not provide any guidance for qualifying data associated with field or sample duplicates for volatiles analyses. However, requirements that appear in the Multi-Site QAPP Addendum governing this project place a 30% limit on the RPD values where the results are greater than 2x the limit of quantitation. None of the results are outside the 30% RPD, therefore no data are qualified based on the field duplicate results.

The field duplicate results are given in Table 3-7.

Table 3-7. Method 8260 Field Duplicates Soil Samples

Parameter	Dup Sample ID	Sample ID	Result (µg/Kg)	Lab Flag	LOQ	RPD
Benzene	CS-SB50 (2-4)	CS-SB50(2-4)	296		78.5	
		CS-SB50(DUP)	283		66.8	4.5
	FT-SB47(2-4)	FT-SB47 (2-4)	25	UW	60.0	
		FT-SB47 (DUP)	25	UW	60.0	0.0

3.2 Method 8270C/SIM – PAHs

3.2.1 Summary

SW-846 Method 8270C/SIM employs gas chromatographic separation with mass spectroscopic identification using selected ion monitoring (SIM).

3.2.2 Method Blanks

The samples were prepared in multiple preparation batches. The method blanks showed no contamination above the detection limit. Hence, no 8270 SIM data are qualified as a consequence of the method blank data.

The method blanks results are summarized in Table 3-8.

Table 3-8. EPA 8270-SIM Method Blank Results Soil Samples

Parameter	*Units*	*QC Batch: 272920*	*QC Batch: 273106*	*QC Batch: 273894*	*QC Batch: 274568*	*QC Batch: 274786*
Acenaphthene	µg/Kg	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
Acenaphthylene	µg/Kg	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
Anthracene	µg/Kg	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U
Benzo(a)anthracene	µg/Kg	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U
Benzo(a)pyrene	µg/Kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Benzo(b)fluoranthene	µg/Kg	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U
Benzo(g,h,i)perylene	µg/Kg	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzo(k)fluoranthene	µg/Kg	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Chrysene	µg/Kg	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U
Dibenz(a,h)anthracene	µg/Kg	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
Fluoranthene	µg/Kg	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
Fluorene	µg/Kg	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
Indeno(1,2,3-cd)pyrene	µg/Kg	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
Naphthalene	µg/Kg	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U
Phenanthrene	µg/Kg	11.7 U	11.6 U	11.6 U	11.7 U	11.6 U
Pyrene	µg/Kg	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U

3.2.3 Calibration

Instrument tuning checks using decafluorotriphenylphosphine (DFTPP) were performed daily and every 12 hours as described in the methods. However, since this method employs selected ion monitoring, tuning using DFTPP has little value. Consequently, no data are qualified based upon DFTPP tuning criteria.

All initial calibration criteria were met for all compounds. All analytes fit first order linear regression curves and gave average response factors (RFs) with <15% RSD over the average. Therefore, average RFs were used for analyte quantitations. No data are qualified as a result of the initial calibration data.

The initial calibration verifications (ICV) reported with this data set gave percent differences less than the 30% limit defined in the National Functional Guidelines for calibration verification. Therefore, no results are qualified as a consequence of the initial calibration verifications.

All of the continuing calibration verification (CCV) checks for PAH analyses performed gave acceptable results (i.e., <25% D using the CLP National Functional Guidelines) for all of the target analytes. No data are qualified as a consequence of the continuing calibration data.

The peak shapes and chromatographic resolution for the isomers benzo(b)fluoranthene and benzo(k)fluoranthene evident in the sample chromatograms for the samples indicate that the two isomers are not adequately resolved to be quantitated separately as the laboratory attempted to do. Consequently all positive results for benzo(b)fluoranthene and benzo(k)fluoranthene in all samples for these two isomers are qualified as estimated ("J").

3.2.4 Internal Standard Areas

None of the sample analyses reported in this data set gave internal standard areas greater than 200% or less than 50% of the area response of the corresponding continuing calibration verification. No data are qualified due to failed internal standard responses.

3.2.5 Surrogate Compound Recoveries

The surrogates used by the laboratory are acceptable to measure recovery under EPA SW-846 guidance for this analytical method and in the 1999 National Functional Guidelines. Later versions of the NFG require different surrogates ("Deuterated Monitoring Compounds") and hence are not

applicable to SW-846 analyses. In this case it is the validator's professional judgement that the 1999 NFG provide the most appropriate guidance.

Two surrogates, 2-Fluorobiphenyl, and terphenyl-d_{14}, were spiked into each field sample to monitor method recovery. Given the focused nature of the compounds of concern (i.e., PAHs), the surrogates reported should be adequate to monitor recovery in the analyses.

The only surrogates that recovered outside of the laboratory limits occurred when the sample was diluted. In this case the National Functional Guidelines state that surrogates that fail due to sample dilution do not require qualification. Based on this guidance, no data require qualification based upon surrogate recoveries.

The surrogate recoveries for all samples are presented in Table 3-9.

Table 3-9. EPA 8270-SIM Surrogate Recoveries for Soil Samples

Lab Sample Number	***Field ID***	***Dilution***	***2-Fluorobiphenyl***		***Terphenyl-d_{14}***	
		Limits:	19	96	31	98
40159629002	FT-SB40 (0-2)	4	51		39	
40159629003	FT-SB41 (2-3.2)	4	55		41	
40159629004	FT-SB42 (0-2)	1	75		79	
40159629005	FT-SB43 (0-2)	5	66		67	
40159629006	FT-SB44 (0-2)	8	67		68	
40159629007	FT-SB39 (0-2)	1	76		76	
40159629008	FT-SB46 (2-3.5)	10	62		63	
40159629009	FT-SB45 (2-4)	1	80		90	
40159629010	FT-SB48 (0-2)	20	65		65	
40159629011	FT-SB47 (2-4)	1	81		92	
40159629012	FT-SB47 (DUP)	1	83		97	
40159629014	FT-SB49 (2-4)	80	***0***	***S4***	***0***	***S4***
40159629015	CG-SB96 (2-4)	500	***0***	***S4***	***0***	***S4***
40159629016	CG-SB103 (0-2)	5	52		51	
40160110004	CS-SB46(0-2)	8	63		63	
40160110005	CS-SB50(2-4)	80	***0***	***S4***	***0***	***S4***
40160110006	CS-SB50(DUP)	20	52		52	
40160110007	CS-SB45(0-2)	8	49		50	
40160110008	CS-SB40(2-4)	100	***0***	***S4***	***0***	***S4***
40160110009	CS-SB36(0-2)	200	***0***	***S4***	***0***	***S4***

Lab Sample Number	Field ID	Dilution	2-Fluorobiphenyl		Terphenyl-d_{14}	
40160110010	CS-SB38(0-2)	200	***0***	***S4***	***0***	***S4***
40160110011	CG-SB84(2-4)	8	46		45	
40160110012	CG-SB65(2-4)	8	70		70	
40160477001	CS-SB43 (2-4)	20	62		68	
40160477002	CG-SB74 (0-2)	20	58		65	
40160477003	CG-SB75 (2-4)	100	***0***	***S4***	***0***	***S4***
40160477004	CG-SB69 (2-4)	10	60		62	

3.2.6 Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were evaluated for each of the parameters at appropriate frequencies. No client matrix spikes were analyzed with this set of samples.

3.2.7 Laboratory Control Samples

Protocols for analyses under the 2016 NFG do not include requirements for a laboratory control sample (LCS). The need for a separate LCS is obviated with the incorporation of the numerous Deuterated Monitoring Compounds required in the 2016 protocols. However, incorporation of an LCS is relevant (and required) under SW-846 protocols and laboratory accreditation standards.

A laboratory control sample (LCS) was prepared and analyzed with each batch of samples. All of the target analytes for all of the laboratory control samples recovered within the limits used by the laboratory. Therefore, no data are qualified based upon the LCS recoveries.

The laboratory control sample results are given in Table 3-10.

Table 3-10. EPA 8270-SIM LCS Results Summary Soil Samples

Parameter	*Recovery Limits (%)*		*QC Batch: 272920*			*QC Batch: 273106*			*QC Batch: 273894*		
	Lower	**Upper**	**Spike (µg/Kg)**	**Result (µg/Kg)**	**Rec (%)**	**Spike (µg/Kg)**	**Result (µg/Kg)**	**Rec (%)**	**Spike (µg/Kg)**	**Result (µg/Kg)**	**Rec (%)**
Acenaphthene	52	97	333	270	81	334	267	80	333	239	72
Acenaphthylene	49	97	333	263	79	334	266	80	333	228	68
Anthracene	62	101	333	274	82	334	266	80	333	265	80
Benzo(a)anthracene	53	95	333	273	82	334	258	77	333	237	71
Benzo(a)pyrene	57	108	333	287	86	334	272	81	333	236	71
Benzo(b)fluoranthene	53	113	333	299	90	334	278	83	333	244	73
Benzo(g,h,i)perylene	43	114	333	280	84	334	228	68	333	176	53
Benzo(k)fluoranthene	66	116	333	265	80	334	276	83	333	223	67
Chrysene	64	109	333	285	86	334	265	80	333	248	75
Dibenz(a,h)anthracene	50	105	333	272	81	334	248	74	333	208	63
Fluoranthene	58	107	333	309	93	334	273	82	333	279	84
Fluorene	52	99	333	278	83	334	272	82	333	246	74
Indeno(1,2,3-cd)pyrene	51	113	333	280	84	334	249	75	333	209	63
Naphthalene	50	91	333	242	73	334	244	73	333	224	67
Phenanthrene	57	101	333	287	86	334	265	79	333	248	75
Pyrene	50	102	333	307	92	334	260	78	333	268	81

Table 3-10. EPA 8270-SIM LCS Results Summary Soil Samples (Cont. 1)

Parameter	*Recovery Limits (%)*		*QC Batch: 274568*			*QC Batch: 274786*		
	Lower	**Upper**	**Spike (µg/Kg)**	**Result (µg/Kg)**	**Recovery (%)**	**Spike (µg/Kg)**	**Result (µg/Kg)**	**Recovery (%)**
Acenaphthene	52	97	333	305	92	333	241	72
Acenaphthylene	49	97	333	299	90	333	229	69
Anthracene	62	101	333	307	92	333	272	82
Benzo(a)anthracene	53	95	333	286	86	333	238	72
Benzo(a)pyrene	57	108	333	298	90	333	242	73
Benzo(b)fluoranthene	53	113	333	301	91	333	214	64
Benzo(g,h,i)perylene	43	114	333	260	78	333	218	65
Benzo(k)fluoranthene	66	116	333	313	94	333	264	79
Chrysene	64	109	333	299	90	333	292	88
Dibenz(a,h)anthracene	50	105	333	276	83	333	205	61
Fluoranthene	58	107	333	295	89	333	283	85
Fluorene	52	99	333	303	91	333	238	72
Indeno(1,2,3-cd)pyrene	51	113	333	287	86	333	218	65
Naphthalene	50	91	333	279	84	333	215	64
Phenanthrene	57	101	333	298	89	333	237	71
Pyrene	50	102	333	295	89	333	268	80

3.2.8 Field Duplicates

Field duplicates generally show poor agreement for the analytes. Precision is only calculated where both the sample and the duplicate sample gave a positive result (NC=Not Calculated). Duplicate "NDs", however, are reported with 0% RPDs.

The National Functional Guidelines do not provide any guidance for qualifying data associated with field or sample duplicates for semivolatiles analyses. However, requirements that appear in the Multi-Site QAPP Addendum governing this project place a 30% limit on the RPD values where the results are greater than 2x the limit of quantitation. All of the RPDs which are greater than 30% and have results greater than 2x the limit of quantitation for the CS-SB50(2-4) duplicate pair. Therefore the parent and duplicate analytes for that duplicate pair will be qualified as estimated ("J"). All of the high RPDs for duplicate pair FT-SB47 (2-4) are less than 2x the limit of quantitation for the duplicate. Therefore this duplicate pair will not be qualified based on the field duplicate precision.

The field duplicate results are given in Table 3-11.

Table 3-11. EPA 8270-SIM Field Duplicate Soil Sample Results

Parameter	*Sample ID: CS-SB50(2-4)*			*Sample ID: CS-SB50(DUP)*			*RPD*
	Result (µg/Kg)	**Lab Flag**	**LOQ**	**Result (µg/Kg)**	**Lab Flag**	**LOQ**	
Acenaphthene	541	J	1130	417		285	25.9
Acenaphthylene	1900		967	901		243	***71.3***
Anthracene	3460		1670	1830		419	***61.6***
Benzo(a)anthracene	5730		932	3100		234	***59.6***
Benzo(a)pyrene	4260		736	2490		185	***52.4***
Benzo(b)fluoranthene	4110		828	2320		208	***55.7***
Benzo(g,h,i)perylene	1730		595	1160		149	***39.4***
Benzo(k)fluoranthene	3620		735	2260		184	***46.3***
Chrysene	5950		985	3380		247	***55.1***
Dibenz(a,h)anthracene	700		655	474		164	***38.5***
Fluoranthene	16800		1530	9250		384	***58.0***
Fluorene	3690		1210	2260		305	***48.1***
Indeno(1,2,3-cd)pyrene	1850		645	1210		162	***41.8***
Naphthalene	7220		2470	5870		620	20.6
Phenanthrene	11800		3410	6950		856	***51.7***
Pyrene	11000		1320	6260		331	***54.9***

Table 3-11. EPA 8270-SIM Field Duplicate Soil Sample Results (Cont. 1)

Parameter	*Sample ID: FT-SB47 (2-4)*			*Sample ID: FT-SB47 (DUP)*			*RPD*
	Result (µg/Kg)	**Lab Flag**	**LOQ**	**Result (µg/Kg)**	**Lab Flag**	**LOQ**	
Acenaphthene	13.5	J	14.8	4.4	U	14.7	NC
Acenaphthylene	4.3	J	12.6	3.8	U	12.5	NC
Anthracene	48.9		21.7	7.3	J	21.7	***148.0***
Benzo(a)anthracene	99.2		12.1	20.9		12.1	***130.4***
Benzo(a)pyrene	97.3		9.6	19.4		9.5	***133.5***
Benzo(b)fluoranthene	81.3		10.8	15.9		10.7	***134.6***
Benzo(g,h,i)perylene	66.4		7.7	14.8		7.7	***127.1***
Benzo(k)fluoranthene	74.3		9.6	16.0		9.5	***129.1***
Chrysene	106		12.8	23.3		12.8	***127.9***
Dibenz(a,h)anthracene	19.2		8.5	4.7	J	8.5	***121.3***
Fluoranthene	247		19.9	34.2		19.8	***151.4***
Fluorene	13.4	J	15.8	4.7	U	15.7	NC
Indeno(1,2,3-cd)pyrene	57.3		8.4	11.9		8.4	***131.2***
Naphthalene	89.2		32.2	49.4		32.0	***57.4***
Phenanthrene	223		44.4	66.8		44.2	***107.8***
Pyrene	224		17.2	35.7		17.1	***145.0***

Attachment E

Laboratory Analytical Reports and Validation Reports– Groundwater

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

November 30, 2017

Andrew Cawrse
Natural Resource Technology
234 W Florida St
Milwaukee, WI 53204

RE: Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

Dear Andrew Cawrse:
Enclosed are the analytical results for sample(s) received by the laboratory on November 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: NRT Data, Natural Resource Technologies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY
Jay Karls, Natural Resource Technology
Robert Paulson, We Energies

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512
ISO/IEC 17025:2005, Certificate #AT-1542.01
DoD-ELAP, Certificate #ADE-1542
Minnesota Department of Health, Certificate #1177224
Arkansas Department of Environmental Quality, Certificate #17-046-0
Georgia Environmental Protection Division, Stipulation
Illinois Environmental Protection Agency, Certificate #004097
Michigan Department of Environmental Quality, Laboratory #0034
New York State Department of Health, Serial #56192 and 56193
North Carolina Division of Water Resources, Certificate #659
Virginia Department of General Services, Certificate #9028
Wisconsin Department of Natural Resources, Laboratory #999472650
U.S. Department of Agriculture Permit to Receive Soil, Permit #P330-14-00305

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40160708001	**111017001**	Water	11/10/17 10:24	11/14/17 07:30
40160708002	**111017002**	Water	11/10/17 10:30	11/14/17 07:30
40160708003	**111017003**	Water	11/10/17 11:40	11/14/17 07:30
40160708004	**111017004**	Water	11/10/17 12:40	11/14/17 07:30
40160708005	**111017005**	Water	11/10/17 14:05	11/14/17 07:30
40160708006	**111017006**	Water	11/10/17 15:45	11/14/17 07:30
40160708007	**111017007**	Water	11/10/17 16:00	11/14/17 07:30

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SAMPLE ANALYTE COUNT

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40160708001	**111017001**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160708002	**111017002**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160708003	**111017003**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160708004	**111017004**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160708005	**111017005**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160708006	**111017006**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160708007	**111017007**	EPA 8260	LAP	5	PASI-G

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

Sample: 111017001 **Lab ID: 40160708001** Collected: 11/10/17 10:24 Received: 11/14/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**2.4**	ug/L	1.0	0.28	1	11/20/17 09:32	11/30/17 00:01	7440-38-2	
Iron	**41400**	ug/L	368	111	1	11/20/17 09:32	11/29/17 06:28	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.14**	ug/L	0.028	0.0056	1	11/14/17 10:27	11/15/17 17:07	83-32-9	
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	11/14/17 10:27	11/15/17 17:07	208-96-8	
Anthracene	**<0.0097**	ug/L	0.048	0.0097	1	11/14/17 10:27	11/15/17 17:07	120-12-7	
Benzo(a)anthracene	**<0.0070**	ug/L	0.035	0.0070	1	11/14/17 10:27	11/15/17 17:07	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/14/17 10:27	11/15/17 17:07	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.027	0.0053	1	11/14/17 10:27	11/15/17 17:07	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.031	0.0063	1	11/14/17 10:27	11/15/17 17:07	191-24-2	
Benzo(k)fluoranthene	**<0.0070**	ug/L	0.035	0.0070	1	11/14/17 10:27	11/15/17 17:07	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	11/14/17 10:27	11/15/17 17:07	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	11/14/17 10:27	11/15/17 17:07	53-70-3	
Fluoranthene	**0.023J**	ug/L	0.049	0.0099	1	11/14/17 10:27	11/15/17 17:07	206-44-0	
Fluorene	**0.016J**	ug/L	0.037	0.0074	1	11/14/17 10:27	11/15/17 17:07	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/14/17 10:27	11/15/17 17:07	193-39-5	
1-Methylnaphthalene	**0.013J**	ug/L	0.027	0.0055	1	11/14/17 10:27	11/15/17 17:07	90-12-0	
2-Methylnaphthalene	**0.0077J**	ug/L	0.023	0.0045	1	11/14/17 10:27	11/15/17 17:07	91-57-6	
Naphthalene	**<0.017**	ug/L	0.085	0.017	1	11/14/17 10:27	11/15/17 17:07	91-20-3	
Phenanthrene	**0.060J**	ug/L	0.064	0.013	1	11/14/17 10:27	11/15/17 17:07	85-01-8	
Pyrene	**0.019J**	ug/L	0.035	0.0071	1	11/14/17 10:27	11/15/17 17:07	129-00-0	
Total PAHs	**0.31**	ug/L			1	11/14/17 10:27	11/15/17 17:07		
Surrogates									
2-Fluorobiphenyl (S)	45	%	35-84		1	11/14/17 10:27	11/15/17 17:07	321-60-8	
Terphenyl-d14 (S)	56	%	10-129		1	11/14/17 10:27	11/15/17 17:07	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/16/17 20:04	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/16/17 20:04	100-41-4	
Surrogates									
Dibromofluoromethane (S)	97	%	67-130		1		11/16/17 20:04	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		11/16/17 20:04	2037-26-5	
4-Bromofluorobenzene (S)	94	%	61-130		1		11/16/17 20:04	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.8J**	ug/L	10.0	1.6	5		11/17/17 14:07		D3

Sample: 111017002 **Lab ID: 40160708002** Collected: 11/10/17 10:30 Received: 11/14/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**2.4**	ug/L	1.0	0.28	1	11/20/17 09:32	11/30/17 00:08	7440-38-2	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

Sample: 111017002 **Lab ID: 40160708002** Collected: 11/10/17 10:30 Received: 11/14/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Iron	**41300**	ug/L	368	111	1	11/20/17 09:32	11/29/17 06:35	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.15**	ug/L	0.028	0.0056	1	11/14/17 10:27	11/15/17 17:26	83-32-9	
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	11/14/17 10:27	11/15/17 17:26	208-96-8	
Anthracene	**<0.0097**	ug/L	0.048	0.0097	1	11/14/17 10:27	11/15/17 17:26	120-12-7	
Benzo(a)anthracene	**<0.0070**	ug/L	0.035	0.0070	1	11/14/17 10:27	11/15/17 17:26	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/14/17 10:27	11/15/17 17:26	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.027	0.0053	1	11/14/17 10:27	11/15/17 17:26	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.031	0.0063	1	11/14/17 10:27	11/15/17 17:26	191-24-2	
Benzo(k)fluoranthene	**<0.0070**	ug/L	0.035	0.0070	1	11/14/17 10:27	11/15/17 17:26	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	11/14/17 10:27	11/15/17 17:26	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	11/14/17 10:27	11/15/17 17:26	53-70-3	
Fluoranthene	**0.019J**	ug/L	0.049	0.0099	1	11/14/17 10:27	11/15/17 17:26	206-44-0	
Fluorene	**0.013J**	ug/L	0.037	0.0074	1	11/14/17 10:27	11/15/17 17:26	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/14/17 10:27	11/15/17 17:26	193-39-5	
1-Methylnaphthalene	**0.013J**	ug/L	0.027	0.0055	1	11/14/17 10:27	11/15/17 17:26	90-12-0	
2-Methylnaphthalene	**0.0076J**	ug/L	0.023	0.0045	1	11/14/17 10:27	11/15/17 17:26	91-57-6	
Naphthalene	**<0.017**	ug/L	0.085	0.017	1	11/14/17 10:27	11/15/17 17:26	91-20-3	
Phenanthrene	**0.066**	ug/L	0.064	0.013	1	11/14/17 10:27	11/15/17 17:26	85-01-8	
Pyrene	**0.017J**	ug/L	0.035	0.0071	1	11/14/17 10:27	11/15/17 17:26	129-00-0	
Total PAHs	**0.31**	ug/L			1	11/14/17 10:27	11/15/17 17:26		
Surrogates									
2-Fluorobiphenyl (S)	47	%	35-84		1	11/14/17 10:27	11/15/17 17:26	321-60-8	
Terphenyl-d14 (S)	64	%	10-129		1	11/14/17 10:27	11/15/17 17:26	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/16/17 11:33	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/16/17 11:33	100-41-4	
Surrogates									
Dibromofluoromethane (S)	105	%	67-130		1		11/16/17 11:33	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		11/16/17 11:33	2037-26-5	
4-Bromofluorobenzene (S)	89	%	61-130		1		11/16/17 11:33	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**2.4J**	ug/L	10.0	1.6	5		11/17/17 14:10		D3

Sample: 111017003 **Lab ID: 40160708003** Collected: 11/10/17 11:40 Received: 11/14/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.28J**	ug/L	1.0	0.28	1	11/20/17 09:32	11/30/17 00:14	7440-38-2	
Iron	**125J**	ug/L	368	111	1	11/20/17 09:32	11/29/17 06:42	7439-89-6	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

Sample: 111017003 **Lab ID: 40160708003** Collected: 11/10/17 11:40 Received: 11/14/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**2.0**	ug/L	0.028	0.0056	1	11/14/17 10:27	11/15/17 17:44	83-32-9	
Acenaphthylene	**0.015J**	ug/L	0.023	0.0046	1	11/14/17 10:27	11/15/17 17:44	208-96-8	
Anthracene	**0.014J**	ug/L	0.048	0.0097	1	11/14/17 10:27	11/15/17 17:44	120-12-7	
Benzo(a)anthracene	**<0.0070**	ug/L	0.035	0.0070	1	11/14/17 10:27	11/15/17 17:44	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/14/17 10:27	11/15/17 17:44	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.027	0.0053	1	11/14/17 10:27	11/15/17 17:44	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.031	0.0063	1	11/14/17 10:27	11/15/17 17:44	191-24-2	
Benzo(k)fluoranthene	**<0.0070**	ug/L	0.035	0.0070	1	11/14/17 10:27	11/15/17 17:44	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	11/14/17 10:27	11/15/17 17:44	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	11/14/17 10:27	11/15/17 17:44	53-70-3	
Fluoranthene	**<0.0099**	ug/L	0.049	0.0099	1	11/14/17 10:27	11/15/17 17:44	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/14/17 10:27	11/15/17 17:44	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/14/17 10:27	11/15/17 17:44	193-39-5	
1-Methylnaphthalene	**0.014J**	ug/L	0.027	0.0055	1	11/14/17 10:27	11/15/17 17:44	90-12-0	
2-Methylnaphthalene	**0.0070J**	ug/L	0.023	0.0045	1	11/14/17 10:27	11/15/17 17:44	91-57-6	
Naphthalene	**0.036J**	ug/L	0.085	0.017	1	11/14/17 10:27	11/15/17 17:44	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	11/14/17 10:27	11/15/17 17:44	85-01-8	
Pyrene	**0.0096J**	ug/L	0.035	0.0071	1	11/14/17 10:27	11/15/17 17:44	129-00-0	
Total PAHs	**2.2**	ug/L			1	11/14/17 10:27	11/15/17 17:44		
Surrogates									
2-Fluorobiphenyl (S)	51	%	35-84		1	11/14/17 10:27	11/15/17 17:44	321-60-8	
Terphenyl-d14 (S)	69	%	10-129		1	11/14/17 10:27	11/15/17 17:44	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/16/17 20:27	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/16/17 20:27	100-41-4	
Surrogates									
Dibromofluoromethane (S)	96	%	67-130		1		11/16/17 20:27	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		11/16/17 20:27	2037-26-5	
4-Bromofluorobenzene (S)	91	%	61-130		1		11/16/17 20:27	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.6J**	ug/L	2.0	0.33	1		11/17/17 13:50		

Sample: 111017004 **Lab ID: 40160708004** Collected: 11/10/17 12:40 Received: 11/14/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.46J**	ug/L	1.0	0.28	1	11/20/17 09:32	11/30/17 00:21	7440-38-2	
Iron	**3770**	ug/L	368	111	1	11/20/17 09:32	11/29/17 06:49	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**27.6**	ug/L	1.4	0.28	50	11/14/17 10:27	11/15/17 18:58	83-32-9	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

Sample: 111017004 **Lab ID: 40160708004** Collected: 11/10/17 12:40 Received: 11/14/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthylene	**0.25J**	ug/L	1.2	0.23	50	11/14/17 10:27	11/15/17 18:58	208-96-8	
Anthracene	**<0.48**	ug/L	2.4	0.48	50	11/14/17 10:27	11/15/17 18:58	120-12-7	
Benzo(a)anthracene	**<0.35**	ug/L	1.7	0.35	50	11/14/17 10:27	11/15/17 18:58	56-55-3	
Benzo(a)pyrene	**<0.49**	ug/L	2.4	0.49	50	11/14/17 10:27	11/15/17 18:58	50-32-8	
Benzo(b)fluoranthene	**<0.27**	ug/L	1.3	0.27	50	11/14/17 10:27	11/15/17 18:58	205-99-2	
Benzo(g,h,i)perylene	**<0.31**	ug/L	1.6	0.31	50	11/14/17 10:27	11/15/17 18:58	191-24-2	
Benzo(k)fluoranthene	**<0.35**	ug/L	1.7	0.35	50	11/14/17 10:27	11/15/17 18:58	207-08-9	
Chrysene	**<0.60**	ug/L	3.0	0.60	50	11/14/17 10:27	11/15/17 18:58	218-01-9	
Dibenz(a,h)anthracene	**<0.46**	ug/L	2.3	0.46	50	11/14/17 10:27	11/15/17 18:58	53-70-3	
Fluoranthene	**<0.49**	ug/L	2.5	0.49	50	11/14/17 10:27	11/15/17 18:58	206-44-0	
Fluorene	**6.9**	ug/L	1.8	0.37	50	11/14/17 10:27	11/15/17 18:58	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.82**	ug/L	4.1	0.82	50	11/14/17 10:27	11/15/17 18:58	193-39-5	
1-Methylnaphthalene	**25.1**	ug/L	1.4	0.27	50	11/14/17 10:27	11/15/17 18:58	90-12-0	
2-Methylnaphthalene	**<0.23**	ug/L	1.1	0.23	50	11/14/17 10:27	11/15/17 18:58	91-57-6	
Naphthalene	**330**	ug/L	4.2	0.85	50	11/14/17 10:27	11/15/17 18:58	91-20-3	
Phenanthrene	**2.6J**	ug/L	3.2	0.64	50	11/14/17 10:27	11/15/17 18:58	85-01-8	
Pyrene	**<0.35**	ug/L	1.8	0.35	50	11/14/17 10:27	11/15/17 18:58	129-00-0	
Total PAHs	**393**	ug/L			50	11/14/17 10:27	11/15/17 18:58		
Surrogates									
2-Fluorobiphenyl (S)	43	%	35-84		50	11/14/17 10:27	11/15/17 18:58	321-60-8	
Terphenyl-d14 (S)	52	%	10-129		50	11/14/17 10:27	11/15/17 18:58	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**72.4**	ug/L	10.0	5.0	10		11/16/17 11:55	71-43-2	
Ethylbenzene	**10.4**	ug/L	10.0	5.0	10		11/16/17 11:55	100-41-4	
Surrogates									
Dibromofluoromethane (S)	94	%	67-130		10		11/16/17 11:55	1868-53-7	
Toluene-d8 (S)	99	%	70-130		10		11/16/17 11:55	2037-26-5	
4-Bromofluorobenzene (S)	92	%	61-130		10		11/16/17 11:55	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.2J**	ug/L	2.0	0.33	1		11/17/17 13:53		

Sample: 111017005 **Lab ID: 40160708005** Collected: 11/10/17 14:05 Received: 11/14/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.66J**	ug/L	1.0	0.28	1	11/20/17 09:32	11/30/17 00:28	7440-38-2	
Iron	**23900**	ug/L	368	111	1	11/20/17 09:32	11/29/17 07:09	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.24**	ug/L	0.029	0.0057	1	11/14/17 10:27	11/15/17 18:02	83-32-9	
Acenaphthylene	**0.0060J**	ug/L	0.023	0.0047	1	11/14/17 10:27	11/15/17 18:02	208-96-8	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

Sample: 111017005 **Lab ID: 40160708005** Collected: 11/10/17 14:05 Received: 11/14/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Anthracene	**<0.0099**	ug/L	0.049	0.0099	1	11/14/17 10:27	11/15/17 18:02	120-12-7	
Benzo(a)anthracene	**<0.0071**	ug/L	0.036	0.0071	1	11/14/17 10:27	11/15/17 18:02	56-55-3	
Benzo(a)pyrene	**<0.0099**	ug/L	0.050	0.0099	1	11/14/17 10:27	11/15/17 18:02	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	11/14/17 10:27	11/15/17 18:02	205-99-2	
Benzo(g,h,i)perylene	**<0.0064**	ug/L	0.032	0.0064	1	11/14/17 10:27	11/15/17 18:02	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.036	0.0071	1	11/14/17 10:27	11/15/17 18:02	207-08-9	
Chrysene	**<0.012**	ug/L	0.062	0.012	1	11/14/17 10:27	11/15/17 18:02	218-01-9	
Dibenz(a,h)anthracene	**<0.0095**	ug/L	0.047	0.0095	1	11/14/17 10:27	11/15/17 18:02	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	11/14/17 10:27	11/15/17 18:02	206-44-0	
Fluorene	**0.026J**	ug/L	0.038	0.0075	1	11/14/17 10:27	11/15/17 18:02	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.083	0.017	1	11/14/17 10:27	11/15/17 18:02	193-39-5	
1-Methylnaphthalene	**0.29**	ug/L	0.028	0.0056	1	11/14/17 10:27	11/15/17 18:02	90-12-0	
2-Methylnaphthalene	**0.011J**	ug/L	0.023	0.0046	1	11/14/17 10:27	11/15/17 18:02	91-57-6	
Naphthalene	**0.059J**	ug/L	0.086	0.017	1	11/14/17 10:27	11/15/17 18:02	91-20-3	
Phenanthrene	**0.020J**	ug/L	0.065	0.013	1	11/14/17 10:27	11/15/17 18:02	85-01-8	
Pyrene	**0.0080J**	ug/L	0.036	0.0072	1	11/14/17 10:27	11/15/17 18:02	129-00-0	
Total PAHs	**0.67**	ug/L			1	11/14/17 10:27	11/15/17 18:02		
Surrogates									
2-Fluorobiphenyl (S)	48	%	35-84		1	11/14/17 10:27	11/15/17 18:02	321-60-8	
Terphenyl-d14 (S)	61	%	10-129		1	11/14/17 10:27	11/15/17 18:02	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 07:32	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 07:32	100-41-4	
Surrogates									
Dibromofluoromethane (S)	102	%	67-130		1		11/17/17 07:32	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		11/17/17 07:32	2037-26-5	
4-Bromofluorobenzene (S)	98	%	61-130		1		11/17/17 07:32	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.7J**	ug/L	10.0	1.6	5		11/17/17 14:12		D3

Sample: 111017006 **Lab ID: 40160708006** Collected: 11/10/17 15:45 Received: 11/14/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.76J**	ug/L	1.0	0.28	1	11/20/17 09:32	11/30/17 00:35	7440-38-2	
Iron	**764**	ug/L	368	111	1	11/20/17 09:32	11/29/17 07:16	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0056**	ug/L	0.028	0.0056	1	11/14/17 10:27	11/15/17 18:21	83-32-9	
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	11/14/17 10:27	11/15/17 18:21	208-96-8	
Anthracene	**<0.0097**	ug/L	0.048	0.0097	1	11/14/17 10:27	11/15/17 18:21	120-12-7	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

Sample: 111017006 **Lab ID: 40160708006** Collected: 11/10/17 15:45 Received: 11/14/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Benzo(a)anthracene	**<0.0070**	ug/L	0.035	0.0070	1	11/14/17 10:27	11/15/17 18:21	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/14/17 10:27	11/15/17 18:21	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.027	0.0053	1	11/14/17 10:27	11/15/17 18:21	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.031	0.0063	1	11/14/17 10:27	11/15/17 18:21	191-24-2	
Benzo(k)fluoranthene	**<0.0070**	ug/L	0.035	0.0070	1	11/14/17 10:27	11/15/17 18:21	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	11/14/17 10:27	11/15/17 18:21	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	11/14/17 10:27	11/15/17 18:21	53-70-3	
Fluoranthene	**<0.0099**	ug/L	0.049	0.0099	1	11/14/17 10:27	11/15/17 18:21	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/14/17 10:27	11/15/17 18:21	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/14/17 10:27	11/15/17 18:21	193-39-5	
1-Methylnaphthalene	**<0.0055**	ug/L	0.027	0.0055	1	11/14/17 10:27	11/15/17 18:21	90-12-0	
2-Methylnaphthalene	**<0.0045**	ug/L	0.023	0.0045	1	11/14/17 10:27	11/15/17 18:21	91-57-6	
Naphthalene	**0.017J**	ug/L	0.085	0.017	1	11/14/17 10:27	11/15/17 18:21	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	11/14/17 10:27	11/15/17 18:21	85-01-8	
Pyrene	**<0.0071**	ug/L	0.035	0.0071	1	11/14/17 10:27	11/15/17 18:21	129-00-0	
Total PAHs	**0.053**	ug/L			1	11/14/17 10:27	11/15/17 18:21		
Surrogates									
2-Fluorobiphenyl (S)	45	%	35-84		1	11/14/17 10:27	11/15/17 18:21	321-60-8	
Terphenyl-d14 (S)	57	%	10-129		1	11/14/17 10:27	11/15/17 18:21	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/16/17 16:03	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/16/17 16:03	100-41-4	
Surrogates									
Dibromofluoromethane (S)	96	%	67-130		1		11/16/17 16:03	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		11/16/17 16:03	2037-26-5	
4-Bromofluorobenzene (S)	91	%	61-130		1		11/16/17 16:03	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**<0.66**	ug/L	4.0	0.66	2		11/17/17 14:14		D3

Sample: 111017007 **Lab ID: 40160708007** Collected: 11/10/17 16:00 Received: 11/14/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/16/17 21:12	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/16/17 21:12	100-41-4	
Surrogates									
Dibromofluoromethane (S)	97	%	67-130		1		11/16/17 21:12	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		11/16/17 21:12	2037-26-5	
4-Bromofluorobenzene (S)	96	%	61-130		1		11/16/17 21:12	460-00-4	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

QC Batch: 274789 | Analysis Method: EPA 6020
QC Batch Method: EPA 3010 | Analysis Description: 6020 MET
Associated Lab Samples: 40160708001, 40160708002, 40160708003, 40160708004, 40160708005, 40160708006

METHOD BLANK: 1616980 | Matrix: Water
Associated Lab Samples: 40160708001, 40160708002, 40160708003, 40160708004, 40160708005, 40160708006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<0.28	1.0	11/29/17 22:26	
Iron	ug/L	<111	368	11/29/17 04:26	

LABORATORY CONTROL SAMPLE: 1616981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	479	96	80-120	
Iron	ug/L	5000	4590	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616982 1616983

Parameter	Units	40160915002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	0.43J	500	500	498	500	99	100	75-125	0	20	
Iron	ug/L	18200	5000	5000	22400	22600	85	87	75-125	1	20	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

QC Batch: 274080 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40160708001, 40160708002, 40160708003, 40160708004, 40160708005, 40160708006, 40160708007

METHOD BLANK: 1612960 | Matrix: Water
Associated Lab Samples: 40160708001, 40160708002, 40160708003, 40160708004, 40160708005, 40160708006, 40160708007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	11/16/17 07:20	
Ethylbenzene	ug/L	<0.50	1.0	11/16/17 07:20	
4-Bromofluorobenzene (S)	%	88	61-130	11/16/17 07:20	
Dibromofluoromethane (S)	%	95	67-130	11/16/17 07:20	
Toluene-d8 (S)	%	98	70-130	11/16/17 07:20	

LABORATORY CONTROL SAMPLE: 1612961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	49.6	47.4	95	73-145	
Ethylbenzene	ug/L	49.6	53.6	108	87-129	
4-Bromofluorobenzene (S)	%			100	61-130	
Dibromofluoromethane (S)	%			89	67-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1614175 1614176

Parameter	Units	40160708002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	50	50	48.5	47.6	97	95	73-145	2	20	
Ethylbenzene	ug/L	<0.50	50	50	52.5	52.1	105	104	87-129	1	20	
4-Bromofluorobenzene (S)	%						96	102	61-130			
Dibromofluoromethane (S)	%						96	92	67-130			
Toluene-d8 (S)	%						97	100	70-130			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

QC Batch: 274061 | Analysis Method: EPA 8270 by HVI
QC Batch Method: EPA 3510 | Analysis Description: 8270 Water PAH by HVI
Associated Lab Samples: 40160708001, 40160708002, 40160708003, 40160708004, 40160708005, 40160708006

METHOD BLANK: 1612882 | Matrix: Water
Associated Lab Samples: 40160708001, 40160708002, 40160708003, 40160708004, 40160708005, 40160708006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	<0.0059	0.030	11/15/17 10:03	
2-Methylnaphthalene	ug/L	<0.0049	0.024	11/15/17 10:03	
Acenaphthene	ug/L	<0.0061	0.030	11/15/17 10:03	
Acenaphthylene	ug/L	<0.0050	0.025	11/15/17 10:03	
Anthracene	ug/L	<0.010	0.052	11/15/17 10:03	
Benzo(a)anthracene	ug/L	<0.0076	0.038	11/15/17 10:03	
Benzo(a)pyrene	ug/L	<0.011	0.053	11/15/17 10:03	
Benzo(b)fluoranthene	ug/L	<0.0057	0.029	11/15/17 10:03	
Benzo(g,h,i)perylene	ug/L	<0.0068	0.034	11/15/17 10:03	
Benzo(k)fluoranthene	ug/L	<0.0076	0.038	11/15/17 10:03	
Chrysene	ug/L	<0.013	0.065	11/15/17 10:03	
Dibenz(a,h)anthracene	ug/L	<0.010	0.050	11/15/17 10:03	
Fluoranthene	ug/L	<0.011	0.053	11/15/17 10:03	
Fluorene	ug/L	<0.0080	0.040	11/15/17 10:03	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	0.088	11/15/17 10:03	
Naphthalene	ug/L	<0.018	0.092	11/15/17 10:03	
Phenanthrene	ug/L	<0.014	0.069	11/15/17 10:03	
Pyrene	ug/L	<0.0076	0.038	11/15/17 10:03	
Total PAHs	ug/L	0.0057		11/15/17 10:03	
2-Fluorobiphenyl (S)	%	56	35-84	11/15/17 10:03	
Terphenyl-d14 (S)	%	71	10-129	11/15/17 10:03	

LABORATORY CONTROL SAMPLE: 1612883

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	2	1.4	68	39-83	
2-Methylnaphthalene	ug/L	2	1.3	66	38-86	
Acenaphthene	ug/L	2	1.2	62	35-85	
Acenaphthylene	ug/L	2	1.3	64	31-88	
Anthracene	ug/L	2	1.4	72	47-104	
Benzo(a)anthracene	ug/L	2	1.3	67	36-105	
Benzo(a)pyrene	ug/L	2	1.5	73	69-117	
Benzo(b)fluoranthene	ug/L	2	1.4	71	54-107	
Benzo(g,h,i)perylene	ug/L	2	0.97	48	13-86	
Benzo(k)fluoranthene	ug/L	2	1.4	72	63-128	
Chrysene	ug/L	2	1.7	86	69-150	
Dibenz(a,h)anthracene	ug/L	2	0.88	44	10-87	
Fluoranthene	ug/L	2	1.6	79	57-103	
Fluorene	ug/L	2	1.3	67	38-85	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.5	73	40-111	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

LABORATORY CONTROL SAMPLE: 1612883

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	2	1.1	56	39-82	
Phenanthrene	ug/L	2	1.4	70	46-96	
Pyrene	ug/L	2	1.6	79	57-110	
Total PAHs	ug/L		24.3			
2-Fluorobiphenyl (S)	%			57	35-84	
Terphenyl-d14 (S)	%			72	10-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1612884 1612885

Parameter	Units	40160686004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/L	0.029J	2	2	1.1	1.3	56	64	27-86	13	29	
2-Methylnaphthalene	ug/L	0.024J	2	2	1.1	1.3	56	63	30-86	12	35	
Acenaphthene	ug/L	0.014J	2	2	1.0	1.1	51	57	28-85	10	29	
Acenaphthylene	ug/L	<0.0050	2	2	1.0	1.2	51	58	27-88	12	29	
Anthracene	ug/L	<0.010	2	2	1.3	1.2	64	62	38-104	3	35	
Benzo(a)anthracene	ug/L	<0.0076	2	2	0.84	0.93	42	46	10-105	10	28	
Benzo(a)pyrene	ug/L	<0.011	2	2	0.64	0.73	32	36	10-130	13	26	
Benzo(b)fluoranthene	ug/L	<0.0057	2	2	0.65	0.70	32	35	10-115	7	25	
Benzo(g,h,i)perylene	ug/L	<0.0068	2	2	0.45	0.51	23	26	10-87	12	42	
Benzo(k)fluoranthene	ug/L	<0.0076	2	2	0.64	0.76	32	38	10-133	16	25	
Chrysene	ug/L	<0.013	2	2	1.2	1.2	57	62	17-150	7	24	
Dibenz(a,h)anthracene	ug/L	<0.010	2	2	0.41	0.45	20	22	10-89	9	49	
Fluoranthene	ug/L	0.017J	2	2	1.2	1.3	62	66	41-103	7	32	
Fluorene	ug/L	0.013J	2	2	1.1	1.2	55	60	32-85	9	28	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	2	2	0.42	0.46	21	23	10-111	10	37	
Naphthalene	ug/L	0.040J	2	2	1.0	1.2	49	56	23-88	13	28	
Phenanthrene	ug/L	0.041J	2	2	1.2	1.3	58	61	33-96	6	25	
Pyrene	ug/L	0.011J	2	2	1.2	1.4	62	68	38-110	9	28	
Total PAHs	ug/L	0.21			16.6	18.2				9		
2-Fluorobiphenyl (S)	%						48	53	35-84			
Terphenyl-d14 (S)	%						46	50	10-129			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

QC Batch: 9412 | Analysis Method: OIA1677
QC Batch Method: OIA1677 | Analysis Description: OIA1677 Cyanide, Available
Associated Lab Samples: 40160708001, 40160708002, 40160708003

METHOD BLANK: 38317 | Matrix: Water
Associated Lab Samples: 40160708001, 40160708002, 40160708003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Available Cyanide	ug/L	<0.33	2.0	11/17/17 12:08	

LABORATORY CONTROL SAMPLE: 38318

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Available Cyanide	ug/L	20	19.0	95	82-132	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38319 38320

Parameter	Units	464218001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Available Cyanide	ug/L	<2.0	20	20	25.9	28.8	119	134	82-130	11	11	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

QC Batch: 9413 | Analysis Method: OIA1677
QC Batch Method: OIA1677 | Analysis Description: OIA1677 Cyanide, Available
Associated Lab Samples: 40160708004, 40160708005, 40160708006

METHOD BLANK: 38330 | Matrix: Water
Associated Lab Samples: 40160708004, 40160708005, 40160708006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Available Cyanide	ug/L	<0.33	2.0	11/17/17 13:51	

LABORATORY CONTROL SAMPLE: 38331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Available Cyanide	ug/L	20	21.3	107	82-132	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38332 38333

Parameter	Units	464582010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Available Cyanide	ug/L	<5.0	20	20	19.7	20.4	96	100	82-130	4	11	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay
PASI-GRMI	Pace Analytical - Grand Rapids

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2133 SOLVAY COKE
Pace Project No.: 40160708

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40160708001	**111017001**	EPA 3010	274789	EPA 6020	274895
40160708002	**111017002**	EPA 3010	274789	EPA 6020	274895
40160708003	**111017003**	EPA 3010	274789	EPA 6020	274895
40160708004	**111017004**	EPA 3010	274789	EPA 6020	274895
40160708005	**111017005**	EPA 3010	274789	EPA 6020	274895
40160708006	**111017006**	EPA 3010	274789	EPA 6020	274895
40160708001	**111017001**	EPA 3510	274061	EPA 8270 by HVI	274165
40160708002	**111017002**	EPA 3510	274061	EPA 8270 by HVI	274165
40160708003	**111017003**	EPA 3510	274061	EPA 8270 by HVI	274165
40160708004	**111017004**	EPA 3510	274061	EPA 8270 by HVI	274165
40160708005	**111017005**	EPA 3510	274061	EPA 8270 by HVI	274165
40160708006	**111017006**	EPA 3510	274061	EPA 8270 by HVI	274165
40160708001	**111017001**	EPA 8260	274080		
40160708002	**111017002**	EPA 8260	274080		
40160708003	**111017003**	EPA 8260	274080		
40160708004	**111017004**	EPA 8260	274080		
40160708005	**111017005**	EPA 8260	274080		
40160708006	**111017006**	EPA 8260	274080		
40160708007	**111017007**	EPA 8260	274080		
40160708001	**111017001**	OIA1677	9412		
40160708002	**111017002**	OIA1677	9412		
40160708003	**111017003**	OIA1677	9412		
40160708004	**111017004**	OIA1677	9413		
40160708005	**111017005**	OIA1677	9413		
40160708006	**111017006**	OIA1677	9413		

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COC# 171110001

Page 1 of 1

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

CUSTODY SEAL #'S: SC-171110001 SC-171110002

SSM

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CHAIN OF CUSTODY

(Please Print Clearly)	
Company Name:	NATURAL RESOURCE TECHNOLOGY
Branch/Location:	MILWAUKEE
Project Contact:	JAY KARLS
Phone:	414-837-
Project Number:	2133
Project Name:	SOLVAY COKE
Project State:	WI
Sampled By (Print):	DAN VACHON
Sampled By (Sign):	[signature]
PO #:	
Regulatory Program:	

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	40160708
Mail To Contact:	[signature] 11/14/17
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

FILTERED? (YES/NO)
PRESERVATION (CODE)*

Data Package Options (billable)
- ☐ EPA Level III
- ☒ EPA Level IV

MS/MSD
- ☒ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Analyses Requested: BENZEN (8260B) + ETHYLBENZENE	PAHs (8270-SIM)	AVAILABLE CYANIDE (OIA-1677)	IRON + ARSENIC (6020A)					CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N: N	N	N	Y							
					Pick Letter: B	A	G	D							
001	111017001	11/10/17	1024	GW	X	X	X	X	4-40mL 3B1J				2-250mLag G	1-100mLag A	1-250mLp D
002	111017002	11/10/17	1030	GW	X	X	X	X	↓				↓	↓	↓
003	111017003	11/10/17	1140	GW	X	X	X	X	↓				↓	↓	↓
004	111017004	11/10/17	1240	GW	X	X	X	X	↓				↓	↓	↓
005	111017005	11/10/17	~~1305~~ 1405	GW	X	X	X	X	↓				↓	↓	↓
006	111017006	11/10/17	1545	GW	X	X	X	X	↓				↓	↓	↓
007	111017007	11/10/17	1600	W	X				1-40mL B				TRIP BLANK		

[signature] 11/10/17

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By: [signature]	Date/Time: 11/10/17 @ 1630	Received By: Rachel Wis Pace	Date/Time: 11/14/17 0730	PACE Project No. 40160708
Transmit Prelim Rush Results by (complete what you want):	Relinquished By:	Date/Time:	Received By:	Date/Time:	Receipt Temp = 2.5 °C
Email #1:	Relinquished By:	Date/Time:	Received By:	Date/Time:	Sample Receipt pH OK / Adjusted
Email #2:	Relinquished By:	Date/Time:	Received By:	Date/Time:	Cooler Custody Seal Present / Not Present Intact / Not Intact
Telephone:	Relinquished By:	Date/Time:	Received By:	Date/Time:	
Fax:					
Samples on HOLD are subject to special pricing and release of liability					

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project # **WO#: 40160708**

40160708

Client Name: NRT

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: CS Logistics

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☐ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Thermometer Used SR-Lee **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 2 /Corr: 2.5 **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Person examining contents:
Date: 11/14/17
Initials: RMV

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes ☐No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☐Yes ☑No ☐N/A	8. NO ms/msD RMV 11/14/17
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☑Yes ☐No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑Yes ☐No ☐N/A	13. ☑ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDRO, Phenolics, OTHER:	☑Yes ☐No	Initial when completed RMV / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	14. Zinc Acetate vials biphased RMV 11/14/17
Trip Blank Present:	☑Yes ☐No ☐N/A	15.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 387		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:** 11-14-17

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

November 30, 2017

Andrew Cawrse
Natural Resource Technology
234 W Florida St
Milwaukee, WI 53204

RE: Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

Dear Andrew Cawrse:
Enclosed are the analytical results for sample(s) received by the laboratory on November 15, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: NRT Data, Natural Resource Technologies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY
Jay Karls, Natural Resource Technology
Robert Paulson, We Energies

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CERTIFICATIONS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512
ISO/IEC 17025:2005, Certificate #AT-1542.01
DoD-ELAP, Certificate #ADE-1542
Minnesota Department of Health, Certificate #1177224
Arkansas Department of Environmental Quality, Certificate #17-046-0
Georgia Environmental Protection Division, Stipulation
Illinois Environmental Protection Agency, Certificate #004097
Michigan Department of Environmental Quality, Laboratory #0034
New York State Department of Health, Serial #56192 and 56193
North Carolina Division of Water Resources, Certificate #659
Virginia Department of General Services, Certificate #9028
Wisconsin Department of Natural Resources, Laboratory #999472650
U.S. Department of Agriculture Permit to Receive Soil, Permit #P330-14-00305

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SAMPLE SUMMARY

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40160811001	**111317008**	Water	11/13/17 10:35	11/15/17 07:20
40160811002	**111317009**	Water	11/13/17 10:40	11/15/17 07:20
40160811003	**111317010**	Water	11/13/17 12:05	11/15/17 07:20
40160811004	**111317011**	Water	11/13/17 13:30	11/15/17 07:20
40160811005	**111317012**	Water	11/13/17 14:30	11/15/17 07:20
40160811006	**111317013**	Water	11/13/17 15:20	11/15/17 07:20
40160811007	**111317014**	Water	11/13/17 16:00	11/15/17 07:20

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SAMPLE ANALYTE COUNT

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40160811001	**111317008**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160811002	**111317009**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160811003	**111317010**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160811004	**111317011**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160811005	**111317012**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160811006	**111317013**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160811007	**111317014**	EPA 8260	HNW	5	PASI-G

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

Sample: 111317008 **Lab ID: 40160811001** Collected: 11/13/17 10:35 Received: 11/15/17 07:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**4.2**	ug/L	1.0	0.28	1	11/20/17 09:32	11/30/17 00:42	7440-38-2	
Iron	**165J**	ug/L	368	111	1	11/20/17 09:32	11/29/17 07:22	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**1.2**	ug/L	0.028	0.0057	1	11/16/17 11:24	11/16/17 21:59	83-32-9	
Acenaphthylene	**0.090**	ug/L	0.023	0.0047	1	11/16/17 11:24	11/16/17 21:59	208-96-8	
Anthracene	**0.12**	ug/L	0.049	0.0098	1	11/16/17 11:24	11/16/17 21:59	120-12-7	
Benzo(a)anthracene	**0.016J**	ug/L	0.035	0.0071	1	11/16/17 11:24	11/16/17 21:59	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/16/17 11:24	11/16/17 21:59	50-32-8	
Benzo(b)fluoranthene	**0.010J**	ug/L	0.027	0.0054	1	11/16/17 11:24	11/16/17 21:59	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.032	0.0063	1	11/16/17 11:24	11/16/17 21:59	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.035	0.0071	1	11/16/17 11:24	11/16/17 21:59	207-08-9	
Chrysene	**0.023J**	ug/L	0.061	0.012	1	11/16/17 11:24	11/16/17 21:59	218-01-9	
Dibenz(a,h)anthracene	**<0.0094**	ug/L	0.047	0.0094	1	11/16/17 11:24	11/16/17 21:59	53-70-3	
Fluoranthene	**0.21**	ug/L	0.050	0.010	1	11/16/17 11:24	11/16/17 21:59	206-44-0	
Fluorene	**0.57**	ug/L	0.037	0.0074	1	11/16/17 11:24	11/16/17 21:59	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/16/17 11:24	11/16/17 21:59	193-39-5	
1-Methylnaphthalene	**0.57**	ug/L	0.028	0.0055	1	11/16/17 11:24	11/16/17 21:59	90-12-0	
2-Methylnaphthalene	**0.24**	ug/L	0.023	0.0046	1	11/16/17 11:24	11/16/17 21:59	91-57-6	
Naphthalene	**2.0**	ug/L	0.086	0.017	1	11/16/17 11:24	11/16/17 21:59	91-20-3	
Phenanthrene	**0.63**	ug/L	0.064	0.013	1	11/16/17 11:24	11/16/17 21:59	85-01-8	
Pyrene	**0.22**	ug/L	0.036	0.0071	1	11/16/17 11:24	11/16/17 21:59	129-00-0	
Total PAHs	**5.9**	ug/L			1	11/16/17 11:24	11/16/17 21:59		
Surrogates									
2-Fluorobiphenyl (S)	46	%	35-84		1	11/16/17 11:24	11/16/17 21:59	321-60-8	
Terphenyl-d14 (S)	58	%	10-129		1	11/16/17 11:24	11/16/17 21:59	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 11:06	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 11:06	100-41-4	
Surrogates									
Dibromofluoromethane (S)	92	%	67-130		1		11/17/17 11:06	1868-53-7	
Toluene-d8 (S)	106	%	70-130		1		11/17/17 11:06	2037-26-5	
4-Bromofluorobenzene (S)	87	%	61-130		1		11/17/17 11:06	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.1J**	ug/L	2.0	0.33	1		11/17/17 16:14		

Sample: 111317009 **Lab ID: 40160811002** Collected: 11/13/17 10:40 Received: 11/15/17 07:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**4.2**	ug/L	1.0	0.28	1	11/20/17 09:32	11/30/17 00:48	7440-38-2	

REPORT OF LABORATORY ANALYSIS

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Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

Sample: 111317009 **Lab ID: 40160811002** Collected: 11/13/17 10:40 Received: 11/15/17 07:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Iron	**159J**	ug/L	368	111	1	11/20/17 09:32	11/29/17 07:29	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**1.1**	ug/L	0.028	0.0056	1	11/16/17 11:24	11/20/17 21:28	83-32-9	
Acenaphthylene	**0.077**	ug/L	0.023	0.0046	1	11/16/17 11:24	11/20/17 21:28	208-96-8	
Anthracene	**0.096**	ug/L	0.048	0.0097	1	11/16/17 11:24	11/20/17 21:28	120-12-7	
Benzo(a)anthracene	**0.014J**	ug/L	0.035	0.0070	1	11/16/17 11:24	11/20/17 21:28	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/16/17 11:24	11/20/17 21:28	50-32-8	
Benzo(b)fluoranthene	**0.0080J**	ug/L	0.027	0.0053	1	11/16/17 11:24	11/20/17 21:28	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.031	0.0063	1	11/16/17 11:24	11/20/17 21:28	191-24-2	
Benzo(k)fluoranthene	**<0.0070**	ug/L	0.035	0.0070	1	11/16/17 11:24	11/20/17 21:28	207-08-9	
Chrysene	**0.015J**	ug/L	0.060	0.012	1	11/16/17 11:24	11/20/17 21:28	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	11/16/17 11:24	11/20/17 21:28	53-70-3	
Fluoranthene	**0.18**	ug/L	0.049	0.0099	1	11/16/17 11:24	11/20/17 21:28	206-44-0	
Fluorene	**0.54**	ug/L	0.037	0.0074	1	11/16/17 11:24	11/20/17 21:28	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/16/17 11:24	11/20/17 21:28	193-39-5	
1-Methylnaphthalene	**0.52**	ug/L	0.027	0.0055	1	11/16/17 11:24	11/20/17 21:28	90-12-0	
2-Methylnaphthalene	**0.22**	ug/L	0.023	0.0045	1	11/16/17 11:24	11/20/17 21:28	91-57-6	
Naphthalene	**1.8**	ug/L	0.085	0.017	1	11/16/17 11:24	11/20/17 21:28	91-20-3	
Phenanthrene	**0.59**	ug/L	0.064	0.013	1	11/16/17 11:24	11/20/17 21:28	85-01-8	
Pyrene	**0.18**	ug/L	0.035	0.0071	1	11/16/17 11:24	11/20/17 21:28	129-00-0	
Total PAHs	**5.3**	ug/L			1	11/16/17 11:24	11/20/17 21:28		
Surrogates									
2-Fluorobiphenyl (S)	44	%	35-84		1	11/16/17 11:24	11/20/17 21:28	321-60-8	
Terphenyl-d14 (S)	49	%	10-129		1	11/16/17 11:24	11/20/17 21:28	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 11:28	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 11:28	100-41-4	
Surrogates									
Dibromofluoromethane (S)	98	%	67-130		1		11/17/17 11:28	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		11/17/17 11:28	2037-26-5	
4-Bromofluorobenzene (S)	88	%	61-130		1		11/17/17 11:28	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.2J**	ug/L	2.0	0.33	1		11/17/17 16:17		

Sample: 111317010 **Lab ID: 40160811003** Collected: 11/13/17 12:05 Received: 11/15/17 07:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**4.4**	ug/L	1.0	0.28	1	11/20/17 09:32	11/30/17 01:09	7440-38-2	
Iron	**9950**	ug/L	368	111	1	11/20/17 09:32	11/29/17 07:36	7439-89-6	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

Sample: 111317010 **Lab ID: 40160811003** Collected: 11/13/17 12:05 Received: 11/15/17 07:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.0057J**	ug/L	0.028	0.0056	1	11/16/17 11:24	11/20/17 15:17	83-32-9	
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	11/16/17 11:24	11/20/17 15:17	208-96-8	
Anthracene	**<0.0097**	ug/L	0.048	0.0097	1	11/16/17 11:24	11/20/17 15:17	120-12-7	
Benzo(a)anthracene	**<0.0070**	ug/L	0.035	0.0070	1	11/16/17 11:24	11/20/17 15:17	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/16/17 11:24	11/20/17 15:17	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.027	0.0053	1	11/16/17 11:24	11/20/17 15:17	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.031	0.0063	1	11/16/17 11:24	11/20/17 15:17	191-24-2	
Benzo(k)fluoranthene	**<0.0070**	ug/L	0.035	0.0070	1	11/16/17 11:24	11/20/17 15:17	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	11/16/17 11:24	11/20/17 15:17	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	11/16/17 11:24	11/20/17 15:17	53-70-3	
Fluoranthene	**<0.0099**	ug/L	0.049	0.0099	1	11/16/17 11:24	11/20/17 15:17	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/16/17 11:24	11/20/17 15:17	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/16/17 11:24	11/20/17 15:17	193-39-5	
1-Methylnaphthalene	**<0.0055**	ug/L	0.027	0.0055	1	11/16/17 11:24	11/20/17 15:17	90-12-0	
2-Methylnaphthalene	**0.0062J**	ug/L	0.023	0.0045	1	11/16/17 11:24	11/20/17 15:17	91-57-6	
Naphthalene	**0.017J**	ug/L	0.085	0.017	1	11/16/17 11:24	11/20/17 15:17	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	11/16/17 11:24	11/20/17 15:17	85-01-8	
Pyrene	**<0.0071**	ug/L	0.035	0.0071	1	11/16/17 11:24	11/20/17 15:17	129-00-0	
Total PAHs	**0.044**	ug/L			1	11/16/17 11:24	11/20/17 15:17		
Surrogates									
2-Fluorobiphenyl (S)	58	%	35-84		1	11/16/17 11:24	11/20/17 15:17	321-60-8	
Terphenyl-d14 (S)	76	%	10-129		1	11/16/17 11:24	11/20/17 15:17	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 11:50	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 11:50	100-41-4	
Surrogates									
Dibromofluoromethane (S)	92	%	67-130		1		11/17/17 11:50	1868-53-7	
Toluene-d8 (S)	104	%	70-130		1		11/17/17 11:50	2037-26-5	
4-Bromofluorobenzene (S)	87	%	61-130		1		11/17/17 11:50	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.2J**	ug/L	2.0	0.33	1		11/17/17 16:18		

Sample: 111317011 **Lab ID: 40160811004** Collected: 11/13/17 13:30 Received: 11/15/17 07:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**1.4**	ug/L	1.0	0.28	1	11/20/17 09:32	11/30/17 01:16	7440-38-2	
Iron	**1180**	ug/L	368	111	1	11/20/17 09:32	11/29/17 07:43	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.028**	ug/L	0.028	0.0056	1	11/16/17 11:24	11/20/17 15:36	83-32-9	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

Sample: 111317011 **Lab ID: 40160811004** Collected: 11/13/17 13:30 Received: 11/15/17 07:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthylene	**0.0052J**	ug/L	0.023	0.0046	1	11/16/17 11:24	11/20/17 15:36	208-96-8	
Anthracene	**<0.0097**	ug/L	0.048	0.0097	1	11/16/17 11:24	11/20/17 15:36	120-12-7	
Benzo(a)anthracene	**0.017J**	ug/L	0.035	0.0070	1	11/16/17 11:24	11/20/17 15:36	56-55-3	
Benzo(a)pyrene	**0.019J**	ug/L	0.049	0.0098	1	11/16/17 11:24	11/20/17 15:36	50-32-8	
Benzo(b)fluoranthene	**0.035**	ug/L	0.027	0.0053	1	11/16/17 11:24	11/20/17 15:36	205-99-2	
Benzo(g,h,i)perylene	**0.020J**	ug/L	0.031	0.0063	1	11/16/17 11:24	11/20/17 15:36	191-24-2	
Benzo(k)fluoranthene	**0.019J**	ug/L	0.035	0.0070	1	11/16/17 11:24	11/20/17 15:36	207-08-9	
Chrysene	**0.040J**	ug/L	0.060	0.012	1	11/16/17 11:24	11/20/17 15:36	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	11/16/17 11:24	11/20/17 15:36	53-70-3	
Fluoranthene	**0.061**	ug/L	0.049	0.0099	1	11/16/17 11:24	11/20/17 15:36	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/16/17 11:24	11/20/17 15:36	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.017J**	ug/L	0.082	0.016	1	11/16/17 11:24	11/20/17 15:36	193-39-5	
1-Methylnaphthalene	**<0.0055**	ug/L	0.027	0.0055	1	11/16/17 11:24	11/20/17 15:36	90-12-0	
2-Methylnaphthalene	**0.0065J**	ug/L	0.023	0.0045	1	11/16/17 11:24	11/20/17 15:36	91-57-6	
Naphthalene	**<0.017**	ug/L	0.085	0.017	1	11/16/17 11:24	11/20/17 15:36	91-20-3	
Phenanthrene	**0.013J**	ug/L	0.064	0.013	1	11/16/17 11:24	11/20/17 15:36	85-01-8	
Pyrene	**0.059**	ug/L	0.035	0.0071	1	11/16/17 11:24	11/20/17 15:36	129-00-0	
Total PAHs	**0.37**	ug/L			1	11/16/17 11:24	11/20/17 15:36		
Surrogates									
2-Fluorobiphenyl (S)	39	%	35-84		1	11/16/17 11:24	11/20/17 15:36	321-60-8	
Terphenyl-d14 (S)	45	%	10-129		1	11/16/17 11:24	11/20/17 15:36	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 12:12	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 12:12	100-41-4	
Surrogates									
Dibromofluoromethane (S)	96	%	67-130		1		11/17/17 12:12	1868-53-7	
Toluene-d8 (S)	106	%	70-130		1		11/17/17 12:12	2037-26-5	
4-Bromofluorobenzene (S)	88	%	61-130		1		11/17/17 12:12	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.3J**	ug/L	2.0	0.33	1		11/17/17 16:20		

Sample: 111317012 **Lab ID: 40160811005** Collected: 11/13/17 14:30 Received: 11/15/17 07:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**3.1**	ug/L	1.0	0.28	1	11/20/17 09:32	11/30/17 01:22	7440-38-2	
Iron	**<111**	ug/L	368	111	1	11/20/17 09:32	11/29/17 07:50	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.010J**	ug/L	0.028	0.0056	1	11/16/17 11:24	11/20/17 15:54	83-32-9	
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	11/16/17 11:24	11/20/17 15:54	208-96-8	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

Sample: 111317012 **Lab ID: 40160811005** Collected: 11/13/17 14:30 Received: 11/15/17 07:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Anthracene	**<0.0097**	ug/L	0.048	0.0097	1	11/16/17 11:24	11/20/17 15:54	120-12-7	
Benzo(a)anthracene	**<0.0070**	ug/L	0.035	0.0070	1	11/16/17 11:24	11/20/17 15:54	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/16/17 11:24	11/20/17 15:54	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.027	0.0053	1	11/16/17 11:24	11/20/17 15:54	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.031	0.0063	1	11/16/17 11:24	11/20/17 15:54	191-24-2	
Benzo(k)fluoranthene	**<0.0070**	ug/L	0.035	0.0070	1	11/16/17 11:24	11/20/17 15:54	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	11/16/17 11:24	11/20/17 15:54	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	11/16/17 11:24	11/20/17 15:54	53-70-3	
Fluoranthene	**<0.0099**	ug/L	0.049	0.0099	1	11/16/17 11:24	11/20/17 15:54	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/16/17 11:24	11/20/17 15:54	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/16/17 11:24	11/20/17 15:54	193-39-5	
1-Methylnaphthalene	**0.085**	ug/L	0.027	0.0055	1	11/16/17 11:24	11/20/17 15:54	90-12-0	
2-Methylnaphthalene	**0.044**	ug/L	0.023	0.0045	1	11/16/17 11:24	11/20/17 15:54	91-57-6	
Naphthalene	**0.044J**	ug/L	0.085	0.017	1	11/16/17 11:24	11/20/17 15:54	91-20-3	
Phenanthrene	**0.014J**	ug/L	0.064	0.013	1	11/16/17 11:24	11/20/17 15:54	85-01-8	
Pyrene	**<0.0071**	ug/L	0.035	0.0071	1	11/16/17 11:24	11/20/17 15:54	129-00-0	
Total PAHs	**0.20**	ug/L			1	11/16/17 11:24	11/20/17 15:54		
Surrogates									
2-Fluorobiphenyl (S)	48	%	35-84		1	11/16/17 11:24	11/20/17 15:54	321-60-8	
Terphenyl-d14 (S)	58	%	10-129		1	11/16/17 11:24	11/20/17 15:54	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 12:34	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 12:34	100-41-4	
Surrogates									
Dibromofluoromethane (S)	92	%	67-130		1		11/17/17 12:34	1868-53-7	
Toluene-d8 (S)	108	%	70-130		1		11/17/17 12:34	2037-26-5	
4-Bromofluorobenzene (S)	86	%	61-130		1		11/17/17 12:34	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**0.99J**	ug/L	2.0	0.33	1		11/17/17 16:21		

Sample: 111317013 **Lab ID: 40160811006** Collected: 11/13/17 15:20 Received: 11/15/17 07:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**2.7**	ug/L	1.0	0.28	1	11/20/17 09:32	11/30/17 01:29	7440-38-2	
Iron	**23000**	ug/L	368	111	1	11/20/17 09:32	11/29/17 07:56	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0057**	ug/L	0.029	0.0057	1	11/16/17 11:24	11/20/17 16:13	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	11/16/17 11:24	11/20/17 16:13	208-96-8	
Anthracene	**<0.0099**	ug/L	0.049	0.0099	1	11/16/17 11:24	11/20/17 16:13	120-12-7	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

Sample: 111317013 **Lab ID: 40160811006** Collected: 11/13/17 15:20 Received: 11/15/17 07:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Benzo(a)anthracene	**<0.0071**	ug/L	0.036	0.0071	1	11/16/17 11:24	11/20/17 16:13	56-55-3	
Benzo(a)pyrene	**<0.0099**	ug/L	0.050	0.0099	1	11/16/17 11:24	11/20/17 16:13	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	11/16/17 11:24	11/20/17 16:13	205-99-2	
Benzo(g,h,i)perylene	**<0.0064**	ug/L	0.032	0.0064	1	11/16/17 11:24	11/20/17 16:13	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.036	0.0071	1	11/16/17 11:24	11/20/17 16:13	207-08-9	
Chrysene	**<0.012**	ug/L	0.062	0.012	1	11/16/17 11:24	11/20/17 16:13	218-01-9	
Dibenz(a,h)anthracene	**<0.0095**	ug/L	0.047	0.0095	1	11/16/17 11:24	11/20/17 16:13	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	11/16/17 11:24	11/20/17 16:13	206-44-0	
Fluorene	**<0.0075**	ug/L	0.038	0.0075	1	11/16/17 11:24	11/20/17 16:13	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.083	0.017	1	11/16/17 11:24	11/20/17 16:13	193-39-5	
1-Methylnaphthalene	**<0.0056**	ug/L	0.028	0.0056	1	11/16/17 11:24	11/20/17 16:13	90-12-0	
2-Methylnaphthalene	**<0.0046**	ug/L	0.023	0.0046	1	11/16/17 11:24	11/20/17 16:13	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	11/16/17 11:24	11/20/17 16:13	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.065	0.013	1	11/16/17 11:24	11/20/17 16:13	85-01-8	
Pyrene	**<0.0072**	ug/L	0.036	0.0072	1	11/16/17 11:24	11/20/17 16:13	129-00-0	
Total PAHs	**0.0052**	ug/L			1	11/16/17 11:24	11/20/17 16:13		
Surrogates									
2-Fluorobiphenyl (S)	50	%	35-84		1	11/16/17 11:24	11/20/17 16:13	321-60-8	
Terphenyl-d14 (S)	69	%	10-129		1	11/16/17 11:24	11/20/17 16:13	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 12:56	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 12:56	100-41-4	
Surrogates									
Dibromofluoromethane (S)	100	%	67-130		1		11/17/17 12:56	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		11/17/17 12:56	2037-26-5	
4-Bromofluorobenzene (S)	90	%	61-130		1		11/17/17 12:56	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**2.0**	ug/L	2.0	0.33	1		11/17/17 16:22		

Sample: 111317014 **Lab ID: 40160811007** Collected: 11/13/17 16:00 Received: 11/15/17 07:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 23:59	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 23:59	100-41-4	
Surrogates									
Dibromofluoromethane (S)	112	%	67-130		1		11/21/17 23:59	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		11/21/17 23:59	2037-26-5	
4-Bromofluorobenzene (S)	88	%	61-130		1		11/21/17 23:59	460-00-4	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

QC Batch: 274789 | Analysis Method: EPA 6020
QC Batch Method: EPA 3010 | Analysis Description: 6020 MET
Associated Lab Samples: 40160811001, 40160811002, 40160811003, 40160811004, 40160811005, 40160811006

METHOD BLANK: 1616980 | Matrix: Water
Associated Lab Samples: 40160811001, 40160811002, 40160811003, 40160811004, 40160811005, 40160811006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<0.28	1.0	11/29/17 22:26	
Iron	ug/L	<111	368	11/29/17 04:26	

LABORATORY CONTROL SAMPLE: 1616981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	479	96	80-120	
Iron	ug/L	5000	4590	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616982 1616983

Parameter	Units	40160915002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	0.43J	500	500	498	500	99	100	75-125	0	20	
Iron	ug/L	18200	5000	5000	22400	22600	85	87	75-125	1	20	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

QC Batch: 274439 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40160811001, 40160811002, 40160811003, 40160811004, 40160811005, 40160811006

METHOD BLANK: 1614819 | Matrix: Water
Associated Lab Samples: 40160811001, 40160811002, 40160811003, 40160811004, 40160811005, 40160811006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	11/17/17 07:06	
Ethylbenzene	ug/L	<0.50	1.0	11/17/17 07:06	
4-Bromofluorobenzene (S)	%	84	61-130	11/17/17 07:06	
Dibromofluoromethane (S)	%	89	67-130	11/17/17 07:06	
Toluene-d8 (S)	%	104	70-130	11/17/17 07:06	

LABORATORY CONTROL SAMPLE: 1614820

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	49.6	46.8	94	73-145	
Ethylbenzene	ug/L	49.6	56.5	114	87-129	
4-Bromofluorobenzene (S)	%			94	61-130	
Dibromofluoromethane (S)	%			92	67-130	
Toluene-d8 (S)	%			106	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1615461 1615462

Parameter	Units	40160843002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	49.6	49.6	54.6	39.9	110	81	73-145	31	20	R1
Ethylbenzene	ug/L	<0.50	49.6	49.6	61.5	49.3	124	99	87-129	22	20	R1
4-Bromofluorobenzene (S)	%						95	94	61-130			
Dibromofluoromethane (S)	%						92	86	67-130			
Toluene-d8 (S)	%						98	105	70-130			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

QC Batch: 274797 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40160811007

METHOD BLANK: 1617013 | Matrix: Water
Associated Lab Samples: 40160811007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	11/21/17 15:24	
Ethylbenzene	ug/L	<0.50	1.0	11/21/17 15:24	
4-Bromofluorobenzene (S)	%	89	61-130	11/21/17 15:24	
Dibromofluoromethane (S)	%	105	67-130	11/21/17 15:24	
Toluene-d8 (S)	%	99	70-130	11/21/17 15:24	

LABORATORY CONTROL SAMPLE: 1617014

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	43.4	87	73-145	
Ethylbenzene	ug/L	50	52.7	105	87-129	
4-Bromofluorobenzene (S)	%			103	61-130	
Dibromofluoromethane (S)	%			101	67-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1617754 1617755

Parameter	Units	40161015002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	50	50	47.3	45.6	95	91	73-145	4	20	
Ethylbenzene	ug/L	<0.50	50	50	54.6	52.8	109	106	87-129	3	20	
4-Bromofluorobenzene (S)	%						105	106	61-130			
Dibromofluoromethane (S)	%						103	102	67-130			
Toluene-d8 (S)	%						100	100	70-130			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

QC Batch: 274422 | Analysis Method: EPA 8270 by HVI
QC Batch Method: EPA 3510 | Analysis Description: 8270 Water PAH by HVI
Associated Lab Samples: 40160811001, 40160811002, 40160811003, 40160811004, 40160811005, 40160811006

METHOD BLANK: 1614758 | Matrix: Water
Associated Lab Samples: 40160811001, 40160811002, 40160811003, 40160811004, 40160811005, 40160811006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	<0.0059	0.030	11/16/17 16:29	
2-Methylnaphthalene	ug/L	<0.0049	0.024	11/16/17 16:29	
Acenaphthene	ug/L	<0.0061	0.030	11/16/17 16:29	
Acenaphthylene	ug/L	<0.0050	0.025	11/16/17 16:29	
Anthracene	ug/L	<0.010	0.052	11/16/17 16:29	
Benzo(a)anthracene	ug/L	<0.0076	0.038	11/16/17 16:29	
Benzo(a)pyrene	ug/L	<0.011	0.053	11/16/17 16:29	
Benzo(b)fluoranthene	ug/L	<0.0057	0.029	11/16/17 16:29	
Benzo(g,h,i)perylene	ug/L	<0.0068	0.034	11/16/17 16:29	
Benzo(k)fluoranthene	ug/L	<0.0076	0.038	11/16/17 16:29	
Chrysene	ug/L	<0.013	0.065	11/16/17 16:29	
Dibenz(a,h)anthracene	ug/L	<0.010	0.050	11/16/17 16:29	
Fluoranthene	ug/L	<0.011	0.053	11/16/17 16:29	
Fluorene	ug/L	<0.0080	0.040	11/16/17 16:29	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	0.088	11/16/17 16:29	
Naphthalene	ug/L	<0.018	0.092	11/16/17 16:29	
Phenanthrene	ug/L	<0.014	0.069	11/16/17 16:29	
Pyrene	ug/L	<0.0076	0.038	11/16/17 16:29	
Total PAHs	ug/L	0.017		11/16/17 16:29	
2-Fluorobiphenyl (S)	%	60	35-84	11/16/17 16:29	
Terphenyl-d14 (S)	%	87	10-129	11/16/17 16:29	

LABORATORY CONTROL SAMPLE & LCSD: 1614759 1614760

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	2	1.4	1.4	72	72	39-83	0	29	
2-Methylnaphthalene	ug/L	2	1.4	1.4	71	70	38-86	1	32	
Acenaphthene	ug/L	2	1.3	1.4	67	69	35-85	2	27	
Acenaphthylene	ug/L	2	1.4	1.4	68	68	31-88	1	29	
Anthracene	ug/L	2	1.6	1.9	82	93	47-104	13	25	
Benzo(a)anthracene	ug/L	2	1.4	1.5	71	73	36-105	2	20	
Benzo(a)pyrene	ug/L	2	1.7	1.7	83	87	69-117	5	20	
Benzo(b)fluoranthene	ug/L	2	1.5	1.6	76	81	54-107	7	22	
Benzo(g,h,i)perylene	ug/L	2	0.90	1.0	45	52	13-86	15	33	
Benzo(k)fluoranthene	ug/L	2	1.7	1.8	85	89	63-128	5	20	
Chrysene	ug/L	2	2.0	2.0	100	102	69-150	2	20	
Dibenz(a,h)anthracene	ug/L	2	0.76	0.93	38	47	10-87	20	37	
Fluoranthene	ug/L	2	1.8	2.0	91	99	57-103	8	20	
Fluorene	ug/L	2	1.5	1.5	74	75	38-85	1	28	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.3	1.5	67	76	40-111	12	22	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

LABORATORY CONTROL SAMPLE & LCSD: 1614759 1614760

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Naphthalene	ug/L	2	1.3	1.2	63	62	39-82	2	28	
Phenanthrene	ug/L	2	1.6	1.7	79	85	46-96	8	25	
Pyrene	ug/L	2	1.8	1.9	91	93	57-110	2	20	
Total PAHs	ug/L		26.4	27.8				5		
2-Fluorobiphenyl (S)	%				63	65	35-84			
Terphenyl-d14 (S)	%				83	85	10-129			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

QC Batch: 9453 | Analysis Method: OIA1677
QC Batch Method: OIA1677 | Analysis Description: OIA1677 Cyanide, Available
Associated Lab Samples: 40160811001, 40160811002, 40160811003, 40160811004, 40160811005, 40160811006

METHOD BLANK: 38620 | Matrix: Water
Associated Lab Samples: 40160811001, 40160811002, 40160811003, 40160811004, 40160811005, 40160811006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Available Cyanide	ug/L	<0.33	2.0	11/17/17 16:11	

LABORATORY CONTROL SAMPLE: 38621

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Available Cyanide	ug/L	20	18.6	93	82-132	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38622 38623

Parameter	Units	40160811001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Available Cyanide	ug/L	1.1J	20	20	19.9	20.1	94	95	82-130	1	11	

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QUALIFIERS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay
PASI-GRMI	Pace Analytical - Grand Rapids

BATCH QUALIFIERS

Batch: 274540

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2133 SOLVAY COKE
Pace Project No.: 40160811

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40160811001	**111317008**	EPA 3010	274789	EPA 6020	274895
40160811002	**111317009**	EPA 3010	274789	EPA 6020	274895
40160811003	**111317010**	EPA 3010	274789	EPA 6020	274895
40160811004	**111317011**	EPA 3010	274789	EPA 6020	274895
40160811005	**111317012**	EPA 3010	274789	EPA 6020	274895
40160811006	**111317013**	EPA 3010	274789	EPA 6020	274895
40160811001	**111317008**	EPA 3510	274422	EPA 8270 by HVI	274540
40160811002	**111317009**	EPA 3510	274422	EPA 8270 by HVI	274540
40160811003	**111317010**	EPA 3510	274422	EPA 8270 by HVI	274540
40160811004	**111317011**	EPA 3510	274422	EPA 8270 by HVI	274540
40160811005	**111317012**	EPA 3510	274422	EPA 8270 by HVI	274540
40160811006	**111317013**	EPA 3510	274422	EPA 8270 by HVI	274540
40160811001	**111317008**	EPA 8260	274439		
40160811002	**111317009**	EPA 8260	274439		
40160811003	**111317010**	EPA 8260	274439		
40160811004	**111317011**	EPA 8260	274439		
40160811005	**111317012**	EPA 8260	274439		
40160811006	**111317013**	EPA 8260	274439		
40160811007	**111317014**	EPA 8260	274797		
40160811001	**111317008**	OIA1677	9453		
40160811002	**111317009**	OIA1677	9453		
40160811003	**111317010**	OIA1677	9453		
40160811004	**111317011**	OIA1677	9453		
40160811005	**111317012**	OIA1677	9453		
40160811006	**111317013**	OIA1677	9453		

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COC #: 171113002 40160811

Page 1 of 1

CUSTODY SEAL #'S: SC-171113003
SC-171113004

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UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)

Company Name:	NATURAL RESOURCE TECHNOLOGY
Branch/Location:	MILWAUKEE
Project Contact:	JAY KARLS
Phone:	414-837-
Project Number:	2133
Project Name:	SOLVAY COKE
Project State:	WI
Sampled By (Print):	DAN VACHON
Sampled By (Sign):	[signature]
PO #:	
Regulatory Program:	

FILTERED? (YES/NO)
PRESERVATION (CODE)*

Analyses Requested	Benzene + Ethylbenzene (8260B)	PAHs (8270 SIM)	Available Cyanide (OIA-1677)	Iron + Arsenic (6020A)
Y/N	N	N	N	Y
Pick Letter	B	A	G	D

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
- [ ] EPA Level III
- [x] EPA Level IV

MS/MSD
- [x] On your sample (billable)
- [ ] NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Benzene + Ethylbenzene (8260B)	PAHs (8270 SIM)	Available Cyanide (OIA-1677)	Iron + Arsenic (6020A)	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	111317008	11/13/17	1035	GW	X	X	X	X	4-40ml v BJ	1-250ml p D	2-250ml ag G 1-100ml ag+
002	111317009	11/13/17	1040	GW	X	X	X	X			
003	111317010	11/13/17	1205	GW	X	X	X	X			
004	111317011	11/13/17	1330	GW	X	X	X	X			
005	111317012	11/13/17	1430	GW	X	X	X	X			
006	111317013	11/13/17	1520	GW	X	X	X	X			
007	111317014	11/13/17	1600	W	X				TRIP BLANK	2-40ml v B	

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	11/13/17 @ 1700	DSems Pace	11/15/17 0720
~~CS Logistics~~	~~11/15/17 0720~~	~~DSems Pace~~	~~11/15/17 0720~~
		DS	
		11/15/17	

PACE Project No. 40160811

Receipt Temp = ROI °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

C019a(27Jun2006)

Version 6.0 06/14/06

ORIGINAL

Pace Analytical

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project #: **WO#: 40160811**

40160811

Client Name: NRT

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: CS Logistics

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Thermometer Used N/A **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: Rot /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents:
Date: 11/15/17
Initials: DS

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes	☑No		Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes	☐No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☐Yes	☑No	☐N/A	8. NO MS/MSD DS 11/15/17
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
-Pace IR Containers Used:	☐Yes	☐No	☑N/A	
Containers Intact: DS 11/15/17	☑Yes	☐No	☐N/A	10. 005- ag lid is cracked, Replaced by lab DS 11/15/17
Filtered volume received for Dissolved tests	☑Yes	☐No	☐N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑Yes	☐No	☐N/A	13. ☑ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER: ~~Cyanide~~ DS 11/15/17	☑Yes	☐No		Initial when completed DS / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	14.
Trip Blank Present:	☑Yes	☐No	☐N/A	15.
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if purchased): 387				

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:** 11-15-17

F-GB-C-031-Rev.04 (12Dec2016) SCUR.xls
Pace Analytical Services LLC. - Green Bay WI

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

December 04, 2017

Andrew Cawrse
Natural Resource Technology
234 W Florida St
Milwaukee, WI 53204

RE: Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

Dear Andrew Cawrse:
Enclosed are the analytical results for sample(s) received by the laboratory on November 16, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: NRT Data, Natural Resource Technologies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY
Jay Karls, Natural Resource Technology
Robert Paulson, We Energies

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CERTIFICATIONS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512
ISO/IEC 17025:2005, Certificate #AT-1542.01
DoD-ELAP, Certificate #ADE-1542
Minnesota Department of Health, Certificate #1177224
Arkansas Department of Environmental Quality, Certificate #17-046-0
Georgia Environmental Protection Division, Stipulation
Illinois Environmental Protection Agency, Certificate #004097
Michigan Department of Environmental Quality, Laboratory #0034
New York State Department of Health, Serial #56192 and 56193
North Carolina Division of Water Resources, Certificate #659
Virginia Department of General Services, Certificate #9028
Wisconsin Department of Natural Resources, Laboratory #999472650
U.S. Department of Agriculture Permit to Receive Soil, Permit #P330-14-00305

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SAMPLE SUMMARY

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40160915001	**111417015**	Water	11/14/17 09:10	11/16/17 07:30
40160915002	**111417016**	Water	11/14/17 10:45	11/16/17 07:30
40160915003	**111417017**	Water	11/14/17 12:15	11/16/17 07:30
40160915004	**111417018**	Water	11/14/17 13:50	11/16/17 07:30
40160915005	**111417019**	Water	11/14/17 14:35	11/16/17 07:30
40160915006	**111417020**	Water	11/14/17 16:00	11/16/17 07:30
40160915007	**111417021**	Water	11/14/17 16:30	11/16/17 07:30

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SAMPLE ANALYTE COUNT

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40160915001	**111417015**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160915002	**111417016**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160915003	**111417017**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160915004	**111417018**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160915005	**111417019**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160915006	**111417020**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40160915007	**111417021**	EPA 8260	HNW	5	PASI-G

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

Sample: 111417015 **Lab ID: 40160915001** Collected: 11/14/17 09:10 Received: 11/16/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**16.7**	ug/L	1.0	0.28	1	11/20/17 09:32	11/29/17 23:06	7440-38-2	
Iron	**<111**	ug/L	368	111	1	11/20/17 09:32	11/29/17 05:47	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**3.6**	ug/L	0.028	0.0056	1	11/17/17 08:33	11/20/17 19:37	83-32-9	
Acenaphthylene	**0.099**	ug/L	0.023	0.0046	1	11/17/17 08:33	11/20/17 19:37	208-96-8	
Anthracene	**0.35**	ug/L	0.048	0.0096	1	11/17/17 08:33	11/20/17 19:37	120-12-7	
Benzo(a)anthracene	**0.026J**	ug/L	0.035	0.0069	1	11/17/17 08:33	11/20/17 19:37	56-55-3	
Benzo(a)pyrene	**<0.0097**	ug/L	0.048	0.0097	1	11/17/17 08:33	11/20/17 19:37	50-32-8	
Benzo(b)fluoranthene	**0.012J**	ug/L	0.026	0.0053	1	11/17/17 08:33	11/20/17 19:37	205-99-2	
Benzo(g,h,i)perylene	**<0.0062**	ug/L	0.031	0.0062	1	11/17/17 08:33	11/20/17 19:37	191-24-2	
Benzo(k)fluoranthene	**<0.0069**	ug/L	0.035	0.0069	1	11/17/17 08:33	11/20/17 19:37	207-08-9	
Chrysene	**0.026J**	ug/L	0.060	0.012	1	11/17/17 08:33	11/20/17 19:37	218-01-9	
Dibenz(a,h)anthracene	**<0.0092**	ug/L	0.046	0.0092	1	11/17/17 08:33	11/20/17 19:37	53-70-3	
Fluoranthene	**0.58**	ug/L	0.049	0.0098	1	11/17/17 08:33	11/20/17 19:37	206-44-0	
Fluorene	**2.2**	ug/L	0.037	0.0073	1	11/17/17 08:33	11/20/17 19:37	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.081	0.016	1	11/17/17 08:33	11/20/17 19:37	193-39-5	
1-Methylnaphthalene	**5.8**	ug/L	0.027	0.0054	1	11/17/17 08:33	11/20/17 19:37	90-12-0	
2-Methylnaphthalene	**5.7**	ug/L	0.022	0.0045	1	11/17/17 08:33	11/20/17 19:37	91-57-6	
Naphthalene	**68.1**	ug/L	0.84	0.17	10	11/17/17 08:33	11/21/17 19:20	91-20-3	
Phenanthrene	**3.3**	ug/L	0.063	0.013	1	11/17/17 08:33	11/20/17 19:37	85-01-8	
Pyrene	**0.36**	ug/L	0.035	0.0070	1	11/17/17 08:33	11/20/17 19:37	129-00-0	
Total PAHs	**22.0**	ug/L			1	11/17/17 08:33	11/20/17 19:37		
Surrogates									
2-Fluorobiphenyl (S)	55	%	35-84		1	11/17/17 08:33	11/20/17 19:37	321-60-8	
Terphenyl-d14 (S)	63	%	10-129		1	11/17/17 08:33	11/20/17 19:37	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**1.1**	ug/L	1.0	0.50	1		11/22/17 08:03	71-43-2	
Ethylbenzene	**0.86J**	ug/L	1.0	0.50	1		11/22/17 08:03	100-41-4	
Surrogates									
Dibromofluoromethane (S)	106	%	67-130		1		11/22/17 08:03	1868-53-7	
Toluene-d8 (S)	103	%	70-130		1		11/22/17 08:03	2037-26-5	
4-Bromofluorobenzene (S)	91	%	61-130		1		11/22/17 08:03	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**2.0**	ug/L	2.0	0.33	1		11/21/17 11:10		

Sample: 111417016 **Lab ID: 40160915002** Collected: 11/14/17 10:45 Received: 11/16/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.43J**	ug/L	1.0	0.28	1	11/20/17 09:32	11/29/17 22:39	7440-38-2	

REPORT OF LABORATORY ANALYSIS

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Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

Sample: 111417016 **Lab ID: 40160915002** Collected: 11/14/17 10:45 Received: 11/16/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Iron	**18200**	ug/L	368	111	1	11/20/17 09:32	11/29/17 05:07	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0057**	ug/L	0.028	0.0057	1	11/17/17 08:33	11/20/17 11:35	83-32-9	
Acenaphthylene	**0.0093J**	ug/L	0.023	0.0047	1	11/17/17 08:33	11/20/17 11:35	208-96-8	
Anthracene	**<0.0098**	ug/L	0.049	0.0098	1	11/17/17 08:33	11/20/17 11:35	120-12-7	
Benzo(a)anthracene	**<0.0071**	ug/L	0.035	0.0071	1	11/17/17 08:33	11/20/17 11:35	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/17/17 08:33	11/20/17 11:35	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	11/17/17 08:33	11/20/17 11:35	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.032	0.0063	1	11/17/17 08:33	11/20/17 11:35	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.035	0.0071	1	11/17/17 08:33	11/20/17 11:35	207-08-9	
Chrysene	**<0.012**	ug/L	0.061	0.012	1	11/17/17 08:33	11/20/17 11:35	218-01-9	
Dibenz(a,h)anthracene	**<0.0094**	ug/L	0.047	0.0094	1	11/17/17 08:33	11/20/17 11:35	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	11/17/17 08:33	11/20/17 11:35	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/17/17 08:33	11/20/17 11:35	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/17/17 08:33	11/20/17 11:35	193-39-5	
1-Methylnaphthalene	**<0.0055**	ug/L	0.028	0.0055	1	11/17/17 08:33	11/20/17 11:35	90-12-0	
2-Methylnaphthalene	**0.0049J**	ug/L	0.023	0.0046	1	11/17/17 08:33	11/20/17 11:35	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	11/17/17 08:33	11/20/17 11:35	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	11/17/17 08:33	11/20/17 11:35	85-01-8	
Pyrene	**<0.0071**	ug/L	0.036	0.0071	1	11/17/17 08:33	11/20/17 11:35	129-00-0	
Total PAHs	**0.035**	ug/L			1	11/17/17 08:33	11/20/17 11:35		
Surrogates									
2-Fluorobiphenyl (S)	55	%	35-84		1	11/17/17 08:33	11/20/17 11:35	321-60-8	
Terphenyl-d14 (S)	71	%	10-129		1	11/17/17 08:33	11/20/17 11:35	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 09:35	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 09:35	100-41-4	
Surrogates									
Dibromofluoromethane (S)	104	%	67-130		1		11/21/17 09:35	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		11/21/17 09:35	2037-26-5	
4-Bromofluorobenzene (S)	87	%	61-130		1		11/21/17 09:35	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.7J**	ug/L	2.0	0.33	1		11/21/17 11:11		

Sample: 111417017 **Lab ID: 40160915003** Collected: 11/14/17 12:15 Received: 11/16/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.52J**	ug/L	1.0	0.28	1	11/20/17 09:32	11/29/17 23:20	7440-38-2	
Iron	**732**	ug/L	368	111	1	11/20/17 09:32	11/29/17 06:01	7439-89-6	

REPORT OF LABORATORY ANALYSIS

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

Sample: 111417017 **Lab ID: 40160915003** Collected: 11/14/17 12:15 Received: 11/16/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0055**	ug/L	0.028	0.0055	1	11/17/17 08:33	11/21/17 14:07	83-32-9	
Acenaphthylene	**0.022J**	ug/L	0.023	0.0045	1	11/17/17 08:33	11/21/17 14:07	208-96-8	
Anthracene	**0.020J**	ug/L	0.048	0.0095	1	11/17/17 08:33	11/21/17 14:07	120-12-7	
Benzo(a)anthracene	**<0.0069**	ug/L	0.034	0.0069	1	11/17/17 08:33	11/21/17 14:07	56-55-3	
Benzo(a)pyrene	**<0.0096**	ug/L	0.048	0.0096	1	11/17/17 08:33	11/21/17 14:07	50-32-8	
Benzo(b)fluoranthene	**0.0056J**	ug/L	0.026	0.0052	1	11/17/17 08:33	11/21/17 14:07	205-99-2	
Benzo(g,h,i)perylene	**<0.0062**	ug/L	0.031	0.0062	1	11/17/17 08:33	11/21/17 14:07	191-24-2	
Benzo(k)fluoranthene	**<0.0069**	ug/L	0.034	0.0069	1	11/17/17 08:33	11/21/17 14:07	207-08-9	
Chrysene	**<0.012**	ug/L	0.059	0.012	1	11/17/17 08:33	11/21/17 14:07	218-01-9	
Dibenz(a,h)anthracene	**<0.0091**	ug/L	0.046	0.0091	1	11/17/17 08:33	11/21/17 14:07	53-70-3	
Fluoranthene	**0.011J**	ug/L	0.048	0.0097	1	11/17/17 08:33	11/21/17 14:07	206-44-0	
Fluorene	**<0.0072**	ug/L	0.036	0.0072	1	11/17/17 08:33	11/21/17 14:07	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.080	0.016	1	11/17/17 08:33	11/21/17 14:07	193-39-5	
1-Methylnaphthalene	**<0.0054**	ug/L	0.027	0.0054	1	11/17/17 08:33	11/21/17 14:07	90-12-0	
2-Methylnaphthalene	**0.0048J**	ug/L	0.022	0.0045	1	11/17/17 08:33	11/21/17 14:07	91-57-6	
Naphthalene	**<0.017**	ug/L	0.083	0.017	1	11/17/17 08:33	11/21/17 14:07	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.063	0.013	1	11/17/17 08:33	11/21/17 14:07	85-01-8	
Pyrene	**0.014J**	ug/L	0.035	0.0070	1	11/17/17 08:33	11/21/17 14:07	129-00-0	
Total PAHs	**0.13**	ug/L			1	11/17/17 08:33	11/21/17 14:07		
Surrogates									
2-Fluorobiphenyl (S)	53	%	35-84		1	11/17/17 08:33	11/21/17 14:07	321-60-8	
Terphenyl-d14 (S)	69	%	10-129		1	11/17/17 08:33	11/21/17 14:07	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 12:09	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 12:09	100-41-4	
Surrogates									
Dibromofluoromethane (S)	107	%	67-130		1		11/21/17 12:09	1868-53-7	
Toluene-d8 (S)	104	%	70-130		1		11/21/17 12:09	2037-26-5	
4-Bromofluorobenzene (S)	87	%	61-130		1		11/21/17 12:09	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.1J**	ug/L	2.0	0.33	1		11/21/17 11:15		

Sample: 111417018 **Lab ID: 40160915004** Collected: 11/14/17 13:50 Received: 11/16/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**1.7**	ug/L	1.0	0.28	1	11/20/17 09:32	11/29/17 23:27	7440-38-2	
Iron	**7820**	ug/L	368	111	1	11/20/17 09:32	11/29/17 06:08	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0055**	ug/L	0.028	0.0055	1	11/17/17 08:33	11/21/17 11:01	83-32-9	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

Sample: 111417018 **Lab ID: 40160915004** Collected: 11/14/17 13:50 Received: 11/16/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthylene	**0.010J**	ug/L	0.023	0.0045	1	11/17/17 08:33	11/21/17 11:01	208-96-8	
Anthracene	**<0.0095**	ug/L	0.048	0.0095	1	11/17/17 08:33	11/21/17 11:01	120-12-7	
Benzo(a)anthracene	**0.0076J**	ug/L	0.034	0.0069	1	11/17/17 08:33	11/21/17 11:01	56-55-3	
Benzo(a)pyrene	**<0.0096**	ug/L	0.048	0.0096	1	11/17/17 08:33	11/21/17 11:01	50-32-8	
Benzo(b)fluoranthene	**<0.0052**	ug/L	0.026	0.0052	1	11/17/17 08:33	11/21/17 11:01	205-99-2	
Benzo(g,h,i)perylene	**<0.0062**	ug/L	0.031	0.0062	1	11/17/17 08:33	11/21/17 11:01	191-24-2	
Benzo(k)fluoranthene	**<0.0069**	ug/L	0.034	0.0069	1	11/17/17 08:33	11/21/17 11:01	207-08-9	
Chrysene	**<0.012**	ug/L	0.059	0.012	1	11/17/17 08:33	11/21/17 11:01	218-01-9	
Dibenz(a,h)anthracene	**<0.0091**	ug/L	0.046	0.0091	1	11/17/17 08:33	11/21/17 11:01	53-70-3	
Fluoranthene	**<0.0097**	ug/L	0.048	0.0097	1	11/17/17 08:33	11/21/17 11:01	206-44-0	
Fluorene	**<0.0072**	ug/L	0.036	0.0072	1	11/17/17 08:33	11/21/17 11:01	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.080	0.016	1	11/17/17 08:33	11/21/17 11:01	193-39-5	
1-Methylnaphthalene	**0.0073J**	ug/L	0.027	0.0054	1	11/17/17 08:33	11/21/17 11:01	90-12-0	
2-Methylnaphthalene	**0.0082J**	ug/L	0.022	0.0045	1	11/17/17 08:33	11/21/17 11:01	91-57-6	
Naphthalene	**0.035J**	ug/L	0.083	0.017	1	11/17/17 08:33	11/21/17 11:01	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.063	0.013	1	11/17/17 08:33	11/21/17 11:01	85-01-8	
Pyrene	**<0.0070**	ug/L	0.035	0.0070	1	11/17/17 08:33	11/21/17 11:01	129-00-0	
Total PAHs	**0.091**	ug/L			1	11/17/17 08:33	11/21/17 11:01		
Surrogates									
2-Fluorobiphenyl (S)	56	%	35-84		1	11/17/17 08:33	11/21/17 11:01	321-60-8	
Terphenyl-d14 (S)	74	%	10-129		1	11/17/17 08:33	11/21/17 11:01	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**7.6**	ug/L	5.0	2.5	5		11/22/17 09:30	71-43-2	
Ethylbenzene	**<2.5**	ug/L	5.0	2.5	5		11/22/17 09:30	100-41-4	
Surrogates									
Dibromofluoromethane (S)	107	%	67-130		5		11/22/17 09:30	1868-53-7	D3
Toluene-d8 (S)	100	%	70-130		5		11/22/17 09:30	2037-26-5	
4-Bromofluorobenzene (S)	86	%	61-130		5		11/22/17 09:30	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**2.1**	ug/L	2.0	0.33	1		11/21/17 11:16		

Sample: 111417019 **Lab ID: 40160915005** Collected: 11/14/17 14:35 Received: 11/16/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**2.6**	ug/L	1.0	0.28	1	11/20/17 09:32	11/29/17 23:47	7440-38-2	
Iron	**5900**	ug/L	368	111	1	11/20/17 09:32	11/29/17 06:15	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.28**	ug/L	0.028	0.0057	1	11/17/17 08:33	11/21/17 11:20	83-32-9	
Acenaphthylene	**0.11**	ug/L	0.023	0.0047	1	11/17/17 08:33	11/21/17 11:20	208-96-8	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

Sample: 111417019 **Lab ID: 40160915005** Collected: 11/14/17 14:35 Received: 11/16/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Anthracene	**0.28**	ug/L	0.049	0.0098	1	11/17/17 08:33	11/21/17 11:20	120-12-7	
Benzo(a)anthracene	**0.023J**	ug/L	0.035	0.0071	1	11/17/17 08:33	11/21/17 11:20	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/17/17 08:33	11/21/17 11:20	50-32-8	
Benzo(b)fluoranthene	**0.015J**	ug/L	0.027	0.0054	1	11/17/17 08:33	11/21/17 11:20	205-99-2	
Benzo(g,h,i)perylene	**0.021J**	ug/L	0.032	0.0063	1	11/17/17 08:33	11/21/17 11:20	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.035	0.0071	1	11/17/17 08:33	11/21/17 11:20	207-08-9	
Chrysene	**0.027J**	ug/L	0.061	0.012	1	11/17/17 08:33	11/21/17 11:20	218-01-9	
Dibenz(a,h)anthracene	**<0.0094**	ug/L	0.047	0.0094	1	11/17/17 08:33	11/21/17 11:20	53-70-3	
Fluoranthene	**0.20**	ug/L	0.050	0.010	1	11/17/17 08:33	11/21/17 11:20	206-44-0	
Fluorene	**0.088**	ug/L	0.037	0.0074	1	11/17/17 08:33	11/21/17 11:20	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/17/17 08:33	11/21/17 11:20	193-39-5	
1-Methylnaphthalene	**0.079**	ug/L	0.028	0.0055	1	11/17/17 08:33	11/21/17 11:20	90-12-0	
2-Methylnaphthalene	**0.018J**	ug/L	0.023	0.0046	1	11/17/17 08:33	11/21/17 11:20	91-57-6	
Naphthalene	**0.078J**	ug/L	0.086	0.017	1	11/17/17 08:33	11/21/17 11:20	91-20-3	
Phenanthrene	**0.035J**	ug/L	0.064	0.013	1	11/17/17 08:33	11/21/17 11:20	85-01-8	
Pyrene	**0.13**	ug/L	0.036	0.0071	1	11/17/17 08:33	11/21/17 11:20	129-00-0	
Total PAHs	**1.4**	ug/L			1	11/17/17 08:33	11/21/17 11:20		
Surrogates									
2-Fluorobiphenyl (S)	56	%	35-84		1	11/17/17 08:33	11/21/17 11:20	321-60-8	
Terphenyl-d14 (S)	65	%	10-129		1	11/17/17 08:33	11/21/17 11:20	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**0.58J**	ug/L	1.0	0.50	1		11/17/17 22:40	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 22:40	100-41-4	
Surrogates									
Dibromofluoromethane (S)	87	%	67-130		1		11/17/17 22:40	1868-53-7	
Toluene-d8 (S)	108	%	70-130		1		11/17/17 22:40	2037-26-5	
4-Bromofluorobenzene (S)	87	%	61-130		1		11/17/17 22:40	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**3.1**	ug/L	2.0	0.33	1		11/21/17 11:17		

Sample: 111417020 **Lab ID: 40160915006** Collected: 11/14/17 16:00 Received: 11/16/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**2.9**	ug/L	1.0	0.28	1	11/20/17 09:32	11/29/17 23:54	7440-38-2	
Iron	**27200**	ug/L	368	111	1	11/20/17 09:32	11/29/17 06:21	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0057**	ug/L	0.028	0.0057	1	11/17/17 08:33	11/21/17 11:38	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	11/17/17 08:33	11/21/17 11:38	208-96-8	
Anthracene	**<0.0098**	ug/L	0.049	0.0098	1	11/17/17 08:33	11/21/17 11:38	120-12-7	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

Sample: 111417020 **Lab ID: 40160915006** Collected: 11/14/17 16:00 Received: 11/16/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Benzo(a)anthracene	**<0.0071**	ug/L	0.035	0.0071	1	11/17/17 08:33	11/21/17 11:38	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/17/17 08:33	11/21/17 11:38	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	11/17/17 08:33	11/21/17 11:38	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.032	0.0063	1	11/17/17 08:33	11/21/17 11:38	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.035	0.0071	1	11/17/17 08:33	11/21/17 11:38	207-08-9	
Chrysene	**<0.012**	ug/L	0.061	0.012	1	11/17/17 08:33	11/21/17 11:38	218-01-9	
Dibenz(a,h)anthracene	**<0.0094**	ug/L	0.047	0.0094	1	11/17/17 08:33	11/21/17 11:38	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	11/17/17 08:33	11/21/17 11:38	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/17/17 08:33	11/21/17 11:38	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/17/17 08:33	11/21/17 11:38	193-39-5	
1-Methylnaphthalene	**0.014J**	ug/L	0.028	0.0055	1	11/17/17 08:33	11/21/17 11:38	90-12-0	
2-Methylnaphthalene	**0.0099J**	ug/L	0.023	0.0046	1	11/17/17 08:33	11/21/17 11:38	91-57-6	
Naphthalene	**0.046J**	ug/L	0.086	0.017	1	11/17/17 08:33	11/21/17 11:38	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	11/17/17 08:33	11/21/17 11:38	85-01-8	
Pyrene	**<0.0071**	ug/L	0.036	0.0071	1	11/17/17 08:33	11/21/17 11:38	129-00-0	
Total PAHs	**0.074**	ug/L			1	11/17/17 08:33	11/21/17 11:38		
Surrogates									
2-Fluorobiphenyl (S)	49	%	35-84		1	11/17/17 08:33	11/21/17 11:38	321-60-8	
Terphenyl-d14 (S)	72	%	10-129		1	11/17/17 08:33	11/21/17 11:38	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 23:02	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/17/17 23:02	100-41-4	
Surrogates									
Dibromofluoromethane (S)	79	%	67-130		1		11/17/17 23:02	1868-53-7	
Toluene-d8 (S)	110	%	70-130		1		11/17/17 23:02	2037-26-5	
4-Bromofluorobenzene (S)	84	%	61-130		1		11/17/17 23:02	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**2.9**	ug/L	2.0	0.33	1		11/21/17 11:25		

Sample: 111417021 **Lab ID: 40160915007** Collected: 11/14/17 16:30 Received: 11/16/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/18/17 00:29	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/18/17 00:29	100-41-4	
Surrogates									
Dibromofluoromethane (S)	89	%	67-130		1		11/18/17 00:29	1868-53-7	
Toluene-d8 (S)	110	%	70-130		1		11/18/17 00:29	2037-26-5	
4-Bromofluorobenzene (S)	85	%	61-130		1		11/18/17 00:29	460-00-4	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

QC Batch: 274789 | Analysis Method: EPA 6020
QC Batch Method: EPA 3010 | Analysis Description: 6020 MET
Associated Lab Samples: 40160915001, 40160915002, 40160915003, 40160915004, 40160915005, 40160915006

METHOD BLANK: 1616980 | Matrix: Water
Associated Lab Samples: 40160915001, 40160915002, 40160915003, 40160915004, 40160915005, 40160915006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<0.28	1.0	11/29/17 22:26	
Iron	ug/L	<111	368	11/29/17 04:26	

LABORATORY CONTROL SAMPLE: 1616981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	479	96	80-120	
Iron	ug/L	5000	4590	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616982 1616983

Parameter	Units	40160915002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	0.43J	500	500	498	500	99	100	75-125	0	20	
Iron	ug/L	18200	5000	5000	22400	22600	85	87	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

QC Batch: 274563 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40160915005, 40160915006, 40160915007

METHOD BLANK: 1615451 | Matrix: Water
Associated Lab Samples: 40160915005, 40160915006, 40160915007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	11/17/17 16:28	
Ethylbenzene	ug/L	<0.50	1.0	11/17/17 16:28	
4-Bromofluorobenzene (S)	%	83	61-130	11/17/17 16:28	
Dibromofluoromethane (S)	%	93	67-130	11/17/17 16:28	
Toluene-d8 (S)	%	106	70-130	11/17/17 16:28	

LABORATORY CONTROL SAMPLE: 1615452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	49.6	43.9	88	73-145	
Ethylbenzene	ug/L	49.6	47.6	96	87-129	
4-Bromofluorobenzene (S)	%			97	61-130	
Dibromofluoromethane (S)	%			92	67-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1615453 1615454

Parameter	Units	40160978004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<1.0	49.6	49.6	39.7	40.7	80	82	73-145	2	20	
Ethylbenzene	ug/L	<1.0	49.6	49.6	47.4	49.8	96	100	87-129	5	20	
4-Bromofluorobenzene (S)	%						95	92	61-130			
Dibromofluoromethane (S)	%						89	92	67-130			
Toluene-d8 (S)	%						104	106	70-130			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

QC Batch: 274752 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40160915001, 40160915002, 40160915003, 40160915004

METHOD BLANK: 1616838 | Matrix: Water
Associated Lab Samples: 40160915001, 40160915002, 40160915003, 40160915004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	11/21/17 08:07	
Ethylbenzene	ug/L	<0.50	1.0	11/21/17 08:07	
4-Bromofluorobenzene (S)	%	83	61-130	11/21/17 08:07	
Dibromofluoromethane (S)	%	109	67-130	11/21/17 08:07	
Toluene-d8 (S)	%	101	70-130	11/21/17 08:07	

LABORATORY CONTROL SAMPLE: 1616839

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	49.6	55.6	112	73-145	
Ethylbenzene	ug/L	49.6	53.6	108	87-129	
4-Bromofluorobenzene (S)	%			98	61-130	
Dibromofluoromethane (S)	%			106	67-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616840 1616841

Parameter	Units	40160915002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	49.6	49.6	57.7	56.2	116	113	73-145	3	20	
Ethylbenzene	ug/L	<0.50	49.6	49.6	55.6	55.6	112	112	87-129	0	20	
4-Bromofluorobenzene (S)	%						100	100	61-130			
Dibromofluoromethane (S)	%						110	107	67-130			
Toluene-d8 (S)	%						100	101	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

QC Batch: 274580 | Analysis Method: EPA 8270 by HVI
QC Batch Method: EPA 3510 | Analysis Description: 8270 Water PAH by HVI
Associated Lab Samples: 40160915001, 40160915002, 40160915003, 40160915004, 40160915005, 40160915006

METHOD BLANK: 1615532 | Matrix: Water
Associated Lab Samples: 40160915001, 40160915002, 40160915003, 40160915004, 40160915005, 40160915006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	<0.0059	0.030	11/20/17 10:58	
2-Methylnaphthalene	ug/L	<0.0049	0.024	11/20/17 10:58	
Acenaphthene	ug/L	<0.0061	0.030	11/20/17 10:58	
Acenaphthylene	ug/L	<0.0050	0.025	11/20/17 10:58	
Anthracene	ug/L	<0.010	0.052	11/20/17 10:58	
Benzo(a)anthracene	ug/L	<0.0076	0.038	11/20/17 10:58	
Benzo(a)pyrene	ug/L	<0.011	0.053	11/20/17 10:58	
Benzo(b)fluoranthene	ug/L	<0.0057	0.029	11/20/17 10:58	
Benzo(g,h,i)perylene	ug/L	<0.0068	0.034	11/20/17 10:58	
Benzo(k)fluoranthene	ug/L	<0.0076	0.038	11/20/17 10:58	
Chrysene	ug/L	<0.013	0.065	11/20/17 10:58	
Dibenz(a,h)anthracene	ug/L	<0.010	0.050	11/20/17 10:58	
Fluoranthene	ug/L	<0.011	0.053	11/20/17 10:58	
Fluorene	ug/L	<0.0080	0.040	11/20/17 10:58	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	0.088	11/20/17 10:58	
Naphthalene	ug/L	<0.018	0.092	11/20/17 10:58	
Phenanthrene	ug/L	<0.014	0.069	11/20/17 10:58	
Pyrene	ug/L	<0.0076	0.038	11/20/17 10:58	
Total PAHs	ug/L	0.0000000010		11/20/17 10:58	
2-Fluorobiphenyl (S)	%	58	35-84	11/20/17 10:58	
Terphenyl-d14 (S)	%	83	10-129	11/20/17 10:58	

LABORATORY CONTROL SAMPLE: 1615533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	2	1.5	75	39-83	
2-Methylnaphthalene	ug/L	2	1.5	74	38-86	
Acenaphthene	ug/L	2	1.4	71	35-85	
Acenaphthylene	ug/L	2	1.4	69	31-88	
Anthracene	ug/L	2	1.6	82	47-104	
Benzo(a)anthracene	ug/L	2	1.4	72	36-105	
Benzo(a)pyrene	ug/L	2	1.7	86	69-117	
Benzo(b)fluoranthene	ug/L	2	1.6	79	54-107	
Benzo(g,h,i)perylene	ug/L	2	1.0	52	13-86	
Benzo(k)fluoranthene	ug/L	2	1.8	89	63-128	
Chrysene	ug/L	2	1.9	97	69-150	
Dibenz(a,h)anthracene	ug/L	2	0.76	38	10-87	
Fluoranthene	ug/L	2	1.8	89	57-103	
Fluorene	ug/L	2	1.6	78	38-85	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.6	82	40-111	

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REPORT OF LABORATORY ANALYSIS

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(920)469-2436

QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

LABORATORY CONTROL SAMPLE: 1615533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	2	1.3	63	39-82	
Phenanthrene	ug/L	2	1.5	77	46-96	
Pyrene	ug/L	2	1.8	88	57-110	
Total PAHs	ug/L		27.2			
2-Fluorobiphenyl (S)	%			68	35-84	
Terphenyl-d14 (S)	%			85	10-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1615534 1615535

Parameter	Units	40160915002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/L	<0.0055	1.8	1.9	1.1	1.2	63	65	27-86	7	29	
2-Methylnaphthalene	ug/L	0.0049J	1.8	1.9	1.1	1.2	62	64	30-86	7	35	
Acenaphthene	ug/L	<0.0057	1.8	1.9	0.98	1.1	54	57	28-85	8	29	
Acenaphthylene	ug/L	0.0093J	1.8	1.9	0.98	1.1	54	56	27-88	8	29	
Anthracene	ug/L	<0.0098	1.8	1.9	1.2	1.3	66	67	38-104	5	35	
Benzo(a)anthracene	ug/L	<0.0071	1.8	1.9	1.0	1.1	58	61	10-105	7	28	
Benzo(a)pyrene	ug/L	<0.0098	1.8	1.9	1.1	1.2	62	62	10-130	3	26	
Benzo(b)fluoranthene	ug/L	<0.0054	1.8	1.9	1.2	1.2	63	63	10-115	2	25	
Benzo(g,h,i)perylene	ug/L	<0.0063	1.8	1.9	0.48	0.53	27	28	10-87	10	42	
Benzo(k)fluoranthene	ug/L	<0.0071	1.8	1.9	1.0	1.1	57	59	10-133	7	25	
Chrysene	ug/L	<0.012	1.8	1.9	1.4	1.4	79	76	17-150	1	24	
Dibenz(a,h)anthracene	ug/L	<0.0094	1.8	1.9	0.42	0.48	23	26	10-89	14	49	
Fluoranthene	ug/L	<0.010	1.8	1.9	1.4	1.5	76	78	41-103	5	32	
Fluorene	ug/L	<0.0074	1.8	1.9	1.1	1.1	59	61	32-85	5	28	
Indeno(1,2,3-cd)pyrene	ug/L	<0.016	1.8	1.9	0.82	0.85	45	46	10-111	3	37	
Naphthalene	ug/L	<0.017	1.8	1.9	1.0	1.1	55	58	23-88	7	28	
Phenanthrene	ug/L	<0.013	1.8	1.9	1.3	1.3	69	68	33-96	1	25	
Pyrene	ug/L	<0.0071	1.8	1.9	1.3	1.4	74	75	38-110	5	28	
Total PAHs	ug/L	0.035			19.0	20.0				5		
2-Fluorobiphenyl (S)	%						52	55	35-84			
Terphenyl-d14 (S)	%						65	69	10-129			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

QC Batch: 9707 | Analysis Method: OIA1677
QC Batch Method: OIA1677 | Analysis Description: OIA1677 Cyanide, Available
Associated Lab Samples: 40160915001, 40160915002, 40160915003, 40160915004, 40160915005, 40160915006

METHOD BLANK: 39673 | Matrix: Water
Associated Lab Samples: 40160915001, 40160915002, 40160915003, 40160915004, 40160915005, 40160915006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Available Cyanide	ug/L	<0.33	2.0	11/21/17 11:06	

LABORATORY CONTROL SAMPLE: 39674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Available Cyanide	ug/L	20	18.9	95	82-132	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 39675 39676

Parameter	Units	40160915002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Available Cyanide	ug/L	1.7J	20	20	20.7	21.0	95	96	82-130	2	11	

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(920)469-2436

QUALIFIERS

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay
PASI-GRMI	Pace Analytical - Grand Rapids

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2133 SOLVAY COKE
Pace Project No.: 40160915

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40160915001	**111417015**	EPA 3010	274789	EPA 6020	274895
40160915002	**111417016**	EPA 3010	274789	EPA 6020	274895
40160915003	**111417017**	EPA 3010	274789	EPA 6020	274895
40160915004	**111417018**	EPA 3010	274789	EPA 6020	274895
40160915005	**111417019**	EPA 3010	274789	EPA 6020	274895
40160915006	**111417020**	EPA 3010	274789	EPA 6020	274895
40160915001	**111417015**	EPA 3510	274580	EPA 8270 by HVI	274673
40160915002	**111417016**	EPA 3510	274580	EPA 8270 by HVI	274673
40160915003	**111417017**	EPA 3510	274580	EPA 8270 by HVI	274673
40160915004	**111417018**	EPA 3510	274580	EPA 8270 by HVI	274673
40160915005	**111417019**	EPA 3510	274580	EPA 8270 by HVI	274673
40160915006	**111417020**	EPA 3510	274580	EPA 8270 by HVI	274673
40160915001	**111417015**	EPA 8260	274752		
40160915002	**111417016**	EPA 8260	274752		
40160915003	**111417017**	EPA 8260	274752		
40160915004	**111417018**	EPA 8260	274752		
40160915005	**111417019**	EPA 8260	274563		
40160915006	**111417020**	EPA 8260	274563		
40160915007	**111417021**	EPA 8260	274563		
40160915001	**111417015**	OIA1677	9707		
40160915002	**111417016**	OIA1677	9707		
40160915003	**111417017**	OIA1677	9707		
40160915004	**111417018**	OIA1677	9707		
40160915005	**111417019**	OIA1677	9707		
40160915006	**111417020**	OIA1677	9707		

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UPPER MIDWEST REGION COC#: 171114003 Page 1 of 40160915
MN: 612-607-1700 WI: 920-469-2436
CUSTODY SEAL #S: SL-171114005 SL-171114006

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CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)

Company Name:	NATURAL RESOURCE TECHNOLOGY
Branch/Location:	MILWAUKEE
Project Contact:	JAY KARLS
Phone:	414-837-3606
Project Number:	2133
Project Name:	SOLVAY COKE
Project State:	WI
Sampled By (Print):	DAN VACHON
Sampled By (Sign):	[signature]
PO #:	Regulatory Program:

FILTERED? (YES/NO)
PRESERVATION (CODE)*

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
- [ ] EPA Level III
- [x] EPA Level IV

MS/MSD
- [x] On your sample (billable)
- [ ] NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Analyses Requested: BENZENE (8260B) + ETHYLBENZENE	PAHs (8270-SIM)	IRON + ARSENIC (6070A)	AVAILABLE CYANIDE (OIA-1677)					CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N: N	N	Y	N							
					Pick Letter: B	A	D	G							
001	111417015	11/14/17	0910	GW	X	X	X	X	4 3-40mLv 3B 1J				2-250mLag G	1-250mLp D	1-100mLag A
002	111417016	11/14/17	1045	GW	X	X	X	X	12-40mLv 9B 3J				MS/MSD 6-250mLag G	3-250mLp D	3-100mLag A
003	111417017	11/14/17	1215	GW	X	X	X	X							
004	111417018	11/14/17	1350	GW	X	X	X	X							
005	111417019	11/14/17	1435	GW	X	X	X	X							
006	111417020	11/14/17	1600	GW	X	X	X	X							
007	111417021	11/14/17	1630	W	X				2-40mLv B				TRIP BLANK		

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	11/14/17 @ 1700	Rachel Ulis PAC	11/16/17 0730

PACE Project No. 40160915

Receipt Temp = 2 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical™

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project #: **WO#: 40160915**

40160915

Client Name: NRT

Courier: ☐ Fed Ex ☑ UPS ☐ Client ☐ Pace Other: CS Logistics

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Thermometer Used SR-66 **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 1.5 /Corr: 2 **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☑ yes ☐ no

Person examining contents:
Date: 11/16/17
Initials: RMV

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes ☐No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☑Yes ☐No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑Yes ☐No ☐N/A	13. ☑ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☑Yes ☐No	Initial when completed RMV / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	14.
Trip Blank Present:	☑Yes ☐No ☐N/A	15.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 387		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:** 11-16-17

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

December 07, 2017

Andrew Cawrse
Natural Resource Technology
234 W Florida St
Milwaukee, WI 53204

RE: Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

Dear Andrew Cawrse:
Enclosed are the analytical results for sample(s) received by the laboratory on November 17, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: NRT Data, Natural Resource Technologies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY
Jay Karls, Natural Resource Technology
Robert Paulson, We Energies

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512
ISO/IEC 17025:2005, Certificate #AT-1542.01
DoD-ELAP, Certificate #ADE-1542
Minnesota Department of Health, Certificate #1177224
Arkansas Department of Environmental Quality, Certificate #17-046-0
Georgia Environmental Protection Division, Stipulation
Illinois Environmental Protection Agency, Certificate #004097
Michigan Department of Environmental Quality, Laboratory #0034
New York State Department of Health, Serial #56192 and 56193
North Carolina Division of Water Resources, Certificate #659
Virginia Department of General Services, Certificate #9028
Wisconsin Department of Natural Resources, Laboratory #999472650
U.S. Department of Agriculture Permit to Receive Soil, Permit #P330-14-00305

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SAMPLE SUMMARY

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40161012001	**111517022**	Water	11/15/17 11:40	11/17/17 07:15
40161012002	**111517023**	Water	11/15/17 12:35	11/17/17 07:15
40161012003	**111517024**	Water	11/15/17 13:30	11/17/17 07:15
40161012004	**111517025**	Water	11/15/17 14:20	11/17/17 07:15
40161012005	**111517026**	Water	11/15/17 15:00	11/17/17 07:15
40161012006	**111517027**	Water	11/15/17 15:10	11/17/17 07:15
40161012007	**111517028**	Water	11/15/17 15:55	11/17/17 07:15
40161012008	**111517029**	Water	11/15/17 16:30	11/17/17 07:15

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SAMPLE ANALYTE COUNT

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40161012001	**111517022**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161012002	**111517023**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161012003	**111517024**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161012004	**111517025**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161012005	**111517026**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161012006	**111517027**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161012007	**111517028**	EPA 6020	SDW	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161012008	**111517029**	EPA 8260	LAP	5	PASI-G

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

Sample: 111517022 **Lab ID: 40161012001** Collected: 11/15/17 11:40 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**9.8**	ug/L	1.0	0.28	1	11/20/17 10:01	11/30/17 07:38	7440-38-2	
Iron	**892**	ug/L	368	111	1	11/20/17 10:01	11/30/17 07:38	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0057**	ug/L	0.028	0.0057	1	11/20/17 08:11	11/21/17 15:38	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	11/20/17 08:11	11/21/17 15:38	208-96-8	
Anthracene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 08:11	11/21/17 15:38	120-12-7	
Benzo(a)anthracene	**<0.0071**	ug/L	0.035	0.0071	1	11/20/17 08:11	11/21/17 15:38	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 08:11	11/21/17 15:38	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	11/20/17 08:11	11/21/17 15:38	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.032	0.0063	1	11/20/17 08:11	11/21/17 15:38	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.035	0.0071	1	11/20/17 08:11	11/21/17 15:38	207-08-9	
Chrysene	**<0.012**	ug/L	0.061	0.012	1	11/20/17 08:11	11/21/17 15:38	218-01-9	
Dibenz(a,h)anthracene	**<0.0094**	ug/L	0.047	0.0094	1	11/20/17 08:11	11/21/17 15:38	53-70-3	
Fluoranthene	**0.012J**	ug/L	0.050	0.010	1	11/20/17 08:11	11/21/17 15:38	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/20/17 08:11	11/21/17 15:38	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/20/17 08:11	11/21/17 15:38	193-39-5	
1-Methylnaphthalene	**<0.0055**	ug/L	0.028	0.0055	1	11/20/17 08:11	11/21/17 15:38	90-12-0	
2-Methylnaphthalene	**<0.0046**	ug/L	0.023	0.0046	1	11/20/17 08:11	11/21/17 15:38	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	11/20/17 08:11	11/21/17 15:38	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	11/20/17 08:11	11/21/17 15:38	85-01-8	
Pyrene	**0.012J**	ug/L	0.036	0.0071	1	11/20/17 08:11	11/21/17 15:38	129-00-0	
Total PAHs	**0.082**	ug/L			1	11/20/17 08:11	11/21/17 15:38		
Surrogates									
2-Fluorobiphenyl (S)	51	%	35-84		1	11/20/17 08:11	11/21/17 15:38	321-60-8	
Terphenyl-d14 (S)	70	%	10-129		1	11/20/17 08:11	11/21/17 15:38	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 12:31	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 12:31	100-41-4	
Surrogates									
Dibromofluoromethane (S)	105	%	67-130		1		11/21/17 12:31	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		11/21/17 12:31	2037-26-5	
4-Bromofluorobenzene (S)	84	%	61-130		1		11/21/17 12:31	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**3.4**	ug/L	2.0	0.33	1		11/28/17 12:49		

Sample: 111517023 **Lab ID: 40161012002** Collected: 11/15/17 12:35 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**<0.28**	ug/L	1.0	0.28	1	11/20/17 10:01	11/30/17 07:45	7440-38-2	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

Sample: 111517023 **Lab ID: 40161012002** Collected: 11/15/17 12:35 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Iron	**2140**	ug/L	368	111	1	11/20/17 10:01	11/30/17 07:45	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.23**	ug/L	0.028	0.0057	1	11/20/17 08:11	11/21/17 15:57	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	11/20/17 08:11	11/21/17 15:57	208-96-8	
Anthracene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 08:11	11/21/17 15:57	120-12-7	
Benzo(a)anthracene	**<0.0071**	ug/L	0.035	0.0071	1	11/20/17 08:11	11/21/17 15:57	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 08:11	11/21/17 15:57	50-32-8	
Benzo(b)fluoranthene	**0.0055J**	ug/L	0.027	0.0054	1	11/20/17 08:11	11/21/17 15:57	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.032	0.0063	1	11/20/17 08:11	11/21/17 15:57	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.035	0.0071	1	11/20/17 08:11	11/21/17 15:57	207-08-9	
Chrysene	**0.015J**	ug/L	0.061	0.012	1	11/20/17 08:11	11/21/17 15:57	218-01-9	
Dibenz(a,h)anthracene	**<0.0094**	ug/L	0.047	0.0094	1	11/20/17 08:11	11/21/17 15:57	53-70-3	
Fluoranthene	**0.041J**	ug/L	0.050	0.010	1	11/20/17 08:11	11/21/17 15:57	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/20/17 08:11	11/21/17 15:57	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/20/17 08:11	11/21/17 15:57	193-39-5	
1-Methylnaphthalene	**<0.0055**	ug/L	0.028	0.0055	1	11/20/17 08:11	11/21/17 15:57	90-12-0	
2-Methylnaphthalene	**<0.0046**	ug/L	0.023	0.0046	1	11/20/17 08:11	11/21/17 15:57	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	11/20/17 08:11	11/21/17 15:57	91-20-3	
Phenanthrene	**0.028J**	ug/L	0.064	0.013	1	11/20/17 08:11	11/21/17 15:57	85-01-8	
Pyrene	**0.10**	ug/L	0.036	0.0071	1	11/20/17 08:11	11/21/17 15:57	129-00-0	
Total PAHs	**0.44**	ug/L			1	11/20/17 08:11	11/21/17 15:57		
Surrogates									
2-Fluorobiphenyl (S)	57	%	35-84		1	11/20/17 08:11	11/21/17 15:57	321-60-8	
Terphenyl-d14 (S)	77	%	10-129		1	11/20/17 08:11	11/21/17 15:57	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 21:20	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 21:20	100-41-4	
Surrogates									
Dibromofluoromethane (S)	108	%	67-130		1		11/22/17 21:20	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		11/22/17 21:20	2037-26-5	
4-Bromofluorobenzene (S)	97	%	61-130		1		11/22/17 21:20	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**3.9**	ug/L	2.0	0.33	1		11/28/17 12:50		

Sample: 111517024 **Lab ID: 40161012003** Collected: 11/15/17 13:30 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.50J**	ug/L	1.0	0.28	1	11/20/17 10:01	11/30/17 07:52	7440-38-2	
Iron	**4030**	ug/L	368	111	1	11/20/17 10:01	11/30/17 07:52	7439-89-6	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

Sample: 111517024 **Lab ID: 40161012003** Collected: 11/15/17 13:30 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0057**	ug/L	0.028	0.0057	1	11/20/17 08:11	11/21/17 16:15	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	11/20/17 08:11	11/21/17 16:15	208-96-8	
Anthracene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 08:11	11/21/17 16:15	120-12-7	
Benzo(a)anthracene	**<0.0071**	ug/L	0.035	0.0071	1	11/20/17 08:11	11/21/17 16:15	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 08:11	11/21/17 16:15	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	11/20/17 08:11	11/21/17 16:15	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.032	0.0063	1	11/20/17 08:11	11/21/17 16:15	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.035	0.0071	1	11/20/17 08:11	11/21/17 16:15	207-08-9	
Chrysene	**<0.012**	ug/L	0.061	0.012	1	11/20/17 08:11	11/21/17 16:15	218-01-9	
Dibenz(a,h)anthracene	**<0.0094**	ug/L	0.047	0.0094	1	11/20/17 08:11	11/21/17 16:15	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	11/20/17 08:11	11/21/17 16:15	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/20/17 08:11	11/21/17 16:15	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/20/17 08:11	11/21/17 16:15	193-39-5	
1-Methylnaphthalene	**<0.0055**	ug/L	0.028	0.0055	1	11/20/17 08:11	11/21/17 16:15	90-12-0	
2-Methylnaphthalene	**<0.0046**	ug/L	0.023	0.0046	1	11/20/17 08:11	11/21/17 16:15	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	11/20/17 08:11	11/21/17 16:15	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	11/20/17 08:11	11/21/17 16:15	85-01-8	
Pyrene	**<0.0071**	ug/L	0.036	0.0071	1	11/20/17 08:11	11/21/17 16:15	129-00-0	
Total PAHs	**0.040**	ug/L			1	11/20/17 08:11	11/21/17 16:15		
Surrogates									
2-Fluorobiphenyl (S)	54	%	35-84		1	11/20/17 08:11	11/21/17 16:15	321-60-8	
Terphenyl-d14 (S)	76	%	10-129		1	11/20/17 08:11	11/21/17 16:15	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 21:43	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 21:43	100-41-4	
Surrogates									
Dibromofluoromethane (S)	110	%	67-130		1		11/22/17 21:43	1868-53-7	
Toluene-d8 (S)	91	%	70-130		1		11/22/17 21:43	2037-26-5	
4-Bromofluorobenzene (S)	95	%	61-130		1		11/22/17 21:43	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**2.2**	ug/L	2.0	0.33	1		11/28/17 12:51		

Sample: 111517025 **Lab ID: 40161012004** Collected: 11/15/17 14:20 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**5.5**	ug/L	1.0	0.28	1	11/20/17 10:01	11/30/17 08:12	7440-38-2	
Iron	**16000**	ug/L	368	111	1	11/20/17 10:01	11/30/17 08:12	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0055**	ug/L	0.027	0.0055	1	11/20/17 08:11	11/21/17 17:11	83-32-9	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

Sample: 111517025 **Lab ID: 40161012004** Collected: 11/15/17 14:20 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthylene	**<0.0045**	ug/L	0.022	0.0045	1	11/20/17 08:11	11/21/17 17:11	208-96-8	
Anthracene	**<0.0094**	ug/L	0.047	0.0094	1	11/20/17 08:11	11/21/17 17:11	120-12-7	
Benzo(a)anthracene	**<0.0068**	ug/L	0.034	0.0068	1	11/20/17 08:11	11/21/17 17:11	56-55-3	
Benzo(a)pyrene	**<0.0095**	ug/L	0.047	0.0095	1	11/20/17 08:11	11/21/17 17:11	50-32-8	
Benzo(b)fluoranthene	**<0.0052**	ug/L	0.026	0.0052	1	11/20/17 08:11	11/21/17 17:11	205-99-2	
Benzo(g,h,i)perylene	**<0.0061**	ug/L	0.031	0.0061	1	11/20/17 08:11	11/21/17 17:11	191-24-2	
Benzo(k)fluoranthene	**<0.0068**	ug/L	0.034	0.0068	1	11/20/17 08:11	11/21/17 17:11	207-08-9	
Chrysene	**<0.012**	ug/L	0.059	0.012	1	11/20/17 08:11	11/21/17 17:11	218-01-9	
Dibenz(a,h)anthracene	**<0.0090**	ug/L	0.045	0.0090	1	11/20/17 08:11	11/21/17 17:11	53-70-3	
Fluoranthene	**<0.0096**	ug/L	0.048	0.0096	1	11/20/17 08:11	11/21/17 17:11	206-44-0	
Fluorene	**<0.0072**	ug/L	0.036	0.0072	1	11/20/17 08:11	11/21/17 17:11	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.079	0.016	1	11/20/17 08:11	11/21/17 17:11	193-39-5	
1-Methylnaphthalene	**<0.0053**	ug/L	0.027	0.0053	1	11/20/17 08:11	11/21/17 17:11	90-12-0	
2-Methylnaphthalene	**<0.0044**	ug/L	0.022	0.0044	1	11/20/17 08:11	11/21/17 17:11	91-57-6	
Naphthalene	**<0.017**	ug/L	0.083	0.017	1	11/20/17 08:11	11/21/17 17:11	91-20-3	
Phenanthrene	**<0.012**	ug/L	0.062	0.012	1	11/20/17 08:11	11/21/17 17:11	85-01-8	
Pyrene	**<0.0069**	ug/L	0.034	0.0069	1	11/20/17 08:11	11/21/17 17:11	129-00-0	
Total PAHs	**0.033**	ug/L			1	11/20/17 08:11	11/21/17 17:11		
Surrogates									
2-Fluorobiphenyl (S)	54	%	35-84		1	11/20/17 08:11	11/21/17 17:11	321-60-8	
Terphenyl-d14 (S)	68	%	10-129		1	11/20/17 08:11	11/21/17 17:11	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 22:05	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 22:05	100-41-4	
Surrogates									
Dibromofluoromethane (S)	107	%	67-130		1		11/22/17 22:05	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		11/22/17 22:05	2037-26-5	
4-Bromofluorobenzene (S)	89	%	61-130		1		11/22/17 22:05	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**3.5**	ug/L	2.0	0.33	1		11/28/17 12:52		

Sample: 111517026 **Lab ID: 40161012005** Collected: 11/15/17 15:00 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**3.5**	ug/L	1.0	0.28	1	11/20/17 10:01	11/30/17 08:19	7440-38-2	
Iron	**<111**	ug/L	368	111	1	11/20/17 10:01	11/30/17 08:19	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0057**	ug/L	0.029	0.0057	1	11/20/17 08:11	11/21/17 17:29	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	11/20/17 08:11	11/21/17 17:29	208-96-8	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

Sample: 111517026 **Lab ID: 40161012005** Collected: 11/15/17 15:00 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Anthracene	**<0.0099**	ug/L	0.049	0.0099	1	11/20/17 08:11	11/21/17 17:29	120-12-7	
Benzo(a)anthracene	**<0.0071**	ug/L	0.036	0.0071	1	11/20/17 08:11	11/21/17 17:29	56-55-3	
Benzo(a)pyrene	**<0.0099**	ug/L	0.050	0.0099	1	11/20/17 08:11	11/21/17 17:29	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	11/20/17 08:11	11/21/17 17:29	205-99-2	
Benzo(g,h,i)perylene	**<0.0064**	ug/L	0.032	0.0064	1	11/20/17 08:11	11/21/17 17:29	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.036	0.0071	1	11/20/17 08:11	11/21/17 17:29	207-08-9	
Chrysene	**<0.012**	ug/L	0.062	0.012	1	11/20/17 08:11	11/21/17 17:29	218-01-9	
Dibenz(a,h)anthracene	**<0.0095**	ug/L	0.047	0.0095	1	11/20/17 08:11	11/21/17 17:29	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	11/20/17 08:11	11/21/17 17:29	206-44-0	
Fluorene	**<0.0075**	ug/L	0.038	0.0075	1	11/20/17 08:11	11/21/17 17:29	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.083	0.017	1	11/20/17 08:11	11/21/17 17:29	193-39-5	
1-Methylnaphthalene	**<0.0056**	ug/L	0.028	0.0056	1	11/20/17 08:11	11/21/17 17:29	90-12-0	
2-Methylnaphthalene	**<0.0046**	ug/L	0.023	0.0046	1	11/20/17 08:11	11/21/17 17:29	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	11/20/17 08:11	11/21/17 17:29	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.065	0.013	1	11/20/17 08:11	11/21/17 17:29	85-01-8	
Pyrene	**<0.0072**	ug/L	0.036	0.0072	1	11/20/17 08:11	11/21/17 17:29	129-00-0	
Total PAHs	**0.023**	ug/L			1	11/20/17 08:11	11/21/17 17:29		
Surrogates									
2-Fluorobiphenyl (S)	53	%	35-84		1	11/20/17 08:11	11/21/17 17:29	321-60-8	
Terphenyl-d14 (S)	69	%	10-129		1	11/20/17 08:11	11/21/17 17:29	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 22:28	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 22:28	100-41-4	
Surrogates									
Dibromofluoromethane (S)	107	%	67-130		1		11/22/17 22:28	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		11/22/17 22:28	2037-26-5	
4-Bromofluorobenzene (S)	93	%	61-130		1		11/22/17 22:28	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**2.1**	ug/L	2.0	0.33	1		11/28/17 12:53		

Sample: 111517027 **Lab ID: 40161012006** Collected: 11/15/17 15:10 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**3.5**	ug/L	1.0	0.28	1	11/20/17 10:01	11/30/17 08:26	7440-38-2	
Iron	**<111**	ug/L	368	111	1	11/20/17 10:01	11/30/17 08:26	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0057**	ug/L	0.028	0.0057	1	11/20/17 08:11	11/21/17 20:15	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	11/20/17 08:11	11/21/17 20:15	208-96-8	
Anthracene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 08:11	11/21/17 20:15	120-12-7	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

Sample: 111517027 **Lab ID: 40161012006** Collected: 11/15/17 15:10 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Benzo(a)anthracene	**<0.0071**	ug/L	0.035	0.0071	1	11/20/17 08:11	11/21/17 20:15	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 08:11	11/21/17 20:15	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	11/20/17 08:11	11/21/17 20:15	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.032	0.0063	1	11/20/17 08:11	11/21/17 20:15	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.035	0.0071	1	11/20/17 08:11	11/21/17 20:15	207-08-9	
Chrysene	**<0.012**	ug/L	0.061	0.012	1	11/20/17 08:11	11/21/17 20:15	218-01-9	
Dibenz(a,h)anthracene	**<0.0094**	ug/L	0.047	0.0094	1	11/20/17 08:11	11/21/17 20:15	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	11/20/17 08:11	11/21/17 20:15	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/20/17 08:11	11/21/17 20:15	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/20/17 08:11	11/21/17 20:15	193-39-5	
1-Methylnaphthalene	**<0.0055**	ug/L	0.028	0.0055	1	11/20/17 08:11	11/21/17 20:15	90-12-0	
2-Methylnaphthalene	**<0.0046**	ug/L	0.023	0.0046	1	11/20/17 08:11	11/21/17 20:15	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	11/20/17 08:11	11/21/17 20:15	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	11/20/17 08:11	11/21/17 20:15	85-01-8	
Pyrene	**<0.0071**	ug/L	0.036	0.0071	1	11/20/17 08:11	11/21/17 20:15	129-00-0	
Total PAHs	**0.013**	ug/L			1	11/20/17 08:11	11/21/17 20:15		
Surrogates									
2-Fluorobiphenyl (S)	54	%	35-84		1	11/20/17 08:11	11/21/17 20:15	321-60-8	
Terphenyl-d14 (S)	76	%	10-129		1	11/20/17 08:11	11/21/17 20:15	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 22:51	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 22:51	100-41-4	
Surrogates									
Dibromofluoromethane (S)	107	%	67-130		1		11/22/17 22:51	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		11/22/17 22:51	2037-26-5	
4-Bromofluorobenzene (S)	87	%	61-130		1		11/22/17 22:51	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.7J**	ug/L	2.0	0.33	1		11/28/17 13:02		

Sample: 111517028 **Lab ID: 40161012007** Collected: 11/15/17 15:55 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**<0.28**	ug/L	1.0	0.28	1	11/27/17 09:21	11/30/17 14:22	7440-38-2	
Iron	**3360**	ug/L	368	111	1	11/27/17 09:21	11/30/17 14:22	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0056**	ug/L	0.028	0.0056	1	11/20/17 08:11	11/21/17 20:33	83-32-9	
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	11/20/17 08:11	11/21/17 20:33	208-96-8	
Anthracene	**<0.0096**	ug/L	0.048	0.0096	1	11/20/17 08:11	11/21/17 20:33	120-12-7	
Benzo(a)anthracene	**<0.0069**	ug/L	0.035	0.0069	1	11/20/17 08:11	11/21/17 20:33	56-55-3	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

Sample: 111517028 **Lab ID: 40161012007** Collected: 11/15/17 15:55 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Benzo(a)pyrene	**<0.0097**	ug/L	0.048	0.0097	1	11/20/17 08:11	11/21/17 20:33	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.026	0.0053	1	11/20/17 08:11	11/21/17 20:33	205-99-2	
Benzo(g,h,i)perylene	**<0.0062**	ug/L	0.031	0.0062	1	11/20/17 08:11	11/21/17 20:33	191-24-2	
Benzo(k)fluoranthene	**<0.0069**	ug/L	0.035	0.0069	1	11/20/17 08:11	11/21/17 20:33	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	11/20/17 08:11	11/21/17 20:33	218-01-9	
Dibenz(a,h)anthracene	**<0.0092**	ug/L	0.046	0.0092	1	11/20/17 08:11	11/21/17 20:33	53-70-3	
Fluoranthene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 08:11	11/21/17 20:33	206-44-0	
Fluorene	**<0.0073**	ug/L	0.037	0.0073	1	11/20/17 08:11	11/21/17 20:33	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.081	0.016	1	11/20/17 08:11	11/21/17 20:33	193-39-5	
1-Methylnaphthalene	**<0.0054**	ug/L	0.027	0.0054	1	11/20/17 08:11	11/21/17 20:33	90-12-0	
2-Methylnaphthalene	**<0.0045**	ug/L	0.022	0.0045	1	11/20/17 08:11	11/21/17 20:33	91-57-6	
Naphthalene	**<0.017**	ug/L	0.084	0.017	1	11/20/17 08:11	11/21/17 20:33	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.063	0.013	1	11/20/17 08:11	11/21/17 20:33	85-01-8	
Pyrene	**<0.0070**	ug/L	0.035	0.0070	1	11/20/17 08:11	11/21/17 20:33	129-00-0	
Total PAHs	**0.014**	ug/L			1	11/20/17 08:11	11/21/17 20:33		
Surrogates									
2-Fluorobiphenyl (S)	47	%	35-84		1	11/20/17 08:11	11/21/17 20:33	321-60-8	
Terphenyl-d14 (S)	71	%	10-129		1	11/20/17 08:11	11/21/17 20:33	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 08:47	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 08:47	100-41-4	
Surrogates									
Dibromofluoromethane (S)	105	%	67-130		1		11/22/17 08:47	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		11/22/17 08:47	2037-26-5	
4-Bromofluorobenzene (S)	84	%	61-130		1		11/22/17 08:47	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**2.3**	ug/L	2.0	0.33	1		11/28/17 13:03		

Sample: 111517029 **Lab ID: 40161012008** Collected: 11/15/17 16:30 Received: 11/17/17 07:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 08:25	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 08:25	100-41-4	
Surrogates									
Dibromofluoromethane (S)	103	%	67-130		1		11/22/17 08:25	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		11/22/17 08:25	2037-26-5	
4-Bromofluorobenzene (S)	85	%	61-130		1		11/22/17 08:25	460-00-4	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

QC Batch: 274793 | Analysis Method: EPA 6020
QC Batch Method: EPA 3010 | Analysis Description: 6020 MET
Associated Lab Samples: 40161012001, 40161012002, 40161012003, 40161012004, 40161012005, 40161012006

METHOD BLANK: 1616991 | Matrix: Water
Associated Lab Samples: 40161012001, 40161012002, 40161012003, 40161012004, 40161012005, 40161012006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<0.28	1.0	11/30/17 04:21	
Iron	ug/L	<111	368	11/30/17 04:21	

LABORATORY CONTROL SAMPLE: 1616992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	484	97	80-120	
Iron	ug/L	5000	5120	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616993 1616994

Parameter	Units	40160911005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	1.9	500	500	500	500	100	100	75-125	0	20	
Iron	ug/L	2190	5000	5000	7230	7260	101	101	75-125	0	20	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

QC Batch: 275238 | Analysis Method: EPA 6020
QC Batch Method: EPA 3010 | Analysis Description: 6020 MET
Associated Lab Samples: 40161012007

METHOD BLANK: 1619390 | Matrix: Water
Associated Lab Samples: 40161012007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<0.28	1.0	11/30/17 11:11	
Iron	ug/L	<111	368	11/30/17 11:11	

LABORATORY CONTROL SAMPLE: 1619391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	490	98	80-120	
Iron	ug/L	5000	5100	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1619392 1619393

Parameter	Units	40161118003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	0.63J	500	500	498	505	99	101	75-125	1	20	
Iron	ug/L	<111	5000	5000	4900	4920	97	97	75-125	1	20	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

QC Batch: 274752 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40161012001, 40161012007, 40161012008

METHOD BLANK: 1616838 | Matrix: Water
Associated Lab Samples: 40161012001, 40161012007, 40161012008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	11/21/17 08:07	
Ethylbenzene	ug/L	<0.50	1.0	11/21/17 08:07	
4-Bromofluorobenzene (S)	%	83	61-130	11/21/17 08:07	
Dibromofluoromethane (S)	%	109	67-130	11/21/17 08:07	
Toluene-d8 (S)	%	101	70-130	11/21/17 08:07	

LABORATORY CONTROL SAMPLE: 1616839

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	49.6	55.6	112	73-145	
Ethylbenzene	ug/L	49.6	53.6	108	87-129	
4-Bromofluorobenzene (S)	%			98	61-130	
Dibromofluoromethane (S)	%			106	67-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616840 1616841

Parameter	Units	40160915002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	49.6	49.6	57.7	56.2	116	113	73-145	3	20	
Ethylbenzene	ug/L	<0.50	49.6	49.6	55.6	55.6	112	112	87-129	0	20	
4-Bromofluorobenzene (S)	%						100	100	61-130			
Dibromofluoromethane (S)	%						110	107	67-130			
Toluene-d8 (S)	%						100	101	70-130			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

QC Batch: 275072 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40161012002, 40161012003, 40161012004, 40161012005, 40161012006

METHOD BLANK: 1618309 | Matrix: Water
Associated Lab Samples: 40161012002, 40161012003, 40161012004, 40161012005, 40161012006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	11/22/17 17:12	
Ethylbenzene	ug/L	<0.50	1.0	11/22/17 17:12	
4-Bromofluorobenzene (S)	%	99	61-130	11/22/17 17:12	
Dibromofluoromethane (S)	%	99	67-130	11/22/17 17:12	
Toluene-d8 (S)	%	98	70-130	11/22/17 17:12	

LABORATORY CONTROL SAMPLE: 1618310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	49.6	50.4	102	73-145	
Ethylbenzene	ug/L	49.6	54.4	110	87-129	
4-Bromofluorobenzene (S)	%			102	61-130	
Dibromofluoromethane (S)	%			98	67-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1618311 1618312

Parameter	Units	40161190001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	49.6	49.6	52.6	51.0	106	103	73-145	3	20	
Ethylbenzene	ug/L	<0.50	49.6	49.6	57.0	55.9	115	113	87-129	2	20	
4-Bromofluorobenzene (S)	%						103	110	61-130			
Dibromofluoromethane (S)	%						95	98	67-130			
Toluene-d8 (S)	%						98	102	70-130			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

QC Batch: 274777 | Analysis Method: EPA 8270 by HVI
QC Batch Method: EPA 3510 | Analysis Description: 8270 Water PAH by HVI
Associated Lab Samples: 40161012001, 40161012002, 40161012003, 40161012004, 40161012005, 40161012006, 40161012007

METHOD BLANK: 1616932 | Matrix: Water
Associated Lab Samples: 40161012001, 40161012002, 40161012003, 40161012004, 40161012005, 40161012006, 40161012007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	<0.0059	0.030	11/20/17 11:16	
2-Methylnaphthalene	ug/L	<0.0049	0.024	11/20/17 11:16	
Acenaphthene	ug/L	<0.0061	0.030	11/20/17 11:16	
Acenaphthylene	ug/L	<0.0050	0.025	11/20/17 11:16	
Anthracene	ug/L	<0.010	0.052	11/20/17 11:16	
Benzo(a)anthracene	ug/L	<0.0076	0.038	11/20/17 11:16	
Benzo(a)pyrene	ug/L	<0.011	0.053	11/20/17 11:16	
Benzo(b)fluoranthene	ug/L	<0.0057	0.029	11/20/17 11:16	
Benzo(g,h,i)perylene	ug/L	<0.0068	0.034	11/20/17 11:16	
Benzo(k)fluoranthene	ug/L	<0.0076	0.038	11/20/17 11:16	
Chrysene	ug/L	<0.013	0.065	11/20/17 11:16	
Dibenz(a,h)anthracene	ug/L	<0.010	0.050	11/20/17 11:16	
Fluoranthene	ug/L	<0.011	0.053	11/20/17 11:16	
Fluorene	ug/L	<0.0080	0.040	11/20/17 11:16	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	0.088	11/20/17 11:16	
Naphthalene	ug/L	<0.018	0.092	11/20/17 11:16	
Phenanthrene	ug/L	<0.014	0.069	11/20/17 11:16	
Pyrene	ug/L	<0.0076	0.038	11/20/17 11:16	
Total PAHs	ug/L	0.0000000010		11/20/17 11:16	
2-Fluorobiphenyl (S)	%	59	35-84	11/20/17 11:16	
Terphenyl-d14 (S)	%	87	10-129	11/20/17 11:16	

LABORATORY CONTROL SAMPLE: 1616933

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	2	1.3	66	39-83	
2-Methylnaphthalene	ug/L	2	1.3	64	38-86	
Acenaphthene	ug/L	2	1.2	62	35-85	
Acenaphthylene	ug/L	2	1.2	61	31-88	
Anthracene	ug/L	2	1.6	80	47-104	
Benzo(a)anthracene	ug/L	2	1.3	67	36-105	
Benzo(a)pyrene	ug/L	2	1.6	78	69-117	
Benzo(b)fluoranthene	ug/L	2	1.5	73	54-107	
Benzo(g,h,i)perylene	ug/L	2	0.99	50	13-86	
Benzo(k)fluoranthene	ug/L	2	1.6	82	63-128	
Chrysene	ug/L	2	2.0	98	69-150	
Dibenz(a,h)anthracene	ug/L	2	0.87	43	10-87	
Fluoranthene	ug/L	2	1.7	87	57-103	
Fluorene	ug/L	2	1.4	70	38-85	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.5	73	40-111	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

LABORATORY CONTROL SAMPLE: 1616933

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	2	1.1	56	39-82	
Phenanthrene	ug/L	2	1.5	75	46-96	
Pyrene	ug/L	2	1.7	86	57-110	
Total PAHs	ug/L		25.4			
2-Fluorobiphenyl (S)	%			61	35-84	
Terphenyl-d14 (S)	%			82	10-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616934 1616935

Parameter	Units	40160911005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/L	<0.0053	2	2	1.2	1.3	62	65	27-86	4	29	
2-Methylnaphthalene	ug/L	<0.0044	2	2	1.2	1.2	60	62	30-86	3	35	
Acenaphthene	ug/L	<0.0055	2	2	1.2	1.2	58	59	28-85	2	29	
Acenaphthylene	ug/L	<0.0045	2	2	1.1	1.1	54	54	27-88	0	29	
Anthracene	ug/L	<0.0094	2	2	1.4	1.3	68	67	38-104	1	35	
Benzo(a)anthracene	ug/L	<0.0068	2	2	0.85	0.84	43	42	10-105	1	28	
Benzo(a)pyrene	ug/L	<0.0095	2	2	1.0	1.0	51	50	10-130	2	26	
Benzo(b)fluoranthene	ug/L	<0.0052	2	2	1.0	0.98	52	49	10-115	6	25	
Benzo(g,h,i)perylene	ug/L	<0.0061	2	2	0.55	0.56	27	28	10-87	2	42	
Benzo(k)fluoranthene	ug/L	<0.0068	2	2	1.1	1.1	55	53	10-133	3	25	
Chrysene	ug/L	<0.012	2	2	1.6	1.6	82	82	17-150	1	24	
Dibenz(a,h)anthracene	ug/L	<0.0090	2	2	0.51	0.53	26	26	10-89	3	49	
Fluoranthene	ug/L	<0.0096	2	2	1.6	1.5	78	77	41-103	0	32	
Fluorene	ug/L	<0.0072	2	2	1.3	1.2	63	61	32-85	2	28	
Indeno(1,2,3-cd)pyrene	ug/L	<0.016	2	2	0.72	0.73	36	36	10-111	1	37	
Naphthalene	ug/L	<0.017	2	2	1.1	1.1	53	56	23-88	5	28	
Phenanthrene	ug/L	<0.012	2	2	1.3	1.3	65	65	33-96	1	25	
Pyrene	ug/L	<0.0069	2	2	1.5	1.5	76	76	38-110	0	28	
Total PAHs	ug/L	0.024			20.2	20.2				0		
2-Fluorobiphenyl (S)	%						55	56	35-84			
Terphenyl-d14 (S)	%						64	64	10-129			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

QC Batch: 10098 | Analysis Method: OIA1677
QC Batch Method: OIA1677 | Analysis Description: OIA1677 Cyanide, Available
Associated Lab Samples: 40161012001, 40161012002, 40161012003, 40161012004, 40161012005, 40161012006, 40161012007

METHOD BLANK: 41130 | Matrix: Water
Associated Lab Samples: 40161012001, 40161012002, 40161012003, 40161012004, 40161012005, 40161012006, 40161012007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Available Cyanide	ug/L	<0.33	2.0	11/28/17 12:43	

LABORATORY CONTROL SAMPLE: 41131

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Available Cyanide	ug/L	20	18.5	92	82-132	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 41132 41133

Parameter	Units	464853001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Available Cyanide	ug/L	<2.0	20	20	20.0	20.3	95	97	82-130	2	11	

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QUALIFIERS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay
PASI-GRMI	Pace Analytical - Grand Rapids

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2133 SOLVAY COKE
Pace Project No.: 40161012

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40161012001	**111517022**	EPA 3010	274793	EPA 6020	274896
40161012002	**111517023**	EPA 3010	274793	EPA 6020	274896
40161012003	**111517024**	EPA 3010	274793	EPA 6020	274896
40161012004	**111517025**	EPA 3010	274793	EPA 6020	274896
40161012005	**111517026**	EPA 3010	274793	EPA 6020	274896
40161012006	**111517027**	EPA 3010	274793	EPA 6020	274896
40161012007	**111517028**	EPA 3010	275238	EPA 6020	275410
40161012001	**111517022**	EPA 3510	274777	EPA 8270 by HVI	274881
40161012002	**111517023**	EPA 3510	274777	EPA 8270 by HVI	274881
40161012003	**111517024**	EPA 3510	274777	EPA 8270 by HVI	274881
40161012004	**111517025**	EPA 3510	274777	EPA 8270 by HVI	274881
40161012005	**111517026**	EPA 3510	274777	EPA 8270 by HVI	274881
40161012006	**111517027**	EPA 3510	274777	EPA 8270 by HVI	274881
40161012007	**111517028**	EPA 3510	274777	EPA 8270 by HVI	274881
40161012001	**111517022**	EPA 8260	274752		
40161012002	**111517023**	EPA 8260	275072		
40161012003	**111517024**	EPA 8260	275072		
40161012004	**111517025**	EPA 8260	275072		
40161012005	**111517026**	EPA 8260	275072		
40161012006	**111517027**	EPA 8260	275072		
40161012007	**111517028**	EPA 8260	274752		
40161012008	**111517029**	EPA 8260	274752		
40161012001	**111517022**	OIA1677	10098		
40161012002	**111517023**	OIA1677	10098		
40161012003	**111517024**	OIA1677	10098		
40161012004	**111517025**	OIA1677	10098		
40161012005	**111517026**	OIA1677	10098		
40161012006	**111517027**	OIA1677	10098		
40161012007	**111517028**	OIA1677	10098		

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COC#: 171115004 4016012

Page 1 of 1

UPPER MIDWEST REGION

MN: 612-607-1700 **WI:** 920-469-2436

CUSTODY SEAL#'S: SL-171115007
SL-171115008

Page 21 of 22

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www.pacelabs.com

CHAIN OF CUSTODY

(Please Print Clearly)	
Company Name:	NATURAL RESOURCE TECHNOLOGY
Branch/Location:	MILWAUKEE
Project Contact:	JAY KARLS
Phone:	414-837-3606
Project Number:	2133
Project Name:	SOLVAY COKE
Project State:	WI
Sampled By (Print):	DAN VACHON
Sampled By (Sign):	[signature]
PO #:	
Regulatory Program:	

***Preservation Codes**
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
- ☐ EPA Level III
- ☒ EPA Level IV

MS/MSD
- ☒ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Analyses Requested: BENZENE (8260B) + ETHYLBENZENE	PAHs (8270-SIM)	AVAILABLE CYANIDE (OIA-1677)	IRON + ARSENIC (6020A)	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N: N	N	N	Y			
					Pick Letter: B	A	G	D			
001	111517022	11/15/17	1140	GW	X	X	X	X	3-40mlv[B]	1-250mlp[D] 2-250mlag[G]	1-40mlv[J] ~~1-40mlv[A]~~ DS 11/17/17
002	111517023	11/15/17	1235	GW	X	X	X	X			
003	111517024	11/15/17	1330	GW	X	X	X	X			
004	111517025	11/15/17	1420	GW	X	X	X	X			
005	111517026	11/15/17	1500	GW	X	X	X	X			
006	111517027	11/15/17	1510	GW	X	X	X	X			
007	111517028	11/15/17	1555	GW	X	X	X	X			
008	111517029	11/15/17	1630	W	X				TRIP BLANK	2-40mlv[B]	

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By:	Date/Time:	Received By:	Date/Time:	PACE Project No.
	[signature]	11/15/17 @ 1650	DSong Pace	11/17/17 0715	4016012
Transmit Prelim Rush Results by (complete what you want):	~~CS Logistics~~	~~11/17/17 0715~~	~~DSong Pace~~	~~11/17/17 0715~~	Receipt Temp = RoI °C
Email #1:	Relinquished By:	Date/Time:	Received By:	Date/Time:	Sample Receipt pH OK / Adjusted
Email #2:					
Telephone:	Relinquished By:	Date/Time:	Received By:	Date/Time:	Cooler Custody Seal Present / Not Present Intact / Not Intact
Fax:					
Samples on HOLD are subject to special pricing and release of liability	Relinquished By:	Date/Time:	Received By:	Date/Time:	

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Pace Analytical™

Project #: WO#: 40161012
40161012

Client Name: NRT

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: CS Logistics

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Thermometer Used N/A **Type of Ice:** Wet Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROT /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents:
Date: 11/17/17
Initials: DS

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes ☐No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☐Yes ☑No ☐N/A	8. NO MS/MSD DS 11/17/17
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☑Yes ☐No ☐N/A	11.
Sample Labels match COC:	☐Yes ☑No ☐N/A	12. ~~[illegible]~~ DS 11/17/17 001 - Time on bottles is 1215 DS 11/17/17
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑Yes ☐No ☐N/A	13. ☑ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☑Yes ~~☐No~~ DS 11/17/17	Initial when completed DS / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	14.
Trip Blank Present:	☑Yes ☐No ☐N/A	15.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 387		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:** 11/17/17

F-GB-C-031-Rev.04 (12Dec2016) SCUR.xls
Pace Analytical Services LLC. - Green Bay WI

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

December 06, 2017

Andrew Cawrse
Natural Resource Technology
234 W Florida St
Milwaukee, WI 53204

RE: Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Dear Andrew Cawrse:
Enclosed are the analytical results for sample(s) received by the laboratory on November 18, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: NRT Data, Natural Resource Technologies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY
Jay Karls, Natural Resource Technology
Robert Paulson, We Energies

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CERTIFICATIONS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512
ISO/IEC 17025:2005, Certificate #AT-1542.01
DoD-ELAP, Certificate #ADE-1542
Minnesota Department of Health, Certificate #1177224
Arkansas Department of Environmental Quality, Certificate #17-046-0
Georgia Environmental Protection Division, Stipulation
Illinois Environmental Protection Agency, Certificate #004097
Michigan Department of Environmental Quality, Laboratory #0034
New York State Department of Health, Serial #56192 and 56193
North Carolina Division of Water Resources, Certificate #659
Virginia Department of General Services, Certificate #9028
Wisconsin Department of Natural Resources, Laboratory #999472650
U.S. Department of Agriculture Permit to Receive Soil, Permit #P330-14-00305

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SAMPLE SUMMARY

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40161121001	**111617030**	Water	11/16/17 08:55	11/18/17 08:00
40161121002	**111617031**	Water	11/16/17 09:50	11/18/17 08:00
40161121003	**111617032**	Water	11/16/17 11:35	11/18/17 08:00
40161121004	**111617033**	Water	11/16/17 12:30	11/18/17 08:00
40161121005	**111617034**	Water	11/16/17 13:45	11/18/17 08:00
40161121006	**111617035**	Water	11/16/17 13:50	11/18/17 08:00
40161121007	**111617036**	Water	11/16/17 14:55	11/18/17 08:00
40161121008	**111617037**	Water	11/16/17 15:45	11/18/17 08:00
40161121009	**111617038**	Water	11/16/17 17:00	11/18/17 08:00

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SAMPLE ANALYTE COUNT

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40161121001	**111617030**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161121002	**111617031**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161121003	**111617032**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161121004	**111617033**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161121005	**111617034**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161121006	**111617035**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161121007	**111617036**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161121008	**111617037**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	HNW	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161121009	**111617038**	EPA 8260	HNW	5	PASI-G

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Sample: 111617030 **Lab ID: 40161121001** Collected: 11/16/17 08:55 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.84J**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 02:13	7440-38-2	
Iron	**<111**	ug/L	368	111	1	11/28/17 08:43	12/01/17 02:13	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0056**	ug/L	0.028	0.0056	1	11/20/17 11:08	11/22/17 14:20	83-32-9	
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	11/20/17 11:08	11/22/17 14:20	208-96-8	
Anthracene	**<0.0096**	ug/L	0.048	0.0096	1	11/20/17 11:08	11/22/17 14:20	120-12-7	
Benzo(a)anthracene	**<0.0069**	ug/L	0.035	0.0069	1	11/20/17 11:08	11/22/17 14:20	56-55-3	
Benzo(a)pyrene	**<0.0097**	ug/L	0.048	0.0097	1	11/20/17 11:08	11/22/17 14:20	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.026	0.0053	1	11/20/17 11:08	11/22/17 14:20	205-99-2	
Benzo(g,h,i)perylene	**<0.0062**	ug/L	0.031	0.0062	1	11/20/17 11:08	11/22/17 14:20	191-24-2	
Benzo(k)fluoranthene	**<0.0069**	ug/L	0.035	0.0069	1	11/20/17 11:08	11/22/17 14:20	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	11/20/17 11:08	11/22/17 14:20	218-01-9	
Dibenz(a,h)anthracene	**<0.0092**	ug/L	0.046	0.0092	1	11/20/17 11:08	11/22/17 14:20	53-70-3	
Fluoranthene	**0.011J**	ug/L	0.049	0.0098	1	11/20/17 11:08	11/22/17 14:20	206-44-0	
Fluorene	**<0.0073**	ug/L	0.037	0.0073	1	11/20/17 11:08	11/22/17 14:20	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.081	0.016	1	11/20/17 11:08	11/22/17 14:20	193-39-5	
1-Methylnaphthalene	**<0.0054**	ug/L	0.027	0.0054	1	11/20/17 11:08	11/22/17 14:20	90-12-0	
2-Methylnaphthalene	**<0.0045**	ug/L	0.022	0.0045	1	11/20/17 11:08	11/22/17 14:20	91-57-6	
Naphthalene	**0.018J**	ug/L	0.084	0.017	1	11/20/17 11:08	11/22/17 14:20	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.063	0.013	1	11/20/17 11:08	11/22/17 14:20	85-01-8	
Pyrene	**0.0098J**	ug/L	0.035	0.0070	1	11/20/17 11:08	11/22/17 14:20	129-00-0	
Total PAHs	**0.077**	ug/L			1	11/20/17 11:08	11/22/17 14:20		
Surrogates									
2-Fluorobiphenyl (S)	57	%	35-84		1	11/20/17 11:08	11/22/17 14:20	321-60-8	
Terphenyl-d14 (S)	71	%	10-129		1	11/20/17 11:08	11/22/17 14:20	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 21:23	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 21:23	100-41-4	
Surrogates									
Dibromofluoromethane (S)	108	%	67-130		1		11/21/17 21:23	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		11/21/17 21:23	2037-26-5	
4-Bromofluorobenzene (S)	89	%	61-130		1		11/21/17 21:23	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.1J**	ug/L	2.0	0.33	1		11/28/17 13:09		

Sample: 111617031 **Lab ID: 40161121002** Collected: 11/16/17 09:50 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**1.0**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 02:21	7440-38-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Sample: 111617031 **Lab ID: 40161121002** Collected: 11/16/17 09:50 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Iron	**<111**	ug/L	368	111	1	11/28/17 08:43	12/01/17 02:21	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0057**	ug/L	0.029	0.0057	1	11/20/17 11:08	11/22/17 15:15	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	11/20/17 11:08	11/22/17 15:15	208-96-8	
Anthracene	**<0.0099**	ug/L	0.049	0.0099	1	11/20/17 11:08	11/22/17 15:15	120-12-7	
Benzo(a)anthracene	**<0.0071**	ug/L	0.036	0.0071	1	11/20/17 11:08	11/22/17 15:15	56-55-3	
Benzo(a)pyrene	**<0.0099**	ug/L	0.050	0.0099	1	11/20/17 11:08	11/22/17 15:15	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	11/20/17 11:08	11/22/17 15:15	205-99-2	
Benzo(g,h,i)perylene	**<0.0064**	ug/L	0.032	0.0064	1	11/20/17 11:08	11/22/17 15:15	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.036	0.0071	1	11/20/17 11:08	11/22/17 15:15	207-08-9	
Chrysene	**<0.012**	ug/L	0.062	0.012	1	11/20/17 11:08	11/22/17 15:15	218-01-9	
Dibenz(a,h)anthracene	**<0.0095**	ug/L	0.047	0.0095	1	11/20/17 11:08	11/22/17 15:15	53-70-3	
Fluoranthene	**0.011J**	ug/L	0.050	0.010	1	11/20/17 11:08	11/22/17 15:15	206-44-0	
Fluorene	**<0.0075**	ug/L	0.038	0.0075	1	11/20/17 11:08	11/22/17 15:15	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.083	0.017	1	11/20/17 11:08	11/22/17 15:15	193-39-5	
1-Methylnaphthalene	**0.012J**	ug/L	0.028	0.0056	1	11/20/17 11:08	11/22/17 15:15	90-12-0	
2-Methylnaphthalene	**0.0077J**	ug/L	0.023	0.0046	1	11/20/17 11:08	11/22/17 15:15	91-57-6	
Naphthalene	**0.020J**	ug/L	0.086	0.017	1	11/20/17 11:08	11/22/17 15:15	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.065	0.013	1	11/20/17 11:08	11/22/17 15:15	85-01-8	
Pyrene	**0.0079J**	ug/L	0.036	0.0072	1	11/20/17 11:08	11/22/17 15:15	129-00-0	
Total PAHs	**0.084**	ug/L			1	11/20/17 11:08	11/22/17 15:15		
Surrogates									
2-Fluorobiphenyl (S)	61	%	35-84		1	11/20/17 11:08	11/22/17 15:15	321-60-8	
Terphenyl-d14 (S)	70	%	10-129		1	11/20/17 11:08	11/22/17 15:15	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 21:45	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 21:45	100-41-4	
Surrogates									
Dibromofluoromethane (S)	108	%	67-130		1		11/21/17 21:45	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		11/21/17 21:45	2037-26-5	
4-Bromofluorobenzene (S)	90	%	61-130		1		11/21/17 21:45	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**6.1**	ug/L	2.0	0.33	1		11/28/17 13:12		

Sample: 111617032 **Lab ID: 40161121003** Collected: 11/16/17 11:35 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**4.2**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 02:28	7440-38-2	
Iron	**18300**	ug/L	368	111	1	11/28/17 08:43	12/01/17 02:28	7439-89-6	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Sample: 111617032 **Lab ID: 40161121003** Collected: 11/16/17 11:35 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.0072J**	ug/L	0.028	0.0056	1	11/20/17 11:08	11/22/17 18:57	83-32-9	
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	11/20/17 11:08	11/22/17 18:57	208-96-8	
Anthracene	**<0.0096**	ug/L	0.048	0.0096	1	11/20/17 11:08	11/22/17 18:57	120-12-7	
Benzo(a)anthracene	**<0.0069**	ug/L	0.035	0.0069	1	11/20/17 11:08	11/22/17 18:57	56-55-3	
Benzo(a)pyrene	**<0.0097**	ug/L	0.048	0.0097	1	11/20/17 11:08	11/22/17 18:57	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.026	0.0053	1	11/20/17 11:08	11/22/17 18:57	205-99-2	
Benzo(g,h,i)perylene	**<0.0062**	ug/L	0.031	0.0062	1	11/20/17 11:08	11/22/17 18:57	191-24-2	
Benzo(k)fluoranthene	**<0.0069**	ug/L	0.035	0.0069	1	11/20/17 11:08	11/22/17 18:57	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	11/20/17 11:08	11/22/17 18:57	218-01-9	
Dibenz(a,h)anthracene	**<0.0092**	ug/L	0.046	0.0092	1	11/20/17 11:08	11/22/17 18:57	53-70-3	
Fluoranthene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 11:08	11/22/17 18:57	206-44-0	
Fluorene	**<0.0073**	ug/L	0.037	0.0073	1	11/20/17 11:08	11/22/17 18:57	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.081	0.016	1	11/20/17 11:08	11/22/17 18:57	193-39-5	
1-Methylnaphthalene	**<0.0054**	ug/L	0.027	0.0054	1	11/20/17 11:08	11/22/17 18:57	90-12-0	
2-Methylnaphthalene	**<0.0045**	ug/L	0.022	0.0045	1	11/20/17 11:08	11/22/17 18:57	91-57-6	
Naphthalene	**0.15**	ug/L	0.084	0.017	1	11/20/17 11:08	11/22/17 18:57	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.063	0.013	1	11/20/17 11:08	11/22/17 18:57	85-01-8	
Pyrene	**<0.0070**	ug/L	0.035	0.0070	1	11/20/17 11:08	11/22/17 18:57	129-00-0	
Total PAHs	**0.18**	ug/L			1	11/20/17 11:08	11/22/17 18:57		
Surrogates									
2-Fluorobiphenyl (S)	58	%	35-84		1	11/20/17 11:08	11/22/17 18:57	321-60-8	
Terphenyl-d14 (S)	68	%	10-129		1	11/20/17 11:08	11/22/17 18:57	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 22:07	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 22:07	100-41-4	
Surrogates									
Dibromofluoromethane (S)	110	%	67-130		1		11/21/17 22:07	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		11/21/17 22:07	2037-26-5	
4-Bromofluorobenzene (S)	90	%	61-130		1		11/21/17 22:07	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.6J**	ug/L	2.0	0.33	1		11/28/17 13:20		

Sample: 111617033 **Lab ID: 40161121004** Collected: 11/16/17 12:30 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.65J**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 02:36	7440-38-2	
Iron	**142J**	ug/L	368	111	1	11/28/17 08:43	12/01/17 02:36	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0056**	ug/L	0.028	0.0056	1	11/20/17 11:08	11/22/17 19:15	83-32-9	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Sample: 111617033 **Lab ID: 40161121004** Collected: 11/16/17 12:30 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	11/20/17 11:08	11/22/17 19:15	208-96-8	
Anthracene	**<0.0097**	ug/L	0.048	0.0097	1	11/20/17 11:08	11/22/17 19:15	120-12-7	
Benzo(a)anthracene	**<0.0070**	ug/L	0.035	0.0070	1	11/20/17 11:08	11/22/17 19:15	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 11:08	11/22/17 19:15	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.027	0.0053	1	11/20/17 11:08	11/22/17 19:15	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.031	0.0063	1	11/20/17 11:08	11/22/17 19:15	191-24-2	
Benzo(k)fluoranthene	**<0.0070**	ug/L	0.035	0.0070	1	11/20/17 11:08	11/22/17 19:15	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	11/20/17 11:08	11/22/17 19:15	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	11/20/17 11:08	11/22/17 19:15	53-70-3	
Fluoranthene	**<0.0099**	ug/L	0.049	0.0099	1	11/20/17 11:08	11/22/17 19:15	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/20/17 11:08	11/22/17 19:15	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/20/17 11:08	11/22/17 19:15	193-39-5	
1-Methylnaphthalene	**<0.0055**	ug/L	0.027	0.0055	1	11/20/17 11:08	11/22/17 19:15	90-12-0	
2-Methylnaphthalene	**0.0054J**	ug/L	0.023	0.0045	1	11/20/17 11:08	11/22/17 19:15	91-57-6	
Naphthalene	**<0.017**	ug/L	0.085	0.017	1	11/20/17 11:08	11/22/17 19:15	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	11/20/17 11:08	11/22/17 19:15	85-01-8	
Pyrene	**<0.0071**	ug/L	0.035	0.0071	1	11/20/17 11:08	11/22/17 19:15	129-00-0	
Total PAHs	**0.041**	ug/L			1	11/20/17 11:08	11/22/17 19:15		
Surrogates									
2-Fluorobiphenyl (S)	59	%	35-84		1	11/20/17 11:08	11/22/17 19:15	321-60-8	
Terphenyl-d14 (S)	71	%	10-129		1	11/20/17 11:08	11/22/17 19:15	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 22:30	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 22:30	100-41-4	
Surrogates									
Dibromofluoromethane (S)	110	%	67-130		1		11/21/17 22:30	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		11/21/17 22:30	2037-26-5	
4-Bromofluorobenzene (S)	89	%	61-130		1		11/21/17 22:30	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.1J**	ug/L	2.0	0.33	1		11/28/17 13:22		

Sample: 111617034 **Lab ID: 40161121005** Collected: 11/16/17 13:45 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.76J**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 02:58	7440-38-2	
Iron	**<111**	ug/L	368	111	1	11/28/17 08:43	12/01/17 02:58	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0058**	ug/L	0.029	0.0058	1	11/20/17 11:08	11/22/17 19:33	83-32-9	
Acenaphthylene	**<0.0048**	ug/L	0.024	0.0048	1	11/20/17 11:08	11/22/17 19:33	208-96-8	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Sample: 111617034 **Lab ID: 40161121005** Collected: 11/16/17 13:45 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Anthracene	**<0.010**	ug/L	0.050	0.010	1	11/20/17 11:08	11/22/17 19:33	120-12-7	
Benzo(a)anthracene	**<0.0073**	ug/L	0.036	0.0073	1	11/20/17 11:08	11/22/17 19:33	56-55-3	
Benzo(a)pyrene	**<0.010**	ug/L	0.051	0.010	1	11/20/17 11:08	11/22/17 19:33	50-32-8	
Benzo(b)fluoranthene	**<0.0055**	ug/L	0.028	0.0055	1	11/20/17 11:08	11/22/17 19:33	205-99-2	
Benzo(g,h,i)perylene	**0.014J**	ug/L	0.033	0.0065	1	11/20/17 11:08	11/22/17 19:33	191-24-2	
Benzo(k)fluoranthene	**<0.0073**	ug/L	0.036	0.0073	1	11/20/17 11:08	11/22/17 19:33	207-08-9	
Chrysene	**<0.013**	ug/L	0.063	0.013	1	11/20/17 11:08	11/22/17 19:33	218-01-9	
Dibenz(a,h)anthracene	**<0.0096**	ug/L	0.048	0.0096	1	11/20/17 11:08	11/22/17 19:33	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.051	0.010	1	11/20/17 11:08	11/22/17 19:33	206-44-0	
Fluorene	**<0.0077**	ug/L	0.038	0.0077	1	11/20/17 11:08	11/22/17 19:33	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.085	0.017	1	11/20/17 11:08	11/22/17 19:33	193-39-5	
1-Methylnaphthalene	**<0.0057**	ug/L	0.028	0.0057	1	11/20/17 11:08	11/22/17 19:33	90-12-0	
2-Methylnaphthalene	**0.0053J**	ug/L	0.024	0.0047	1	11/20/17 11:08	11/22/17 19:33	91-57-6	
Naphthalene	**<0.018**	ug/L	0.088	0.018	1	11/20/17 11:08	11/22/17 19:33	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.066	0.013	1	11/20/17 11:08	11/22/17 19:33	85-01-8	
Pyrene	**<0.0074**	ug/L	0.037	0.0074	1	11/20/17 11:08	11/22/17 19:33	129-00-0	
Total PAHs	**0.041**	ug/L			1	11/20/17 11:08	11/22/17 19:33		
Surrogates									
2-Fluorobiphenyl (S)	61	%	35-84		1	11/20/17 11:08	11/22/17 19:33	321-60-8	
Terphenyl-d14 (S)	77	%	10-129		1	11/20/17 11:08	11/22/17 19:33	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 22:52	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 22:52	100-41-4	
Surrogates									
Dibromofluoromethane (S)	107	%	67-130		1		11/21/17 22:52	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		11/21/17 22:52	2037-26-5	
4-Bromofluorobenzene (S)	90	%	61-130		1		11/21/17 22:52	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.9J**	ug/L	2.0	0.33	1		11/28/17 13:23		

Sample: 111617035 **Lab ID: 40161121006** Collected: 11/16/17 13:50 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.83J**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 03:06	7440-38-2	
Iron	**<111**	ug/L	368	111	1	11/28/17 08:43	12/01/17 03:06	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0056**	ug/L	0.028	0.0056	1	11/20/17 11:08	11/22/17 19:52	83-32-9	
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	11/20/17 11:08	11/22/17 19:52	208-96-8	
Anthracene	**<0.0097**	ug/L	0.048	0.0097	1	11/20/17 11:08	11/22/17 19:52	120-12-7	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Sample: 111617035 **Lab ID: 40161121006** Collected: 11/16/17 13:50 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Benzo(a)anthracene	**<0.0070**	ug/L	0.035	0.0070	1	11/20/17 11:08	11/22/17 19:52	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 11:08	11/22/17 19:52	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.027	0.0053	1	11/20/17 11:08	11/22/17 19:52	205-99-2	
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.031	0.0063	1	11/20/17 11:08	11/22/17 19:52	191-24-2	
Benzo(k)fluoranthene	**<0.0070**	ug/L	0.035	0.0070	1	11/20/17 11:08	11/22/17 19:52	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	11/20/17 11:08	11/22/17 19:52	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	11/20/17 11:08	11/22/17 19:52	53-70-3	
Fluoranthene	**<0.0099**	ug/L	0.049	0.0099	1	11/20/17 11:08	11/22/17 19:52	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/20/17 11:08	11/22/17 19:52	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/20/17 11:08	11/22/17 19:52	193-39-5	
1-Methylnaphthalene	**<0.0055**	ug/L	0.027	0.0055	1	11/20/17 11:08	11/22/17 19:52	90-12-0	
2-Methylnaphthalene	**<0.0045**	ug/L	0.023	0.0045	1	11/20/17 11:08	11/22/17 19:52	91-57-6	
Naphthalene	**<0.017**	ug/L	0.085	0.017	1	11/20/17 11:08	11/22/17 19:52	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	11/20/17 11:08	11/22/17 19:52	85-01-8	
Pyrene	**<0.0071**	ug/L	0.035	0.0071	1	11/20/17 11:08	11/22/17 19:52	129-00-0	
Total PAHs	**0.023**	ug/L			1	11/20/17 11:08	11/22/17 19:52		
Surrogates									
2-Fluorobiphenyl (S)	57	%	35-84		1	11/20/17 11:08	11/22/17 19:52	321-60-8	
Terphenyl-d14 (S)	74	%	10-129		1	11/20/17 11:08	11/22/17 19:52	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 23:14	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 23:14	100-41-4	
Surrogates									
Dibromofluoromethane (S)	112	%	67-130		1		11/21/17 23:14	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		11/21/17 23:14	2037-26-5	
4-Bromofluorobenzene (S)	90	%	61-130		1		11/21/17 23:14	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.9J**	ug/L	2.0	0.33	1		11/28/17 13:24		

Sample: 111617036 **Lab ID: 40161121007** Collected: 11/16/17 14:55 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.48J**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 03:13	7440-38-2	
Iron	**<111**	ug/L	368	111	1	11/28/17 08:43	12/01/17 03:13	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.022J**	ug/L	0.029	0.0057	1	11/20/17 11:08	11/22/17 20:10	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	11/20/17 11:08	11/22/17 20:10	208-96-8	
Anthracene	**<0.0099**	ug/L	0.049	0.0099	1	11/20/17 11:08	11/22/17 20:10	120-12-7	
Benzo(a)anthracene	**<0.0071**	ug/L	0.036	0.0071	1	11/20/17 11:08	11/22/17 20:10	56-55-3	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Sample: 111617036 **Lab ID: 40161121007** Collected: 11/16/17 14:55 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Benzo(a)pyrene	**<0.0099**	ug/L	0.050	0.0099	1	11/20/17 11:08	11/22/17 20:10	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	11/20/17 11:08	11/22/17 20:10	205-99-2	
Benzo(g,h,i)perylene	**<0.0064**	ug/L	0.032	0.0064	1	11/20/17 11:08	11/22/17 20:10	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.036	0.0071	1	11/20/17 11:08	11/22/17 20:10	207-08-9	
Chrysene	**<0.012**	ug/L	0.062	0.012	1	11/20/17 11:08	11/22/17 20:10	218-01-9	
Dibenz(a,h)anthracene	**<0.0095**	ug/L	0.047	0.0095	1	11/20/17 11:08	11/22/17 20:10	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	11/20/17 11:08	11/22/17 20:10	206-44-0	
Fluorene	**<0.0075**	ug/L	0.038	0.0075	1	11/20/17 11:08	11/22/17 20:10	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.083	0.017	1	11/20/17 11:08	11/22/17 20:10	193-39-5	
1-Methylnaphthalene	**<0.0056**	ug/L	0.028	0.0056	1	11/20/17 11:08	11/22/17 20:10	90-12-0	
2-Methylnaphthalene	**<0.0046**	ug/L	0.023	0.0046	1	11/20/17 11:08	11/22/17 20:10	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	11/20/17 11:08	11/22/17 20:10	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.065	0.013	1	11/20/17 11:08	11/22/17 20:10	85-01-8	
Pyrene	**<0.0072**	ug/L	0.036	0.0072	1	11/20/17 11:08	11/22/17 20:10	129-00-0	
Total PAHs	**0.043**	ug/L			1	11/20/17 11:08	11/22/17 20:10		
Surrogates									
2-Fluorobiphenyl (S)	51	%	35-84		1	11/20/17 11:08	11/22/17 20:10	321-60-8	
Terphenyl-d14 (S)	71	%	10-129		1	11/20/17 11:08	11/22/17 20:10	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 23:06	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 23:06	100-41-4	
Surrogates									
Dibromofluoromethane (S)	104	%	67-130		1		11/21/17 23:06	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		11/21/17 23:06	2037-26-5	
4-Bromofluorobenzene (S)	92	%	61-130		1		11/21/17 23:06	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**3.6**	ug/L	2.0	0.33	1		11/28/17 13:25		

Sample: 111617037 **Lab ID: 40161121008** Collected: 11/16/17 15:45 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**1.0**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 03:21	7440-38-2	
Iron	**2080**	ug/L	368	111	1	11/28/17 08:43	12/01/17 03:21	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0056**	ug/L	0.028	0.0056	1	11/20/17 11:08	11/22/17 20:29	83-32-9	
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	11/20/17 11:08	11/22/17 20:29	208-96-8	
Anthracene	**<0.0097**	ug/L	0.048	0.0097	1	11/20/17 11:08	11/22/17 20:29	120-12-7	
Benzo(a)anthracene	**0.0098J**	ug/L	0.035	0.0070	1	11/20/17 11:08	11/22/17 20:29	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	11/20/17 11:08	11/22/17 20:29	50-32-8	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Sample: 111617037 **Lab ID: 40161121008** Collected: 11/16/17 15:45 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Benzo(b)fluoranthene	**0.015J**	ug/L	0.027	0.0053	1	11/20/17 11:08	11/22/17 20:29	205-99-2	
Benzo(g,h,i)perylene	**0.0092J**	ug/L	0.031	0.0063	1	11/20/17 11:08	11/22/17 20:29	191-24-2	
Benzo(k)fluoranthene	**0.011J**	ug/L	0.035	0.0070	1	11/20/17 11:08	11/22/17 20:29	207-08-9	
Chrysene	**0.024J**	ug/L	0.060	0.012	1	11/20/17 11:08	11/22/17 20:29	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	11/20/17 11:08	11/22/17 20:29	53-70-3	
Fluoranthene	**0.021J**	ug/L	0.049	0.0099	1	11/20/17 11:08	11/22/17 20:29	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/20/17 11:08	11/22/17 20:29	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/20/17 11:08	11/22/17 20:29	193-39-5	
1-Methylnaphthalene	**<0.0055**	ug/L	0.027	0.0055	1	11/20/17 11:08	11/22/17 20:29	90-12-0	
2-Methylnaphthalene	**<0.0045**	ug/L	0.023	0.0045	1	11/20/17 11:08	11/22/17 20:29	91-57-6	
Naphthalene	**<0.017**	ug/L	0.085	0.017	1	11/20/17 11:08	11/22/17 20:29	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	11/20/17 11:08	11/22/17 20:29	85-01-8	
Pyrene	**0.044**	ug/L	0.035	0.0071	1	11/20/17 11:08	11/22/17 20:29	129-00-0	
Total PAHs	**0.17**	ug/L			1	11/20/17 11:08	11/22/17 20:29		
Surrogates									
2-Fluorobiphenyl (S)	56	%	35-84		1	11/20/17 11:08	11/22/17 20:29	321-60-8	
Terphenyl-d14 (S)	69	%	10-129		1	11/20/17 11:08	11/22/17 20:29	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 23:28	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 23:28	100-41-4	
Surrogates									
Dibromofluoromethane (S)	100	%	67-130		1		11/21/17 23:28	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		11/21/17 23:28	2037-26-5	
4-Bromofluorobenzene (S)	94	%	61-130		1		11/21/17 23:28	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.9J**	ug/L	2.0	0.33	1		11/28/17 13:26		

Sample: 111617038 **Lab ID: 40161121009** Collected: 11/16/17 17:00 Received: 11/18/17 08:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 23:50	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/21/17 23:50	100-41-4	
Surrogates									
Dibromofluoromethane (S)	100	%	67-130		1		11/21/17 23:50	1868-53-7	
Toluene-d8 (S)	104	%	70-130		1		11/21/17 23:50	2037-26-5	
4-Bromofluorobenzene (S)	93	%	61-130		1		11/21/17 23:50	460-00-4	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

QC Batch: 275383 | Analysis Method: EPA 6020
QC Batch Method: EPA 3010 | Analysis Description: 6020 MET
Associated Lab Samples: 40161121001, 40161121002, 40161121003, 40161121004, 40161121005, 40161121006, 40161121007, 40161121008

METHOD BLANK: 1619835 | Matrix: Water
Associated Lab Samples: 40161121001, 40161121002, 40161121003, 40161121004, 40161121005, 40161121006, 40161121007, 40161121008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<0.28	1.0	12/01/17 00:36	
Iron	ug/L	<111	368	12/01/17 00:36	

LABORATORY CONTROL SAMPLE: 1619836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	460	92	80-120	
Iron	ug/L	5000	4960	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1619837 1619838

Parameter	Units	40161190001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	5.4	500	500	496	485	98	96	75-125	2	20	
Iron	ug/L	2910	5000	5000	7870	7830	99	98	75-125	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

QC Batch: 274797 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40161121001, 40161121002, 40161121003, 40161121004, 40161121005, 40161121006

METHOD BLANK: 1617013 | Matrix: Water
Associated Lab Samples: 40161121001, 40161121002, 40161121003, 40161121004, 40161121005, 40161121006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	11/21/17 15:24	
Ethylbenzene	ug/L	<0.50	1.0	11/21/17 15:24	
4-Bromofluorobenzene (S)	%	89	61-130	11/21/17 15:24	
Dibromofluoromethane (S)	%	105	67-130	11/21/17 15:24	
Toluene-d8 (S)	%	99	70-130	11/21/17 15:24	

LABORATORY CONTROL SAMPLE: 1617014

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	43.4	87	73-145	
Ethylbenzene	ug/L	50	52.7	105	87-129	
4-Bromofluorobenzene (S)	%			103	61-130	
Dibromofluoromethane (S)	%			101	67-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1617754 1617755

Parameter	Units	40161015002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	50	50	47.3	45.6	95	91	73-145	4	20	
Ethylbenzene	ug/L	<0.50	50	50	54.6	52.8	109	106	87-129	3	20	
4-Bromofluorobenzene (S)	%						105	106	61-130			
Dibromofluoromethane (S)	%						103	102	67-130			
Toluene-d8 (S)	%						100	100	70-130			

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REPORT OF LABORATORY ANALYSIS

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(920)469-2436

QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

QC Batch: 274955 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40161121007, 40161121008, 40161121009

METHOD BLANK: 1617544 | Matrix: Water
Associated Lab Samples: 40161121007, 40161121008, 40161121009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	11/21/17 16:31	
Ethylbenzene	ug/L	<0.50	1.0	11/21/17 16:31	
4-Bromofluorobenzene (S)	%	95	61-130	11/21/17 16:31	
Dibromofluoromethane (S)	%	89	67-130	11/21/17 16:31	
Toluene-d8 (S)	%	98	70-130	11/21/17 16:31	

LABORATORY CONTROL SAMPLE: 1617545

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	56.8	114	73-145	
Ethylbenzene	ug/L	50	56.7	113	87-129	
4-Bromofluorobenzene (S)	%			101	61-130	
Dibromofluoromethane (S)	%			103	67-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1617546 1617547

Parameter	Units	40161160004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<1.0	50	50	59.4	50.0	119	100	73-145	17	20	
Ethylbenzene	ug/L	<1.0	50	50	59.2	50.5	118	101	87-129	16	20	
4-Bromofluorobenzene (S)	%						101	102	61-130			
Dibromofluoromethane (S)	%						105	104	67-130			
Toluene-d8 (S)	%						98	99	70-130			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

QC Batch: 274780 | Analysis Method: EPA 8270 by HVI
QC Batch Method: EPA 3510 | Analysis Description: 8270 Water PAH by HVI
Associated Lab Samples: 40161121001, 40161121002, 40161121003, 40161121004, 40161121005, 40161121006, 40161121007, 40161121008

METHOD BLANK: 1616941 | Matrix: Water
Associated Lab Samples: 40161121001, 40161121002, 40161121003, 40161121004, 40161121005, 40161121006, 40161121007, 40161121008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	<0.0059	0.030	11/21/17 10:06	
2-Methylnaphthalene	ug/L	<0.0049	0.024	11/21/17 10:06	
Acenaphthene	ug/L	<0.0061	0.030	11/21/17 10:06	
Acenaphthylene	ug/L	<0.0050	0.025	11/21/17 10:06	
Anthracene	ug/L	<0.010	0.052	11/21/17 10:06	
Benzo(a)anthracene	ug/L	<0.0076	0.038	11/21/17 10:06	
Benzo(a)pyrene	ug/L	<0.011	0.053	11/21/17 10:06	
Benzo(b)fluoranthene	ug/L	<0.0057	0.029	11/21/17 10:06	
Benzo(g,h,i)perylene	ug/L	<0.0068	0.034	11/21/17 10:06	
Benzo(k)fluoranthene	ug/L	<0.0076	0.038	11/21/17 10:06	
Chrysene	ug/L	<0.013	0.065	11/21/17 10:06	
Dibenz(a,h)anthracene	ug/L	<0.010	0.050	11/21/17 10:06	
Fluoranthene	ug/L	<0.011	0.053	11/21/17 10:06	
Fluorene	ug/L	<0.0080	0.040	11/21/17 10:06	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	0.088	11/21/17 10:06	
Naphthalene	ug/L	<0.018	0.092	11/21/17 10:06	
Phenanthrene	ug/L	<0.014	0.069	11/21/17 10:06	
Pyrene	ug/L	<0.0076	0.038	11/21/17 10:06	
Total PAHs	ug/L	0.0000000010		11/21/17 10:06	
2-Fluorobiphenyl (S)	%	57	35-84	11/21/17 10:06	
Terphenyl-d14 (S)	%	84	10-129	11/21/17 10:06	

LABORATORY CONTROL SAMPLE: 1616942

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	2	1.5	76	39-83	
2-Methylnaphthalene	ug/L	2	1.5	75	38-86	
Acenaphthene	ug/L	2	1.5	74	35-85	
Acenaphthylene	ug/L	2	1.5	74	31-88	
Anthracene	ug/L	2	1.8	88	47-104	
Benzo(a)anthracene	ug/L	2	1.4	71	36-105	
Benzo(a)pyrene	ug/L	2	1.7	83	69-117	
Benzo(b)fluoranthene	ug/L	2	1.5	74	54-107	
Benzo(g,h,i)perylene	ug/L	2	0.93	46	13-86	
Benzo(k)fluoranthene	ug/L	2	1.7	83	63-128	
Chrysene	ug/L	2	2.0	100	69-150	
Dibenz(a,h)anthracene	ug/L	2	0.81	40	10-87	
Fluoranthene	ug/L	2	1.9	95	57-103	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

LABORATORY CONTROL SAMPLE: 1616942

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluorene	ug/L	2	1.6	80	38-85	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.5	75	40-111	
Naphthalene	ug/L	2	1.3	65	39-82	
Phenanthrene	ug/L	2	1.7	85	46-96	
Pyrene	ug/L	2	1.8	91	57-110	
Total PAHs	ug/L		27.5			
2-Fluorobiphenyl (S)	%			69	35-84	
Terphenyl-d14 (S)	%			82	10-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616943 1616944

Parameter	Units	40161118003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/L	<0.0061	2	2	1.3	1.4	66	68	27-86	6	29	
2-Methylnaphthalene	ug/L	<0.0051	2	2	1.3	1.3	64	66	30-86	5	35	
Acenaphthene	ug/L	<0.0063	2	2	1.2	1.3	59	62	28-85	6	29	
Acenaphthylene	ug/L	<0.0051	2	2	1.2	1.2	59	60	27-88	5	29	
Anthracene	ug/L	<0.011	2	2	1.3	1.5	63	73	38-104	16	35	
Benzo(a)anthracene	ug/L	<0.0078	2	2	1.1	1.1	53	52	10-105	1	28	
Benzo(a)pyrene	ug/L	<0.011	2	2	1.2	1.3	58	62	10-130	8	26	
Benzo(b)fluoranthene	ug/L	<0.0059	2	2	1.1	1.2	54	57	10-115	7	25	
Benzo(g,h,i)perylene	ug/L	<0.0070	2	2	0.50	0.58	25	29	10-87	15	42	
Benzo(k)fluoranthene	ug/L	<0.0078	2	2	1.2	1.3	58	61	10-133	8	25	
Chrysene	ug/L	<0.013	2	2	1.6	1.9	80	91	17-150	15	24	
Dibenz(a,h)anthracene	ug/L	<0.010	2	2	0.53	0.60	26	29	10-89	13	49	
Fluoranthene	ug/L	<0.011	2	2	1.5	1.5	76	73	41-103	1	32	
Fluorene	ug/L	<0.0082	2	2	1.2	1.3	61	64	32-85	8	28	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	2	2	0.81	0.94	40	46	10-111	15	37	
Naphthalene	ug/L	<0.019	2	2	1.2	1.2	58	59	23-88	4	28	
Phenanthrene	ug/L	<0.014	2	2	1.3	1.3	63	61	33-96	0	25	
Pyrene	ug/L	0.019J	2	2	1.5	1.6	74	80	38-110	9	28	
Total PAHs	ug/L	0.032			20.8	22.3				7		
2-Fluorobiphenyl (S)	%						56	59	35-84			
Terphenyl-d14 (S)	%						65	68	10-129			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

QC Batch: 10100 | Analysis Method: OIA1677
QC Batch Method: OIA1677 | Analysis Description: OIA1677 Cyanide, Available
Associated Lab Samples: 40161121001, 40161121002, 40161121003, 40161121004, 40161121005, 40161121006, 40161121007, 40161121008

METHOD BLANK: 41139 | Matrix: Water
Associated Lab Samples: 40161121001, 40161121002, 40161121003, 40161121004, 40161121005, 40161121006, 40161121007, 40161121008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Available Cyanide	ug/L	<0.33	2.0	11/28/17 13:06	

LABORATORY CONTROL SAMPLE: 41140

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Available Cyanide	ug/L	20	18.6	93	82-132	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 41141 41142

Parameter	Units	40161121001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Available Cyanide	ug/L	1.1J	20	20	20.7	21.3	98	101	82-130	3	11	

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QUALIFIERS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay
PASI-GRMI	Pace Analytical - Grand Rapids

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2133 SOLVAY COKE
Pace Project No.: 40161121

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40161121001	**111617030**	EPA 3010	275383	EPA 6020	275593
40161121002	**111617031**	EPA 3010	275383	EPA 6020	275593
40161121003	**111617032**	EPA 3010	275383	EPA 6020	275593
40161121004	**111617033**	EPA 3010	275383	EPA 6020	275593
40161121005	**111617034**	EPA 3010	275383	EPA 6020	275593
40161121006	**111617035**	EPA 3010	275383	EPA 6020	275593
40161121007	**111617036**	EPA 3010	275383	EPA 6020	275593
40161121008	**111617037**	EPA 3010	275383	EPA 6020	275593
40161121001	**111617030**	EPA 3510	274780	EPA 8270 by HVI	274898
40161121002	**111617031**	EPA 3510	274780	EPA 8270 by HVI	274898
40161121003	**111617032**	EPA 3510	274780	EPA 8270 by HVI	274898
40161121004	**111617033**	EPA 3510	274780	EPA 8270 by HVI	274898
40161121005	**111617034**	EPA 3510	274780	EPA 8270 by HVI	274898
40161121006	**111617035**	EPA 3510	274780	EPA 8270 by HVI	274898
40161121007	**111617036**	EPA 3510	274780	EPA 8270 by HVI	274898
40161121008	**111617037**	EPA 3510	274780	EPA 8270 by HVI	274898
40161121001	**111617030**	EPA 8260	274797		
40161121002	**111617031**	EPA 8260	274797		
40161121003	**111617032**	EPA 8260	274797		
40161121004	**111617033**	EPA 8260	274797		
40161121005	**111617034**	EPA 8260	274797		
40161121006	**111617035**	EPA 8260	274797		
40161121007	**111617036**	EPA 8260	274955		
40161121008	**111617037**	EPA 8260	274955		
40161121009	**111617038**	EPA 8260	274955		
40161121001	**111617030**	OIA1677	10100		
40161121002	**111617031**	OIA1677	10100		
40161121003	**111617032**	OIA1677	10100		
40161121004	**111617033**	OIA1677	10100		
40161121005	**111617034**	OIA1677	10100		
40161121006	**111617035**	OIA1677	10100		
40161121007	**111617036**	OIA1677	10100		
40161121008	**111617037**	OIA1677	10100		

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COC #: 171116005

Page 1 of

Page 21 of 22

UPPER MIDWEST REGION

MN: 612-607-1700 **WI:** 920-469-2436

CUSTODY SEAL #'S: SC-171116009 SC-171116010

SSM

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CHAIN OF CUSTODY

***Preservation Codes**
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	NATURAL RESOURCE TECHNOLOGY
Branch/Location:	MILWAUKEE
Project Contact:	JAY KARLS
Phone:	414-837-3606
Project Number:	2133
Project Name:	SOLVAY COKE
Project State:	WI
Sampled By (Print):	DAN VACHON
Sampled By (Sign):	[signature]
PO #:	Regulatory Program:

Quote #:	40161121
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
- ☐ EPA Level III
- ☒ EPA Level IV

MS/MSD
- ☒ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Analyses Requested: BENZENE (8260B) + ETHYLBENZENE	PAHs (8270-SIM)	IRON + ARSENIC (6020A)	AVAILABLE CYANIDE (OIA-1677)					CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N: N	N	Y	N							
					Pick Letter: B	A	G	D							
001	~~111617029~~ 111617030	11/16/17	0855	GW	X	X	X	X	1-100mLag A			4	~~3~~ 11/18/17 KB -40mLv B B B J	2-250mLag G	1-250mlp D
002	111617031	11/16/17	0950	GW	X	X	X	X							
003	111617032	11/16/17	1135	GW	X	X	X	X							
004	111617033	11/16/17	1230	GW	X	X	X	X							
005	111617034	11/16/17	1345	GW	X	X	X	X							
006	111617035	11/16/17	1350	GW	X	X	X	X							
007	111617036	11/16/17	1455	GW	X	X	X	X							
008	111617037	11/16/17	1545	GW	X	X	X	X							
009	111617038	11/16/17	1700	W	X								TRIP BLANK	2-40mLvB	

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	11/16/17 @ 1710	Katie Schramm Pace	11/18/17 0800

PACE Project No. 40161121

Receipt Temp = R01 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Pace Analytical™

Project #: **WO# : 40161121**

40161121

Client Name: NRT

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace ☑ Other: CS Logistics

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Thermometer Used NA **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: /Corr: R01 **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents:
Date: 11/18/17
Initials: KJ

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes	☐No		Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes	☐No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume: KJ 11/18/17	☐Yes	☑No	☐N/A	8. no MS/MSD KJ 11/18/17
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
-Pace IR Containers Used:	☐Yes	☐No	☑N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☑Yes	☐No	☐N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑Yes	☐No	☐N/A	13. ☑ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDRO/W, Phenolics, OTHER: Cn Available	☑Yes	☐No		Initial when completed KJ / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	14.
Trip Blank Present:	☑Yes	☐No	☐N/A	15.
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if purchased): 388				

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:** 11/20/17

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

December 07, 2017

Andrew Cawrse
Natural Resource Technology
234 W Florida St
Milwaukee, WI 53204

RE: Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

Dear Andrew Cawrse:
Enclosed are the analytical results for sample(s) received by the laboratory on November 21, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: NRT Data, Natural Resource Technologies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY
Jay Karls, Natural Resource Technology
Robert Paulson, We Energies

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CERTIFICATIONS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512
ISO/IEC 17025:2005, Certificate #AT-1542.01
DoD-ELAP, Certificate #ADE-1542
Minnesota Department of Health, Certificate #1177224
Arkansas Department of Environmental Quality, Certificate #17-046-0
Georgia Environmental Protection Division, Stipulation
Illinois Environmental Protection Agency, Certificate #004097
Michigan Department of Environmental Quality, Laboratory #0034
New York State Department of Health, Serial #56192 and 56193
North Carolina Division of Water Resources, Certificate #659
Virginia Department of General Services, Certificate #9028
Wisconsin Department of Natural Resources, Laboratory #999472650
U.S. Department of Agriculture Permit to Receive Soil, Permit #P330-14-00305

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SAMPLE SUMMARY

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40161190001	**111717039**	Water	11/17/17 08:10	11/21/17 07:30
40161190002	**111717040**	Water	11/17/17 09:55	11/21/17 07:30
40161190003	**111717041**	Water	11/17/17 10:50	11/21/17 07:30
40161190004	**111717042**	Water	11/17/17 12:30	11/21/17 07:30
40161190005	**111717043**	Water	11/17/17 13:05	11/21/17 07:30
40161190006	**111717044**	Water	11/17/17 14:00	11/21/17 07:30

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SAMPLE ANALYTE COUNT

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40161190001	**111717039**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161190002	**111717040**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161190003	**111717041**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161190004	**111717042**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161190005	**111717043**	EPA 6020	DS1	2	PASI-G
		EPA 8270 by HVI	TPO	21	PASI-G
		EPA 8260	LAP	5	PASI-G
		OIA1677	IDT	1	PASI-GRMI
40161190006	**111717044**	EPA 8260	LAP	5	PASI-G

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

Sample: 111717039 **Lab ID: 40161190001** Collected: 11/17/17 08:10 Received: 11/21/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**5.4**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 00:51	7440-38-2	
Iron	**2910**	ug/L	368	111	1	11/28/17 08:43	12/01/17 00:51	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**2.0**	ug/L	0.028	0.0057	1	11/21/17 13:03	11/21/17 17:48	83-32-9	
Acenaphthylene	**0.20**	ug/L	0.023	0.0047	1	11/21/17 13:03	11/21/17 17:48	208-96-8	
Anthracene	**0.20**	ug/L	0.049	0.0098	1	11/21/17 13:03	11/21/17 17:48	120-12-7	
Benzo(a)anthracene	**0.11**	ug/L	0.035	0.0071	1	11/21/17 13:03	11/21/17 17:48	56-55-3	
Benzo(a)pyrene	**0.038J**	ug/L	0.049	0.0098	1	11/21/17 13:03	11/21/17 17:48	50-32-8	
Benzo(b)fluoranthene	**0.065**	ug/L	0.027	0.0054	1	11/21/17 13:03	11/21/17 17:48	205-99-2	
Benzo(g,h,i)perylene	**0.030J**	ug/L	0.032	0.0063	1	11/21/17 13:03	11/21/17 17:48	191-24-2	
Benzo(k)fluoranthene	**0.030J**	ug/L	0.035	0.0071	1	11/21/17 13:03	11/21/17 17:48	207-08-9	
Chrysene	**0.14**	ug/L	0.061	0.012	1	11/21/17 13:03	11/21/17 17:48	218-01-9	
Dibenz(a,h)anthracene	**<0.0094**	ug/L	0.047	0.0094	1	11/21/17 13:03	11/21/17 17:48	53-70-3	
Fluoranthene	**2.4**	ug/L	0.050	0.010	1	11/21/17 13:03	11/21/17 17:48	206-44-0	L1
Fluorene	**0.059**	ug/L	0.037	0.0074	1	11/21/17 13:03	11/21/17 17:48	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.028J**	ug/L	0.082	0.016	1	11/21/17 13:03	11/21/17 17:48	193-39-5	
1-Methylnaphthalene	**0.017J**	ug/L	0.028	0.0055	1	11/21/17 13:03	11/21/17 17:48	90-12-0	
2-Methylnaphthalene	**<0.0046**	ug/L	0.023	0.0046	1	11/21/17 13:03	11/21/17 17:48	91-57-6	
Naphthalene	**0.024J**	ug/L	0.086	0.017	1	11/21/17 13:03	11/21/17 17:48	91-20-3	
Phenanthrene	**0.046J**	ug/L	0.064	0.013	1	11/21/17 13:03	11/21/17 17:48	85-01-8	
Pyrene	**1.7**	ug/L	0.036	0.0071	1	11/21/17 13:03	11/21/17 17:48	129-00-0	
Total PAHs	**7.1**	ug/L			1	11/21/17 13:03	11/21/17 17:48		
Surrogates									
2-Fluorobiphenyl (S)	62	%	35-84		1	11/21/17 13:03	11/21/17 17:48	321-60-8	
Terphenyl-d14 (S)	76	%	10-129		1	11/21/17 13:03	11/21/17 17:48	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 20:13	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 20:13	100-41-4	
Surrogates									
Dibromofluoromethane (S)	100	%	67-130		1		11/22/17 20:13	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		11/22/17 20:13	2037-26-5	
4-Bromofluorobenzene (S)	94	%	61-130		1		11/22/17 20:13	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**1.6J**	ug/L	2.0	0.33	1		11/28/17 14:13		

Sample: 111717040 **Lab ID: 40161190002** Collected: 11/17/17 09:55 Received: 11/21/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**8.0**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 01:36	7440-38-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

Sample: 111717040 **Lab ID: 40161190002** Collected: 11/17/17 09:55 Received: 11/21/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Iron	**67800**	ug/L	368	111	1	11/28/17 08:43	12/01/17 01:36	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.38**	ug/L	0.028	0.0057	1	11/21/17 13:03	11/27/17 15:20	83-32-9	
Acenaphthylene	**0.057**	ug/L	0.023	0.0047	1	11/21/17 13:03	11/27/17 15:20	208-96-8	
Anthracene	**0.11**	ug/L	0.049	0.0098	1	11/21/17 13:03	11/27/17 15:20	120-12-7	
Benzo(a)anthracene	**0.040**	ug/L	0.035	0.0071	1	11/21/17 13:03	11/27/17 15:20	56-55-3	
Benzo(a)pyrene	**0.021J**	ug/L	0.049	0.0098	1	11/21/17 13:03	11/27/17 15:20	50-32-8	
Benzo(b)fluoranthene	**0.031**	ug/L	0.027	0.0054	1	11/21/17 13:03	11/27/17 15:20	205-99-2	
Benzo(g,h,i)perylene	**0.016J**	ug/L	0.032	0.0063	1	11/21/17 13:03	11/27/17 15:20	191-24-2	
Benzo(k)fluoranthene	**0.015J**	ug/L	0.035	0.0071	1	11/21/17 13:03	11/27/17 15:20	207-08-9	
Chrysene	**0.049J**	ug/L	0.061	0.012	1	11/21/17 13:03	11/27/17 15:20	218-01-9	
Dibenz(a,h)anthracene	**<0.0094**	ug/L	0.047	0.0094	1	11/21/17 13:03	11/27/17 15:20	53-70-3	
Fluoranthene	**0.47**	ug/L	0.050	0.010	1	11/21/17 13:03	11/27/17 15:20	206-44-0	L1
Fluorene	**0.49**	ug/L	0.037	0.0074	1	11/21/17 13:03	11/27/17 15:20	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	11/21/17 13:03	11/27/17 15:20	193-39-5	
1-Methylnaphthalene	**0.054**	ug/L	0.028	0.0055	1	11/21/17 13:03	11/27/17 15:20	90-12-0	
2-Methylnaphthalene	**0.012J**	ug/L	0.023	0.0046	1	11/21/17 13:03	11/27/17 15:20	91-57-6	
Naphthalene	**0.18**	ug/L	0.086	0.017	1	11/21/17 13:03	11/27/17 15:20	91-20-3	
Phenanthrene	**0.14**	ug/L	0.064	0.013	1	11/21/17 13:03	11/27/17 15:20	85-01-8	
Pyrene	**0.30**	ug/L	0.036	0.0071	1	11/21/17 13:03	11/27/17 15:20	129-00-0	
Total PAHs	**2.4**	ug/L			1	11/21/17 13:03	11/27/17 15:20		
Surrogates									
2-Fluorobiphenyl (S)	44	%	35-84		1	11/21/17 13:03	11/27/17 15:20	321-60-8	
Terphenyl-d14 (S)	53	%	10-129		1	11/21/17 13:03	11/27/17 15:20	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 23:13	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 23:13	100-41-4	
Surrogates									
Dibromofluoromethane (S)	104	%	67-130		1		11/22/17 23:13	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		11/22/17 23:13	2037-26-5	
4-Bromofluorobenzene (S)	99	%	61-130		1		11/22/17 23:13	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**3.7**	ug/L	2.0	0.33	1		11/28/17 14:16		

Sample: 111717041 **Lab ID: 40161190003** Collected: 11/17/17 10:50 Received: 11/21/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.51J**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 01:51	7440-38-2	
Iron	**2140**	ug/L	368	111	1	11/28/17 08:43	12/01/17 01:51	7439-89-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

Sample: 111717041 **Lab ID: 40161190003** Collected: 11/17/17 10:50 Received: 11/21/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0057**	ug/L	0.028	0.0057	1	11/21/17 13:03	11/27/17 15:39	83-32-9	
Acenaphthylene	**0.012J**	ug/L	0.023	0.0047	1	11/21/17 13:03	11/27/17 15:39	208-96-8	
Anthracene	**0.023J**	ug/L	0.049	0.0098	1	11/21/17 13:03	11/27/17 15:39	120-12-7	
Benzo(a)anthracene	**0.054**	ug/L	0.035	0.0071	1	11/21/17 13:03	11/27/17 15:39	56-55-3	
Benzo(a)pyrene	**0.042J**	ug/L	0.049	0.0098	1	11/21/17 13:03	11/27/17 15:39	50-32-8	
Benzo(b)fluoranthene	**0.067**	ug/L	0.027	0.0054	1	11/21/17 13:03	11/27/17 15:39	205-99-2	
Benzo(g,h,i)perylene	**0.036**	ug/L	0.032	0.0063	1	11/21/17 13:03	11/27/17 15:39	191-24-2	
Benzo(k)fluoranthene	**0.039**	ug/L	0.035	0.0071	1	11/21/17 13:03	11/27/17 15:39	207-08-9	
Chrysene	**0.092**	ug/L	0.061	0.012	1	11/21/17 13:03	11/27/17 15:39	218-01-9	
Dibenz(a,h)anthracene	**0.012J**	ug/L	0.047	0.0094	1	11/21/17 13:03	11/27/17 15:39	53-70-3	
Fluoranthene	**0.14**	ug/L	0.050	0.010	1	11/21/17 13:03	11/27/17 15:39	206-44-0	L1
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	11/21/17 13:03	11/27/17 15:39	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.034J**	ug/L	0.082	0.016	1	11/21/17 13:03	11/27/17 15:39	193-39-5	
1-Methylnaphthalene	**<0.0055**	ug/L	0.028	0.0055	1	11/21/17 13:03	11/27/17 15:39	90-12-0	
2-Methylnaphthalene	**0.0052J**	ug/L	0.023	0.0046	1	11/21/17 13:03	11/27/17 15:39	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	11/21/17 13:03	11/27/17 15:39	91-20-3	
Phenanthrene	**0.078**	ug/L	0.064	0.013	1	11/21/17 13:03	11/27/17 15:39	85-01-8	
Pyrene	**0.12**	ug/L	0.036	0.0071	1	11/21/17 13:03	11/27/17 15:39	129-00-0	
Total PAHs	**0.79**	ug/L			1	11/21/17 13:03	11/27/17 15:39		
Surrogates									
2-Fluorobiphenyl (S)	44	%	35-84		1	11/21/17 13:03	11/27/17 15:39	321-60-8	
Terphenyl-d14 (S)	58	%	10-129		1	11/21/17 13:03	11/27/17 15:39	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 23:36	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 23:36	100-41-4	
Surrogates									
Dibromofluoromethane (S)	108	%	67-130		1		11/22/17 23:36	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		11/22/17 23:36	2037-26-5	
4-Bromofluorobenzene (S)	97	%	61-130		1		11/22/17 23:36	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**2.2**	ug/L	2.0	0.33	1		11/28/17 14:29		

Sample: 111717042 **Lab ID: 40161190004** Collected: 11/17/17 12:30 Received: 11/21/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**0.66J**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 01:59	7440-38-2	
Iron	**804**	ug/L	368	111	1	11/28/17 08:43	12/01/17 01:59	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.040**	ug/L	0.028	0.0055	1	11/21/17 13:03	11/27/17 16:34	83-32-9	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

Sample: 111717042 **Lab ID: 40161190004** Collected: 11/17/17 12:30 Received: 11/21/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthylene	**<0.0045**	ug/L	0.023	0.0045	1	11/21/17 13:03	11/27/17 16:34	208-96-8	
Anthracene	**<0.0095**	ug/L	0.048	0.0095	1	11/21/17 13:03	11/27/17 16:34	120-12-7	
Benzo(a)anthracene	**<0.0069**	ug/L	0.034	0.0069	1	11/21/17 13:03	11/27/17 16:34	56-55-3	
Benzo(a)pyrene	**<0.0096**	ug/L	0.048	0.0096	1	11/21/17 13:03	11/27/17 16:34	50-32-8	
Benzo(b)fluoranthene	**0.0053J**	ug/L	0.026	0.0052	1	11/21/17 13:03	11/27/17 16:34	205-99-2	
Benzo(g,h,i)perylene	**<0.0062**	ug/L	0.031	0.0062	1	11/21/17 13:03	11/27/17 16:34	191-24-2	
Benzo(k)fluoranthene	**<0.0069**	ug/L	0.034	0.0069	1	11/21/17 13:03	11/27/17 16:34	207-08-9	
Chrysene	**<0.012**	ug/L	0.059	0.012	1	11/21/17 13:03	11/27/17 16:34	218-01-9	
Dibenz(a,h)anthracene	**<0.0091**	ug/L	0.046	0.0091	1	11/21/17 13:03	11/27/17 16:34	53-70-3	
Fluoranthene	**0.013J**	ug/L	0.048	0.0097	1	11/21/17 13:03	11/27/17 16:34	206-44-0	L1
Fluorene	**<0.0072**	ug/L	0.036	0.0072	1	11/21/17 13:03	11/27/17 16:34	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.080	0.016	1	11/21/17 13:03	11/27/17 16:34	193-39-5	
1-Methylnaphthalene	**<0.0054**	ug/L	0.027	0.0054	1	11/21/17 13:03	11/27/17 16:34	90-12-0	
2-Methylnaphthalene	**<0.0045**	ug/L	0.022	0.0045	1	11/21/17 13:03	11/27/17 16:34	91-57-6	
Naphthalene	**<0.017**	ug/L	0.083	0.017	1	11/21/17 13:03	11/27/17 16:34	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.063	0.013	1	11/21/17 13:03	11/27/17 16:34	85-01-8	
Pyrene	**0.016J**	ug/L	0.035	0.0070	1	11/21/17 13:03	11/27/17 16:34	129-00-0	
Total PAHs	**0.13**	ug/L			1	11/21/17 13:03	11/27/17 16:34		
Surrogates									
2-Fluorobiphenyl (S)	47	%	35-84		1	11/21/17 13:03	11/27/17 16:34	321-60-8	
Terphenyl-d14 (S)	58	%	10-129		1	11/21/17 13:03	11/27/17 16:34	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 23:59	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/22/17 23:59	100-41-4	
Surrogates									
Dibromofluoromethane (S)	104	%	67-130		1		11/22/17 23:59	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		11/22/17 23:59	2037-26-5	
4-Bromofluorobenzene (S)	94	%	61-130		1		11/22/17 23:59	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**2.0**	ug/L	2.0	0.33	1		11/28/17 14:30		

Sample: 111717043 **Lab ID: 40161190005** Collected: 11/17/17 13:05 Received: 11/21/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Arsenic	**1.2**	ug/L	1.0	0.28	1	11/28/17 08:43	12/01/17 02:06	7440-38-2	
Iron	**18900**	ug/L	368	111	1	11/28/17 08:43	12/01/17 02:06	7439-89-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0057**	ug/L	0.029	0.0057	1	11/21/17 13:03	11/27/17 16:53	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	11/21/17 13:03	11/27/17 16:53	208-96-8	

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ANALYTICAL RESULTS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

Sample: 111717043 **Lab ID: 40161190005** Collected: 11/17/17 13:05 Received: 11/21/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Anthracene	**<0.0099**	ug/L	0.049	0.0099	1	11/21/17 13:03	11/27/17 16:53	120-12-7	
Benzo(a)anthracene	**<0.0071**	ug/L	0.036	0.0071	1	11/21/17 13:03	11/27/17 16:53	56-55-3	
Benzo(a)pyrene	**<0.0099**	ug/L	0.050	0.0099	1	11/21/17 13:03	11/27/17 16:53	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	11/21/17 13:03	11/27/17 16:53	205-99-2	
Benzo(g,h,i)perylene	**<0.0064**	ug/L	0.032	0.0064	1	11/21/17 13:03	11/27/17 16:53	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.036	0.0071	1	11/21/17 13:03	11/27/17 16:53	207-08-9	
Chrysene	**<0.012**	ug/L	0.062	0.012	1	11/21/17 13:03	11/27/17 16:53	218-01-9	
Dibenz(a,h)anthracene	**<0.0095**	ug/L	0.047	0.0095	1	11/21/17 13:03	11/27/17 16:53	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	11/21/17 13:03	11/27/17 16:53	206-44-0	L1
Fluorene	**<0.0075**	ug/L	0.038	0.0075	1	11/21/17 13:03	11/27/17 16:53	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.083	0.017	1	11/21/17 13:03	11/27/17 16:53	193-39-5	
1-Methylnaphthalene	**<0.0056**	ug/L	0.028	0.0056	1	11/21/17 13:03	11/27/17 16:53	90-12-0	
2-Methylnaphthalene	**<0.0046**	ug/L	0.023	0.0046	1	11/21/17 13:03	11/27/17 16:53	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	11/21/17 13:03	11/27/17 16:53	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.065	0.013	1	11/21/17 13:03	11/27/17 16:53	85-01-8	
Pyrene	**<0.0072**	ug/L	0.036	0.0072	1	11/21/17 13:03	11/27/17 16:53	129-00-0	
Total PAHs	**0.014**	ug/L			1	11/21/17 13:03	11/27/17 16:53		
Surrogates									
2-Fluorobiphenyl (S)	51	%	35-84		1	11/21/17 13:03	11/27/17 16:53	321-60-8	
Terphenyl-d14 (S)	64	%	10-129		1	11/21/17 13:03	11/27/17 16:53	1718-51-0	
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/23/17 00:21	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/23/17 00:21	100-41-4	
Surrogates									
Dibromofluoromethane (S)	110	%	67-130		1		11/23/17 00:21	1868-53-7	HS
Toluene-d8 (S)	94	%	70-130		1		11/23/17 00:21	2037-26-5	
4-Bromofluorobenzene (S)	87	%	61-130		1		11/23/17 00:21	460-00-4	
OIA1677 Cyanide, Available	Analytical Method: OIA1677								
Available Cyanide	**3.1**	ug/L	2.0	0.33	1		11/28/17 14:31		

Sample: 111717044 **Lab ID: 40161190006** Collected: 11/17/17 14:00 Received: 11/21/17 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260								
Benzene	**<0.50**	ug/L	1.0	0.50	1		11/23/17 01:06	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		11/23/17 01:06	100-41-4	
Surrogates									
Dibromofluoromethane (S)	109	%	67-130		1		11/23/17 01:06	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		11/23/17 01:06	2037-26-5	
4-Bromofluorobenzene (S)	98	%	61-130		1		11/23/17 01:06	460-00-4	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

QC Batch: 275383 | Analysis Method: EPA 6020
QC Batch Method: EPA 3010 | Analysis Description: 6020 MET
Associated Lab Samples: 40161190001, 40161190002, 40161190003, 40161190004, 40161190005

METHOD BLANK: 1619835 | Matrix: Water
Associated Lab Samples: 40161190001, 40161190002, 40161190003, 40161190004, 40161190005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<0.28	1.0	12/01/17 00:36	
Iron	ug/L	<111	368	12/01/17 00:36	

LABORATORY CONTROL SAMPLE: 1619836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	460	92	80-120	
Iron	ug/L	5000	4960	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1619837 1619838

Parameter	Units	40161190001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	5.4	500	500	496	485	98	96	75-125	2	20	
Iron	ug/L	2910	5000	5000	7870	7830	99	98	75-125	0	20	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

QC Batch: 275072 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40161190001, 40161190002, 40161190003, 40161190004, 40161190005, 40161190006

METHOD BLANK: 1618309 | Matrix: Water
Associated Lab Samples: 40161190001, 40161190002, 40161190003, 40161190004, 40161190005, 40161190006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	11/22/17 17:12	
Ethylbenzene	ug/L	<0.50	1.0	11/22/17 17:12	
4-Bromofluorobenzene (S)	%	99	61-130	11/22/17 17:12	
Dibromofluoromethane (S)	%	99	67-130	11/22/17 17:12	
Toluene-d8 (S)	%	98	70-130	11/22/17 17:12	

LABORATORY CONTROL SAMPLE: 1618310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	49.6	50.4	102	73-145	
Ethylbenzene	ug/L	49.6	54.4	110	87-129	
4-Bromofluorobenzene (S)	%			102	61-130	
Dibromofluoromethane (S)	%			98	67-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1618311 1618312

Parameter	Units	40161190001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	49.6	49.6	52.6	51.0	106	103	73-145	3	20	
Ethylbenzene	ug/L	<0.50	49.6	49.6	57.0	55.9	115	113	87-129	2	20	
4-Bromofluorobenzene (S)	%						103	110	61-130			
Dibromofluoromethane (S)	%						95	98	67-130			
Toluene-d8 (S)	%						98	102	70-130			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

QC Batch: 275017 | Analysis Method: EPA 8270 by HVI
QC Batch Method: EPA 3510 | Analysis Description: 8270 Water PAH by HVI
Associated Lab Samples: 40161190001, 40161190002, 40161190003, 40161190004, 40161190005

METHOD BLANK: 1617932 | Matrix: Water
Associated Lab Samples: 40161190001, 40161190002, 40161190003, 40161190004, 40161190005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	<0.0059	0.030	11/21/17 15:02	
2-Methylnaphthalene	ug/L	<0.0049	0.024	11/21/17 15:02	
Acenaphthene	ug/L	<0.0061	0.030	11/21/17 15:02	
Acenaphthylene	ug/L	<0.0050	0.025	11/21/17 15:02	
Anthracene	ug/L	<0.010	0.052	11/21/17 15:02	
Benzo(a)anthracene	ug/L	<0.0076	0.038	11/21/17 15:02	
Benzo(a)pyrene	ug/L	<0.011	0.053	11/21/17 15:02	
Benzo(b)fluoranthene	ug/L	<0.0057	0.029	11/21/17 15:02	
Benzo(g,h,i)perylene	ug/L	<0.0068	0.034	11/21/17 15:02	
Benzo(k)fluoranthene	ug/L	<0.0076	0.038	11/21/17 15:02	
Chrysene	ug/L	<0.013	0.065	11/21/17 15:02	
Dibenz(a,h)anthracene	ug/L	<0.010	0.050	11/21/17 15:02	
Fluoranthene	ug/L	<0.011	0.053	11/21/17 15:02	
Fluorene	ug/L	<0.0080	0.040	11/21/17 15:02	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	0.088	11/21/17 15:02	
Naphthalene	ug/L	<0.018	0.092	11/21/17 15:02	
Phenanthrene	ug/L	<0.014	0.069	11/21/17 15:02	
Pyrene	ug/L	<0.0076	0.038	11/21/17 15:02	
Total PAHs	ug/L	0.0000000010		11/21/17 15:02	
2-Fluorobiphenyl (S)	%	68	35-84	11/21/17 15:02	
Terphenyl-d14 (S)	%	96	10-129	11/21/17 15:02	

LABORATORY CONTROL SAMPLE: 1617933

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	2	1.6	81	39-83	
2-Methylnaphthalene	ug/L	2	1.5	77	38-86	
Acenaphthene	ug/L	2	1.6	78	35-85	
Acenaphthylene	ug/L	2	1.6	79	31-88	
Anthracene	ug/L	2	2.0	101	47-104	
Benzo(a)anthracene	ug/L	2	1.5	75	36-105	
Benzo(a)pyrene	ug/L	2	1.9	95	69-117	
Benzo(b)fluoranthene	ug/L	2	1.7	83	54-107	
Benzo(g,h,i)perylene	ug/L	2	1.2	58	13-86	
Benzo(k)fluoranthene	ug/L	2	1.9	97	63-128	
Chrysene	ug/L	2	2.4	119	69-150	
Dibenz(a,h)anthracene	ug/L	2	0.99	49	10-87	
Fluoranthene	ug/L	2	2.1	104	57-103	L1
Fluorene	ug/L	2	1.7	84	38-85	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.7	86	40-111	

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

LABORATORY CONTROL SAMPLE: 1617933

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	2	1.3	67	39-82	
Phenanthrene	ug/L	2	1.7	86	46-96	
Pyrene	ug/L	2	2.1	104	57-110	
Total PAHs	ug/L		30.5			
2-Fluorobiphenyl (S)	%			73	35-84	
Terphenyl-d14 (S)	%			93	10-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1617940 1617941

Parameter	Units	40161190001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/L	0.017J	1.9	1.8	1.4	1.3	72	67	27-86	8	29	
2-Methylnaphthalene	ug/L	<0.0046	1.9	1.8	1.3	1.2	70	65	30-86	8	35	
Acenaphthene	ug/L	2.0	1.9	1.8	3.4	3.0	71	53	28-85	11	29	
Acenaphthylene	ug/L	0.20	1.9	1.8	1.5	1.3	68	62	27-88	8	29	
Anthracene	ug/L	0.20	1.9	1.8	1.7	1.4	81	64	38-104	21	35	
Benzo(a)anthracene	ug/L	0.11	1.9	1.8	1.3	1.2	66	60	10-105	11	28	
Benzo(a)pyrene	ug/L	0.038J	1.9	1.8	1.2	1.1	62	57	10-130	9	26	
Benzo(b)fluoranthene	ug/L	0.065	1.9	1.8	1.2	1.1	61	57	10-115	7	25	
Benzo(g,h,i)perylene	ug/L	0.030J	1.9	1.8	0.56	0.52	29	27	10-87	7	42	
Benzo(k)fluoranthene	ug/L	0.030J	1.9	1.8	1.1	1.0	59	54	10-133	10	25	
Chrysene	ug/L	0.14	1.9	1.8	1.6	1.4	77	70	17-150	10	24	
Dibenz(a,h)anthracene	ug/L	<0.0094	1.9	1.8	0.51	0.50	27	27	10-89	1	49	
Fluoranthene	ug/L	2.4	1.9	1.8	4.0	3.5	86	62	41-103	12	32	
Fluorene	ug/L	0.059	1.9	1.8	1.4	1.3	71	66	32-85	9	28	
Indeno(1,2,3-cd)pyrene	ug/L	0.028J	1.9	1.8	0.77	0.75	40	40	10-111	2	37	
Naphthalene	ug/L	0.024J	1.9	1.8	1.2	1.1	63	59	23-88	6	28	
Phenanthrene	ug/L	0.046J	1.9	1.8	1.5	1.4	79	72	33-96	10	25	
Pyrene	ug/L	1.7	1.9	1.8	3.3	3.0	82	67	38-110	9	28	
Total PAHs	ug/L	7.1			28.7	26.0				10		
2-Fluorobiphenyl (S)	%						64	60	35-84			
Terphenyl-d14 (S)	%						72	64	10-129			

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QUALITY CONTROL DATA

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

QC Batch: 10102 | Analysis Method: OIA1677
QC Batch Method: OIA1677 | Analysis Description: OIA1677 Cyanide, Available
Associated Lab Samples: 40161190001, 40161190002, 40161190003, 40161190004, 40161190005

METHOD BLANK: 41147 | Matrix: Water
Associated Lab Samples: 40161190001, 40161190002, 40161190003, 40161190004, 40161190005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Available Cyanide	ug/L	<0.33	2.0	11/28/17 14:00	

LABORATORY CONTROL SAMPLE: 41148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Available Cyanide	ug/L	20	19.6	98	82-132	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 41231 41232

Parameter	Units	40161190001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Available Cyanide	ug/L	1.6J	20	20	21.2	21.5	98	99	82-130	1	11	

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QUALIFIERS

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay
PASI-GRMI	Pace Analytical - Grand Rapids

ANALYTE QUALIFIERS

HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2133 SOLVAY COKE
Pace Project No.: 40161190

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40161190001	**111717039**	EPA 3010	275383	EPA 6020	275593
40161190002	**111717040**	EPA 3010	275383	EPA 6020	275593
40161190003	**111717041**	EPA 3010	275383	EPA 6020	275593
40161190004	**111717042**	EPA 3010	275383	EPA 6020	275593
40161190005	**111717043**	EPA 3010	275383	EPA 6020	275593
40161190001	**111717039**	EPA 3510	275017	EPA 8270 by HVI	275050
40161190002	**111717040**	EPA 3510	275017	EPA 8270 by HVI	275050
40161190003	**111717041**	EPA 3510	275017	EPA 8270 by HVI	275050
40161190004	**111717042**	EPA 3510	275017	EPA 8270 by HVI	275050
40161190005	**111717043**	EPA 3510	275017	EPA 8270 by HVI	275050
40161190001	**111717039**	EPA 8260	275072		
40161190002	**111717040**	EPA 8260	275072		
40161190003	**111717041**	EPA 8260	275072		
40161190004	**111717042**	EPA 8260	275072		
40161190005	**111717043**	EPA 8260	275072		
40161190006	**111717044**	EPA 8260	275072		
40161190001	**111717039**	OIA1677	10102		
40161190002	**111717040**	OIA1677	10102		
40161190003	**111717041**	OIA1677	10102		
40161190004	**111717042**	OIA1677	10102		
40161190005	**111717043**	OIA1677	10102		

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COC# 171117006

Page 1 of 1 40/61/90

Page 17 of 18

UPPER MIDWEST REGION

MN: 612-607-1700 **WI:** 920-469-2436

CUSTODY SEAL #S: SC-171117010 SC-171117011

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www.pacelabs.com

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)

Company Name:	NATURAL RESOURCE TECHNOLOGY
Branch/Location:	MILWAUKEE
Project Contact:	JAY KARLS
Phone:	414-837-3606
Project Number:	2133
Project Name:	SOLVAY COKE
Project State:	WI
Sampled By (Print):	DAN VACHON
Sampled By (Sign):	[signature]
PO #:	
Regulatory Program:	

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
- ☐ EPA Level III
- ☒ EPA Level IV

MS/MSD
- ☒ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Analyses Requested: BENZENE (8260B) + ETHYLBENZENE	PAHs (8270-SIM)	AVAILABLE CYANIDE (OTA-1677)	IRON + ARSENIC (6020A)					CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N: N	N	N	Y							
					Pick Letter: B	A	D	G							
001	111717039	11/17/17	0810	GW	X	X	X	X				3-250mLp D	MS/MSD 3-100mLag A	9-40mLv B 3-40mLv G	11-21-17 KR 6-250mLag G
002	111717040	11/17/17	0955	GW	X	X	X	X					4-40mLv G BBB	2-250mLag G 1-250mLp D	1-100mLag A
003	111717041	11/17/17	1050	GW	X	X	X	X					11-21-17 KR		
004	111717042	11/17/17	1230	GW	X	X	X	X							
005	111717043	11/17/17	1305	GW	X	X	X	X							
006	111717044	11/17/17	1400	GW	X	X	X	X						2-40mLv B	

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	11/17/17 @ 1430	Kim Retzke Pace	11/21/17 0730

PACE Project No. 40/61/90

Receipt Temp = R01 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical™

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project #: WO#: 40161190

40161190

Client Name: NRT

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: CS Logistics

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Thermometer Used NA **Type of Ice:** Wet Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: RO1 /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Person examining contents:
Date: 11-21-17
Initials: KR

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes ☐No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☑Yes ☐No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑Yes ☐No ☐N/A	13. ☑ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☑Yes ☐No ☐N/A	
exceptions: VOA coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☑Yes ☐No	Initial when completed KR / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm): 11-21-17 KR	☑Yes ☐No ☐N/A	14. 005 x 3 11-21-17 KR
Trip Blank Present:	☑Yes ☐No ☐N/A	15.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 55320		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:** 11/21/17

F-GB-C-031-Rev.04 (12Dec2016) SCUR.xls
Pace Analytical Services LLC. - Green Bay WI

Data Validation Report

Solvay Groundwater November 2017 Level 4 Data Validation

Work Order Task Order Number: 2133

Groundwater Sample Analyses Performed by

Pace Analytical, Green Bay
Pace Analytical, Grand Rapids

Prepared for

NATURAL RESOURCE TECHNOLOGY

Prepared by

SHEPHERD TECHNICAL SERVICES

December 8, 2017

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1.0 INTRODUCTION

All data validation was performed by Shepherd Technical Services following US EPA September 2016 National Functional Guidelines (NFG), where applicable, using electronic deliverables. Guidance and requirements appearing in the NRT Multi-Site Quality Assurance Project Plan, Rev. 2, 2007 ("Multi-Site QAPP") were also used in the validation process.

Pace Analytical Services, Inc., Green Bay, WI performed most of the analyses on the groundwater samples. The Pace Green Bay laboratory maintains certification under the Wisconsin Department of Natural Resources (ID #405132750). The Pace Green Bay laboratory is also accredited under the National Environmental Laboratory Accreditation Program (NELAP) by the Florida Department of Health Environmental Laboratory Certification Program (ID #E87948).

Sample analyses for available cyanide were performed by Pace Analytical Services, Inc., Grand Rapids, MI. The Pace Grand Rapids laboratory maintains certification under the Wisconsin Department of Natural Resources (ID #999472650). The Pace Grand Rapids laboratory is also accredited under the National Environmental Laboratory Accreditation Program (NELAP) by Minnesota Department of Health (ID #1177224).

The laboratories provided all analytical data, including all internal laboratory QC results in an electronic deliverable format.

Qualifiers applied to the data tables, in this report have been applied by the laboratory reporting the sample results as a consequence of their internal data review and reporting processes. Table 1-1 lists the laboratory qualifier descriptions.

All analyses were performed as specified on the chains of custody, or the provided "Data Tracker" (field logs).

Table 1-1. Qualifier Descriptions

Qualifier	Description
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
J	Estimated concentration at or above the LOD and below the LOQ.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
U	Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

A total of 29 Groundwater samples and six trip blanks were collected November 10, 2017 through November 17, 2017 at the Solvay site. Upon collection, all samples were held securely prior to shipping to the laboratory. Samples were organized into six sample delivery groups (SDGs, or laboratory lot numbers). Samples were analyzed for the indicated parameters using the methods listed in Table 1-2.

Table 1-2. Sample/SDG Cross Reference

Field ID	Lab Sample ID	EPA 6020	EPA 8260	EPA 8270 by HVI	OIA-1677
111017001	40160708001	X	X	X	X
111017002	40160708002	X	X	X	X
111017003	40160708003	X	X	X	X
111017004	40160708004	X	X	X	X
111017005	40160708005	X	X	X	X
111017006	40160708006	X	X	X	X
111017007	40160708007		X		
111317008	40160811001	X	X	X	X
111317009	40160811002	X	X	X	X
111317010	40160811003	X	X	X	X
111317011	40160811004	X	X	X	X
111317012	40160811005	X	X	X	X
111317013	40160811006	X	X	X	X
111317014	40160811007		X		
111417015	40160915001	X	X	X	X
111417016	40160915002	X	X	X	X
111417017	40160915003	X	X	X	X

Field ID	Lab Sample ID	EPA 6020	EPA 8260	EPA 8270 by HVI	OIA-1677
111417018	40160915004	X	X	X	X
111417019	40160915005	X	X	X	X
111417020	40160915006	X	X	X	X
111417021	40160915007		X		
111517022	40161012001	X	X	X	X
111517023	40161012002	X	X	X	X
111517024	40161012003	X	X	X	X
111517025	40161012004	X	X	X	X
111517026	40161012005	X	X	X	X
111517027	40161012006	X	X	X	X
111517028	40161012007	X	X	X	X
111517029	40161012008		X		
111617030	40161121001	X	X	X	X
111617031	40161121002	X	X	X	X
111617032	40161121003	X	X	X	X
111617033	40161121004	X	X	X	X
111617034	40161121005	X	X	X	X
111617035	40161121006	X	X	X	X
111617036	40161121007	X	X	X	X
111617037	40161121008	X	X	X	X
111617038	40161121009		X		
111717039	40161190001	X	X	X	X
111717040	40161190002	X	X	X	X
111717041	40161190003	X	X	X	X
111717042	40161190004	X	X	X	X
111717043	40161190005	X	X	X	X
111717044	40161190006		X		

2.0 INORGANIC DATA REVIEW

2.1 Summary

Blank, spiked, and duplicate results were provided. Overall, QC data indicated acceptable precision and accuracy. The results of the QC review are presented below.

2.2 Sample Receipt and Methodology

The groundwater samples were analyzed for inorganic parameters following the methods cited in Table 2-1.

Table 2-1. Inorganic Analytes and Methods Summary

Analytical Method	*Analyte*
EPA 6020	Arsenic, Iron
OIA 1677	Available Cyanide

Generally the samples arrived at the laboratories properly preserved and in good condition. Samples were sent to the Pace Grand Rapids laboratory for available cyanide analysis. One of the sample sets, 40161190, was received by the Grand Rapids laboratory above temperature at 15.6 °C. The National Functional Guidelines directs validators to qualify all positive results in this case as estimated low ("J-") and non-detects as unusable ("R"). All the results for the affected samples,111717039 – 111717043 were positive and will be qualified as ("J-").

All samples were analyzed within the prescribed holding times, where holding times have been defined. Therefore, no data are qualified based upon hold time conditions.

2.3 Calibration

Initial instrument calibrations for each of the methods were all well within acceptance criteria. All parameters were calibrated using multi-point curves with appropriate first order regression models applied.

All of the initial calibration verification checks (ICVs) for these analyses met the stated ±10% acceptance criterion used by the laboratory and required by the methods. No data are qualified based off the initial calibration verification data.

The laboratory also performed the requisite interference checks (ICS A, ICS AB) with each metals calibration. All of the interference checks gave acceptable results. Hence, no data are qualified as a consequence of the interference check sample data.

Continuing calibration verification checks were performed at the required frequencies for all methods. All of the continuing calibration verification checks (CCVs) for these analyses met the ±10% acceptance criterion used by the laboratory and required by the methods. No data are qualified as a consequence of the continuing calibration data.

2.4 Method Blanks, Laboratory Blanks

One method blank was prepared and analyzed with each analytical batch of samples.

The method blanks for available cyanide and metals showed no contamination above the detection limit. Hence, no cyanide or metals data are qualified as a consequence of the method blank data.

The initial calibration blanks (ICBs) for available cyanide showed no contamination above the detection limit. The continuing calibration blanks (CCBs) for available cyanide on several occasions gave values above the limit of detection but below the reporting limit (limit of quantitation). The affected sample results that are above the detection limit but below the reporting limit will be reported at the reporting limit and qualified with a ("U"). Results that are above the reporting limit, but less than ten times the reporting limit, will be qualified as estimated ("J") due to the low levels of the results. Results that are greater than ten times the reporting limit will not be qualified.

The ICB/CCBs for metals showed no contamination above the detection limit. Hence, no metals data are qualified as a consequence of the continuing calibration data.

The method blank results are summarized in Tables 2-2 through 2-3.

Table 2-2. OIA-1677 Method Blank Results Groundwater Samples

Parameter	*Batch*	*Units*	*Result*
Available Cyanide	10098	µg/L	0.33 U
	10100	µg/L	0.33 U
	10102	µg/L	0.33 U
	9412	µg/L	0.33 U
	9413	µg/L	0.33 U
	9453	µg/L	0.33 U
	9707	µg/L	0.33 U

Table 2-3. EPA 6020 Method Blank Results Groundwater Samples

Batch	*Parameter*	*Units*	*Result*
274789	Arsenic	µg/L	0.28 U
	Iron	µg/L	0.11 U
274793	Arsenic	µg/L	0.28 U
	Iron	µg/L	0.11 U
275238	Arsenic	µg/L	0.28 U
	Iron	µg/L	0.11 U
275383	Arsenic	µg/L	0.28 U
	Iron	µg/L	0.11 U

2.5 Laboratory Control Samples

Laboratory control samples (LCS) were prepared using commercially available reference materials and were analyzed with each of the data sets. The recovery limits used by the laboratory for LCS results are either those given in the method guidance or are based upon laboratory performance. All recoveries for all analytes/all methods were within the specified limits. No data are qualified as a consequence of the LCS results.

Recoveries are given along with the acceptance limits in Tables 2-4 through 2-5.

Table 2-4. EPA 6020 LCS Results Groundwater Samples

QC Batch for EPA 6020	*Parameter*	*Recovery Limits (%)*		*Spike (µg/L)*	*Result (µg/L)*	*Recovery*
		Lower	**Upper**			
274789	Arsenic	80	120	500	479	96
	Iron	80	120	5000	4.6	92
274793	Arsenic	80	120	500	484	97
	Iron	80	120	5000	5.1	102
275238	Arsenic	80	120	500	490	98
	Iron	80	120	5000	5.1	102
275383	Arsenic	80	120	500	460	92
	Iron	80	120	5000	5.0	99

Table 2-5. OIA-1677 LCS Results Groundwater Samples

QC Batch for OIA-1677	*Parameter*	*Recovery Limits (%)*		*Spike (µg/L)*	*Result (µg/L)*	*Recovery*
		Lower	Upper			
10098	Available Cyanide	82	132	20	18.5	92
10100		82	132	20	18.6	93
10102		82	132	20	19.6	98
9412		82	132	20	19.0	95
9413		82	132	20	21.3	107
9453		82	132	20	18.6	93
9707		82	132	20	18.9	95

2.6 Matrix Spike/Matrix Spike Duplicates

Multiple client specified samples were analyzed as matrix spike/matrix spike duplicate for ICP/MS metals, and available cyanide. All results met the specified limits. Therefore no data are qualified based on MS/MSD results.

The MS/MSD data are given in Tables 2-6 through 2-7.

Table 2-6. OIA-1677 MS/MSD Recoveries Groundwater Samples

Sample ID	*Parameter*	*Spike (µg/L)*	*MS Result (µg/L)*	*MS Rec (%)*	*Spike (µg/L)*	*MSD Result (µg/L)*	*MSD Rec (%)*	*RPD*	*Lab Sample Result (µg/L)*	*Max RPD*
111617030	Available Cyanide	20	20.7	98	20	21.3	101	3	1.1 J	20
111717039	Available Cyanide	20	21.2	98	20	21.5	99	1	1.6 J	20
111417016	Available Cyanide	20	20.7	95	20	21.0	96	2	1.7 J	20

Table 2-7. EPA 6020 MS/MSD Recoveries Groundwater Samples

Sample ID	*Parameter*	*Spike (µg/L)*	*MS Result (µg/L)*	*MS Rec (%)*	*Spike (µg/L)*	*MSD Result (µg/L)*	*MSD Rec (%)*	*RPD*	*Lab Sample Result (µg/L)*	*Max RPD*
111417016	Arsenic	500	498	99	500	500	100	0	0.43 J	20
	Iron	5000	22.4	85	5000	22.6	87	1	18.2	20
111717039	Arsenic	500	496	98	500	485	96	2	5.4	20
	Iron	5000	7.9	99	5000	7.8	98	0	2.9	20

2.7 Internal Standards

The NFG requires the relative intensity (%RI) for ICP/MS internal standards to fall within 60-125% for each sample analysis relative to the calibration standards. All samples met these criteria therefore no samples are qualified based on internal standard responses.

2.8 ICP/MS Serial Dilutions

Serial dilution tests were performed by the laboratory on an analytical batch basis. All RPD values fell within the 10% limit defined by the NFG. Values in excess of 10% RPD occurred only in cases where the sample concentration was <50x the analyte MDL. In these cases the 10% criterion does not apply. Consequently, no data are qualified as consequence of the serial dilution results.

2.9 Field Duplicates

Field duplicates were collected and analyzed for the metals and available cyanide parameters. Field duplicates generally show good agreement for all of the analytes where the values are above 5X the sample quantitation limit. Precision is only calculated where both the sample and the duplicate sample gave a positive result. Duplicate "NDs", however, are reported with 0% RPDs.

Criteria for evaluating field duplicate precision is provided in the Multi-Site QAPP Addendum dated March 12, 2012. Worksheet #28 of that addendum for inorganic parameters defines an upper limit of 30% RPD when both sample and duplicate analyses are above 5X the limit of quantitation. None of the duplicate analyses gave results greater than 5x the limit of quantitation for both samples of the duplicate pair. Therefore no data are qualified based on field duplicate analyses.

The results of the duplicate analyses are given in Tables 2-8 through 2-9.

Table 2-8. Field Duplicates OIA-1677 Groundwater Samples

Parameter	*Dup Sample ID*	*Sample ID*	*Result (µg/L)*	*Lab Flag*	*LOQ*	*RPD*
Available Cyanide	FD111017001	111017001	1.8	JD3	10.0	
		111017002	2.4	JD3	10.0	28.6
	FD111317008	111317008	1.1	J	2.0	
		111317009	1.2	J	2.0	8.7
	FD111517026	111517026	2.1		2.0	
		111517027	1.7	J	2.0	21.1
	FD111617034	111617034	1.9	J	2.0	
		111617035	1.9	J	2.0	0.0

Table 2-9. Field Duplicates EPA 6020 Groundwater Samples

Dup Sample ID	*Parameter*	*Sample ID*	*Result (µg/L)*	*Lab Flag*	*LOQ*	*RPD*
FD111017001	Arsenic	111017001	2.4		1.0	
		111017002	2.4		1.0	0.0
	Iron	111017001	41.4		0.37	
		111017002	41.3		0.37	0.2
FD111317008	Arsenic	111317008	4.2		1.0	
		111317009	4.2		1.0	0.0
	Iron	111317008	0.17	J	0.37	
		111317009	0.16	J	0.37	0.0
FD111517026	Arsenic	111517026	3.5		1.0	
		111517027	3.5		1.0	0.0
	Iron	111517026	0.11	U	0.37	
		111517027	0.11	U	0.37	0.0
FD111617034	Arsenic	111617034	0.76	J	1.0	
		111617035	0.83	J	1.0	8.8
	Iron	111617034	0.11	U	0.37	
		111617035	0.11	U	0.37	0.0

3.0 ORGANIC DATA REVIEW

Blank, spiked, and duplicate results were provided. The results of the QC review are presented below. One method blank was prepared and analyzed with each analytical batch of samples. Organic free water was used as the method blank for water samples.

Samples were analyzed for organic compounds following SW-846 Methods or laboratory developed methods as shown in Table 3-1.

Table 3-1. Organic Analytes and Methods Summary

Analytical Method	Analytes
EPA 8260	Purgeable Volatile Organic Compounds (PVOC)
EPA 8270 by SIM	Polycyclic Aromatic Hydrocarbons (PAH)

3.1 SW-846 Method 8260B – Purgeable Volatile Organic Compounds

3.1.1 Summary

SW-846 Method 8260B employs gas chromatographic separation with a mass spectrometer as a detector.

3.1.2 Method Blanks

The samples were analyzed in multiple analytical batches. The method blanks, showed no contamination above the detection limit for the target compounds. Hence, no data are qualified as a consequence of the method blank data.

The method blank data are summarized in Table 3-2.

Table 3-2. Method 8260 Method Blank Results Groundwater Samples

Batch	Parameter	Units	Result
274080	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U
274439	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U
274563	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U
274752	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U
274797	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U
274955	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U
275072	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U

3.1.3 Trip Blanks

Six trip blanks was provided with this sample set. None of the blanks associated with these samples gave results above the detection limit. No data are qualified as a consequence of any of the trip blanks.

The trip blank data is summarized in Tables 3-3.

Table 3-3. Method 8260 Trip Blank Results Groundwater Samples

Trip Blank ID	*Parameter*	*Units*	*Result*
111017007	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U
111317014	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U
111417021	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U
111517029	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U
111617038	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U
111717044	Benzene	µg/L	0.50 U
	Ethylbenzene	µg/L	0.50 U

3.1.4 Calibration

The initial instrument calibration performed for this method gave satisfactory results with response factors over the calibration range <15% RSD for all analytes. Average response factor calibration model was used to quantitate results for all analytes. No data are qualified as a result of the initial calibration data.

For evaluating calibration verifications, the September 2016 CLP National Functional Guidelines have established a drift or difference acceptability criterion for all target analytes. The calibration verification associated with this data set did not exceed the difference criterion in place for all target analytes. Consequently, no data are qualified as a result of the calibration verification data.

3.1.5 Internal Standard Areas

None of the sample analyses reported in this data set gave internal standard areas greater than 200% or less than 50% of the area response of the

corresponding continuing calibration verification. No data are qualified due to failed internal standard responses.

3.1.6 Surrogate Compound Recoveries

Three surrogate compounds, 4-bromofluorobenzene, toluene-d_8, and dibromofluoromethane were spiked into each Groundwater field sample to monitor analyte recovery in the analytical system. The surrogates used by the laboratory are acceptable to measure recovery under EPA SW-846 guidance for this analytical method and in the 1999 National Functional Guidelines. Later versions of the NFG require different surrogates ("Deuterated Monitoring Compounds") and hence are not applicable to SW-846 analyses. In this case it is the validator's professional judgement that the 1999 NFG provide the most appropriate guidance.

The only surrogates that recovered outside of the laboratory limits occurred when the sample was diluted. In this case the National Functional Guidelines state that surrogates that fail due to sample dilution do not require qualification. Based on this guidance, no data require qualification based upon surrogate recoveries.

Recoveries for all surrogates for all samples are presented in Table 3-4.

Table 3-4. Method 8260 Surrogate Compound Recovery Groundwater Samples

3.1.7 Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed for samples at appropriate frequencies. When viewed with the Laboratory Control Sample data discussed below, no data are qualified as a result of the MS/MSD recoveries. No data will be qualified based on matrix spike and matrix spike duplicates.

The MS/MSD results are summarized in Table 3-5.

Table 3-5. Method 8260 MS/MSD Groundwater Sample Recoveries

Lab Sample Number	*Field ID*	*Dilution*	*4-Bromofluoro-benzene*		*Dibromofluoro-methane*		*Toluene-d_8*	
		Limits:	61	130	67	130	70	130
40160708001	111017001	1	94		97		98	
40160708002	111017002	1	89		105		98	
40160708003	111017003	1	91		96		97	
40160708004	111017004	10	92		94		99	
40160708005	111017005	1	98		102		102	
40160708006	111017006	1	91		96		96	
40160708007	111017007	1	96		97		95	
40160811001	111317008	1	87		92		106	
40160811002	111317009	1	88		98		97	
40160811003	111317010	1	87		92		104	
40160811004	111317011	1	88		96		106	
40160811005	111317012	1	86		92		108	
40160811006	111317013	1	90		100		96	
40160811007	111317014	1	88		112		98	
40160915001	111417015	1	91		106		103	
40160915002	111417016	1	87		104		101	
40160915003	111417017	1	87		107		104	
40160915004	111417018	5	86		107	D3	100	
40160915005	111417019	1	87		87		108	
40160915006	111417020	1	84		79		110	
40160915007	111417021	1	85		89		110	
40161012001	111517022	1	84		105		99	
40161012002	111517023	1	97		108		96	
40161012003	111517024	1	95		110		91	
40161012004	111517025	1	89		107		96	
40161012005	111517026	1	93		107		96	
40161012006	111517027	1	87		107		96	
40161012007	111517028	1	84		105		102	
40161012008	111517029	1	85		103		100	
40161121001	111617030	1	89		108		99	
40161121002	111617031	1	90		108		99	
40161121003	111617032	1	90		110		98	
40161121004	111617033	1	89		110		98	
40161121005	111617034	1	90		107		101	
40161121006	111617035	1	90		112		98	
40161121007	111617036	1	92		104		102	

Lab Sample Number	Field ID	Dilution	4-Bromofluoro-benzene		Dibromofluoro-methane		Toluene-d_8	
40161121008	111617037	1	94		100		100	
40161121009	111617038	1	93		100		104	
40161190001	111717039	1	94		100		99	
40161190002	111717040	1	99		104		97	
40161190003	111717041	1	97		108		96	
40161190004	111717042	1	94		104		101	
40161190005	111717043	1	87		110	HS	94	
40161190006	111717044	1	98		109		95	

3.1.8 Laboratory Control Samples

Protocols for analyses under the 2016 NFG do not include requirements for a laboratory control sample (LCS). The need for a separate LCS is obviated with the incorporation of the numerous Deuterated Monitoring Compounds required in the 2016 protocols. However, incorporation of an LCS is relevant (and required) under SW-846 protocols and laboratory accreditation standards.

A laboratory control sample was prepared and analyzed on each day of analysis and for each analytical batch. No data are qualified due to failed LCS recoveries

The LCS results are summarized in Table 3-6.

Table 3-6. LCS Recoveries 8260 Groundwater Samples

QC Batch for EPA 8260	Parameter	Recovery Limits (%)		Spike (µg/L)	Result (µg/L)	Recovery (%)
		Lower	Upper			
274080	Benzene	73	145	49.6	47.4	95
	Ethylbenzene	87	129	49.6	53.6	108
274439	Benzene	73	145	49.6	46.8	94
	Ethylbenzene	87	129	49.6	56.5	114
274563	Benzene	73	145	49.6	43.9	88
	Ethylbenzene	87	129	49.6	47.6	96
274752	Benzene	73	145	49.6	55.6	112
	Ethylbenzene	87	129	49.6	53.6	108
274797	Benzene	73	145	50	43.4	87
	Ethylbenzene	87	129	50	52.7	105

QC Batch for EPA 8260	Parameter	Recovery Limits (%)		Spike (µg/L)	Result (µg/L)	Recovery (%)
274955	Benzene	73	145	50	56.8	114
	Ethylbenzene	87	129	50	56.7	113
275072	Benzene	73	145	49.6	50.4	102
	Ethylbenzene	87	129	49.6	54.4	110

3.1.9 Field Duplicates

Field duplicates gave good agreement for all analytes with all RPD values <30%. Precision is only calculated where both the sample and the duplicate sample gave a positive result. Duplicate "NDs", however, are reported with 0% RPDs.

The National Functional Guidelines do not provide any guidance for qualifying data associated with field or sample duplicates for volatiles analyses. However, requirements that appear in the Multi-Site QAPP Addendum governing this project place a 30% limit on the RPD values where the results are greater than 2x the limit of quantitation. None of the results are outside the 30% RPD, therefore no data are qualified based on the field duplicate results. The field duplicate results are given in Table 3-7.

Table 3-7. Method 8260 Field Duplicates Groundwater Samples

Dup Sample ID	Parameter	Sample ID	Result (µg/L)	Lab Flag	LOQ	RPD
FD111017001	Benzene	111017001	0.5	U	1.0	
		111017002	0.5	U	1.0	0.0
	Ethylbenzene	111017001	0.5	U	1.0	
		111017002	0.5	U	1.0	0.0
FD111317008	Benzene	111317008	0.5	U	1.0	
		111317009	0.5	U	1.0	0.0
	Ethylbenzene	111317008	0.5	U	1.0	
		111317009	0.5	U	1.0	0.0
FD111517026	Benzene	111517026	0.5	U	1.0	
		111517027	0.5	U	1.0	0.0
	Ethylbenzene	111517026	0.5	U	1.0	
		111517027	0.5	U	1.0	0.0
FD111617034	Benzene	111617034	0.5	U	1.0	
		111617035	0.5	U	1.0	0.0
	Ethylbenzene	111617034	0.5	U	1.0	
		111617035	0.5	U	1.0	0.0

3.2 Method 8270C/SIM – PAHs

3.2.1 Summary

SW-846 Method 8270C/SIM employs gas chromatographic separation with mass spectroscopic identification using selected ion monitoring (SIM).

3.2.2 Method Blanks

The samples were prepared in multiple preparation batches. The method blanks showed no contamination above the detection limit. Hence, no 8270 SIM data are qualified as a consequence of the method blank data.

The method blanks results are summarized in Table 3-8.

Table 3-8. EPA 8270-SIM Method Blank Results Groundwater Samples

Parameter	*Units*	*QC Batch: 274061*	*QC Batch: 274422*	*QC Batch: 274580*
1-Methylnaphthalene	µg/L	0.0059 U	0.0059 U	0.0059 U
2-Methylnaphthalene	µg/L	0.0049 U	0.0049 U	0.0049 U
Acenaphthene	µg/L	0.0061 U	0.0061 U	0.0061 U
Acenaphthylene	µg/L	0.0050 U	0.0050 U	0.0050 U
Anthracene	µg/L	0.010 U	0.010 U	0.010 U
Benzo(a)anthracene	µg/L	0.0076 U	0.0076 U	0.0076 U
Benzo(a)pyrene	µg/L	0.011 U	0.011 U	0.011 U
Benzo(b)fluoranthene	µg/L	0.0057 U	0.0057 U	0.0057 U
Benzo(g,h,i)perylene	µg/L	0.0068 U	0.0068 U	0.0068 U
Benzo(k)fluoranthene	µg/L	0.0076 U	0.0076 U	0.0076 U
Chrysene	µg/L	0.013 U	0.013 U	0.013 U
Dibenz(a,h)anthracene	µg/L	0.010 U	0.010 U	0.010 U
Fluoranthene	µg/L	0.011 U	0.011 U	0.011 U
Fluorene	µg/L	0.0080 U	0.0080 U	0.0080 U
Indeno(1,2,3-cd)pyrene	µg/L	0.018 U	0.018 U	0.018 U
Naphthalene	µg/L	0.018 U	0.018 U	0.018 U
Phenanthrene	µg/L	0.014 U	0.014 U	0.014 U
Pyrene	µg/L	0.0076 U	0.0076 U	0.0076 U

Table 3-8. EPA 8270-SIM Method Blank Results Groundwater Samples (Cont. 1)

Parameter	*Units*	*QC Batch: 274777*	*QC Batch: 274780*	*QC Batch: 275017*
1-Methylnaphthalene	µg/L	0.0059 U	0.0059 U	0.0059 U
2-Methylnaphthalene	µg/L	0.0049 U	0.0049 U	0.0049 U
Acenaphthene	µg/L	0.0061 U	0.0061 U	0.0061 U
Acenaphthylene	µg/L	0.0050 U	0.0050 U	0.0050 U
Anthracene	µg/L	0.010 U	0.010 U	0.010 U
Benzo(a)anthracene	µg/L	0.0076 U	0.0076 U	0.0076 U
Benzo(a)pyrene	µg/L	0.011 U	0.011 U	0.011 U
Benzo(b)fluoranthene	µg/L	0.0057 U	0.0057 U	0.0057 U
Benzo(g,h,i)perylene	µg/L	0.0068 U	0.0068 U	0.0068 U
Benzo(k)fluoranthene	µg/L	0.0076 U	0.0076 U	0.0076 U
Chrysene	µg/L	0.013 U	0.013 U	0.013 U
Dibenz(a,h)anthracene	µg/L	0.010 U	0.010 U	0.010 U
Fluoranthene	µg/L	0.011 U	0.011 U	0.011 U
Fluorene	µg/L	0.0080 U	0.0080 U	0.0080 U
Indeno(1,2,3-cd)pyrene	µg/L	0.018 U	0.018 U	0.018 U
Naphthalene	µg/L	0.018 U	0.018 U	0.018 U
Phenanthrene	µg/L	0.014 U	0.014 U	0.014 U
Pyrene	µg/L	0.0076 U	0.0076 U	0.0076 U

3.2.3 Calibration

Instrument tuning checks using decafluorotriphenylphosphine (DFTPP) were performed daily and every 12 hours as described in the methods. However, since this method employs selected ion monitoring, tuning using DFTPP has little value. Consequently, no data are qualified based upon DFTPP tuning criteria.

All initial calibration criteria were met for all compounds. All analytes fit first order linear regression curves and gave average response factors (RFs) with <15% RSD over the average. Therefore, average RFs were used for analyte quantitations. No data are qualified as a result of the initial calibration data.

The initial calibration verifications (ICV) reported with this data set gave percent differences less than the 30% limit defined in the National Functional Guidelines for calibration verification. Therefore, no results are qualified as a consequence of the initial calibration verifications.

All of the continuing calibration verification (CCV) checks for PAH analyses performed gave acceptable results (i.e., <25% D using the CLP National Functional Guidelines) for all of the target analytes. No data are qualified as a consequence of the continuing calibration data.

The peak shapes and chromatographic resolution for the isomers benzo(b)fluoranthene and benzo(k)fluoranthene evident in the sample chromatograms for the samples indicate that the two isomers are not adequately resolved to be quantitated separately as the laboratory attempted to do. Consequently all positive results for benzo(b)fluoranthene and benzo(k)fluoranthene in all samples for these two isomers are qualified as estimated ("J").

3.2.4 Internal Standard Areas

None of the sample analyses reported in this data set gave internal standard areas greater than 200% or less than 50% of the area response of the corresponding continuing calibration verification. No data are qualified due to failed internal standard responses.

3.2.5 Surrogate Compound Recoveries

The surrogates used by the laboratory are acceptable to measure recovery under EPA SW-846 guidance for this analytical method and in the 1999 National Functional Guidelines. Later versions of the NFG require different surrogates ("Deuterated Monitoring Compounds") and hence are not applicable to SW-846 analyses. In this case it is the validator's professional judgement that the 1999 NFG provide the most appropriate guidance.

Two surrogates, 2-Fluorobiphenyl, and terphenyl-d_{14}, were spiked into each field sample to monitor method recovery. Given the focused nature of the compounds of concern (i.e., PAHs), the surrogates reported should be adequate to monitor recovery in the analyses.

The only surrogates that recovered outside of the laboratory limits occurred when the sample was diluted. In this case the National Functional Guidelines state that surrogates that fail due to sample dilution do not require qualification. Based on this guidance, no data require qualification based upon surrogate recoveries.

The surrogate recoveries for all samples are presented in Table 3-9.

Table 3-9. EPA 8270-SIM Surrogate Recoveries for Groundwater Samples

Lab Sample Number	*Field ID*	*Dilution*	*2-Fluorobiphenyl*		*Terphenyl-d_{14}*	
		Limits:	35	84	10	129
40160708001	111017001	1	45		56	
40160708002	111017002	1	47		64	
40160708003	111017003	1	51		69	
40160708004	111017004	50	43		52	
40160708005	111017005	1	48		61	
40160708006	111017006	1	45		57	
40160811001	111317008	1	46		58	
40160811002	111317009	1	44		49	
40160811003	111317010	1	58		76	
40160811004	111317011	1	39		45	
40160811005	111317012	1	48		58	
40160811006	111317013	1	50		69	
40160915001	111417015	1	55		63	
40160915002	111417016	1	55		71	
40160915003	111417017	1	53		69	
40160915004	111417018	1	56		74	
40160915005	111417019	1	56		65	
40160915006	111417020	1	49		72	
40161012001	111517022	1	51		70	
40161012002	111517023	1	57		77	
40161012003	111517024	1	54		76	
40161012004	111517025	1	54		68	
40161012005	111517026	1	53		69	
40161012006	111517027	1	54		76	
40161012007	111517028	1	47		71	
40161121001	111617030	1	57		71	
40161121002	111617031	1	61		70	
40161121003	111617032	1	58		68	
40161121004	111617033	1	59		71	
40161121005	111617034	1	61		77	
40161121006	111617035	1	57		74	
40161121007	111617036	1	51		71	
40161121008	111617037	1	56		69	
40161190001	111717039	1	62		76	
40161190002	111717040	1	44		53	

Lab Sample Number	Field ID	Dilution	2-Fluorobiphenyl		Terphenyl-d_{14}	
40161190003	111717041	1	44		58	
40161190004	111717042	1	47		58	
40161190005	111717043	1	51		64	

3.2.6 Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were evaluated for each of the parameters at appropriate frequencies. Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on two samples as specified by the project team in accordance with instructions provided on the chain of custody forms.

No results recovered outside of the limits established by the laboratory for the MS/MSD pairs.

When viewed with the Laboratory Control Sample data discussed below, no data are qualified as a result of the MS/MSD recoveries. No data will be qualified based on matrix spike and matrix spike duplicates.

The matrix spike/matrix spike duplicate results are summarized in Tables 3-10 through 3-11.

Table 3-10. EPA 8270-SIM MS/MSD Recoveries for Sample 111417016

Parameter	*Spike (µg/L)*	*MS Result (µg/L)*	*MS Rec (%)*	*Spike (µg/L)*	*MSD Result (µg/L)*	*MSD Rec (%)*	*RPD*	*Lab Sample Result (µg/L)*	*Max RPD*
1-Methylnaphthalene	1.8	1.1	63	1.9	1.2	65	7	0.0055 U	29
2-Methylnaphthalene	1.8	1.1	62	1.9	1.2	64	7	0.0049 J	35
Acenaphthene	1.8	0.98	54	1.9	1.1	57	8	0.0057 U	29
Acenaphthylene	1.8	0.98	54	1.9	1.1	56	8	0.0093 J	29
Anthracene	1.8	1.2	66	1.9	1.3	67	5	0.0098 U	35
Benzo(a)anthracene	1.8	1.0	58	1.9	1.1	61	7	0.0071 U	28
Benzo(a)pyrene	1.8	1.1	62	1.9	1.2	62	3	0.0098 U	26
Benzo(b)fluoranthene	1.8	1.2	63	1.9	1.2	63	2	0.0054 U	25
Benzo(g,h,i)perylene	1.8	0.48	27	1.9	0.53	28	10	0.0063 U	42
Benzo(k)fluoranthene	1.8	1.0	57	1.9	1.1	59	7	0.0071 U	25
Chrysene	1.8	1.4	79	1.9	1.4	76	1	0.012 U	24
Dibenz(a,h)anthracene	1.8	0.42	23	1.9	0.48	26	14	0.0094 U	49
Fluoranthene	1.8	1.4	76	1.9	1.5	78	5	0.010 U	32
Fluorene	1.8	1.1	59	1.9	1.1	61	5	0.0074 U	28
Indeno(1,2,3-cd)pyrene	1.8	0.82	45	1.9	0.85	46	3	0.016 U	37
Naphthalene	1.8	1.0	55	1.9	1.1	58	7	0.017 U	28
Phenanthrene	1.8	1.3	69	1.9	1.3	68	1	0.013 U	25
Pyrene	1.8	1.3	74	1.9	1.4	75	5	0.0071 U	28

Table 3-11. EPA 8270-SIM MS/MSD Recoveries for Sample 111717039

Parameter	*Spike (µg/L)*	*MS Result (µg/L)*	*MS Rec (%)*	*Spike (µg/L)*	*MSD Result (µg/L)*	*MSD Rec (%)*	*RPD*	*Lab Sample Result (µg/L)*	*Max RPD*
1-Methylnaphthalene	1.9	1.4	72	1.8	1.3	67	8	0.017 J	29
2-Methylnaphthalene	1.9	1.3	70	1.8	1.2	65	8	0.0046 U	35
Acenaphthene	1.9	3.4	71	1.8	3.0	53	11	2.0	29
Acenaphthylene	1.9	1.5	68	1.8	1.3	62	8	0.20	29
Anthracene	1.9	1.7	81	1.8	1.4	64	21	0.20	35
Benzo(a)anthracene	1.9	1.3	66	1.8	1.2	60	11	0.11	28
Benzo(a)pyrene	1.9	1.2	62	1.8	1.1	57	9	0.038 J	26
Benzo(b)fluoranthene	1.9	1.2	61	1.8	1.1	57	7	0.065	25
Benzo(g,h,i)perylene	1.9	0.56	29	1.8	0.52	27	7	0.030 J	42
Benzo(k)fluoranthene	1.9	1.1	59	1.8	1.0	54	10	0.030 J	25
Chrysene	1.9	1.6	77	1.8	1.4	70	10	0.14	24
Dibenz(a,h)anthracene	1.9	0.51	27	1.8	0.50	27	1	0.0094 U	49
Fluoranthene	1.9	4.0	86	1.8	3.5	62	12	2.4 L1	32
Fluorene	1.9	1.4	71	1.8	1.3	66	9	0.059	28
Indeno(1,2,3-cd)pyrene	1.9	0.77	40	1.8	0.75	40	2	0.028 J	37
Naphthalene	1.9	1.2	63	1.8	1.1	59	6	0.024 J	28
Phenanthrene	1.9	1.5	79	1.8	1.4	72	10	0.046 J	25
Pyrene	1.9	3.3	82	1.8	3.0	67	9	1.7	28

3.2.7 Laboratory Control Samples

Protocols for analyses under the 2016 NFG do not include requirements for a laboratory control sample (LCS). The need for a separate LCS is obviated with the incorporation of the numerous Deuterated Monitoring Compounds required in the 2016 protocols. However, incorporation of an LCS is relevant (and required) under SW-846 protocols and laboratory accreditation standards.

A laboratory control sample (LCS) was prepared and analyzed with each batch of samples. Fluoranthene recovered high in batch 275017. The 1999 National Functional Guidelines direct validators if the LCS recovery is greater than the upper acceptance limit, then positive sample results for those parameters should be qualified with a ("J"). Therefore, positive values for Fluoranthene in batch 275017 are qualified as estimated ("J") based upon the LCS recoveries.

The laboratory control sample results are given in Table 3-12.

Table 3-12. EPA 8270-SIM LCS Results Summary Groundwater Samples

Parameter	*Spike (µg/L)*	*Rec Limits (%)*		*QC Batch: 274061*		*QC Batch: 274422*	
		Lower	**Upper**	**Result (µg/L)**	**Rec (%)**	**Result (µg/L)**	**Rec (%)**
1-Methylnaphthalene	2	39	83	1.4	68	1.4	72
2-Methylnaphthalene	2	38	86	1.3	66	1.4	71
Acenaphthene	2	35	85	1.2	62	1.3	67
Acenaphthylene	2	31	88	1.3	64	1.4	68
Anthracene	2	47	104	1.4	72	1.6	82
Benzo(a)anthracene	2	36	105	1.3	67	1.4	71
Benzo(a)pyrene	2	69	117	1.5	73	1.7	83
Benzo(b)fluoranthene	2	54	107	1.4	71	1.5	76
Benzo(g,h,i)perylene	2	13	86	0.97	48	0.90	45
Benzo(k)fluoranthene	2	63	128	1.4	72	1.7	85
Chrysene	2	69	150	1.7	86	2.0	100
Dibenz(a,h)anthracene	2	10	87	0.88	44	0.76	38
Fluoranthene	2	57	103	1.6	79	1.8	91
Fluorene	2	38	85	1.3	67	1.5	74
Indeno(1,2,3-cd)pyrene	2	40	111	1.5	73	1.3	67
Naphthalene	2	39	82	1.1	56	1.3	63
Phenanthrene	2	46	96	1.4	70	1.6	79
Pyrene	2	57	110	1.6	79	1.8	91

Table 3-12. EPA 8270-SIM LCS Results Summary Groundwater Samples (Cont. 1)

Parameter	*Spike (µg/L)*	*QC Batch: 274580*		*QC Batch: 274777*		*QC Batch: 274780*		*QC Batch: 275017*	
		Result (µg/L)	**Rec (%)**	**Result (µg/L)**	**Rec (%)**	**Result (µg/L)**	**Rec (%)**	**Result (µg/L)**	**Rec (%)**
1-Methylnaphthalene	2	1.5	75	1.3	66	1.5	76	1.6	81
2-Methylnaphthalene	2	1.5	74	1.3	64	1.5	75	1.5	77
Acenaphthene	2	1.4	71	1.2	62	1.5	74	1.6	78
Acenaphthylene	2	1.4	69	1.2	61	1.5	74	1.6	79
Anthracene	2	1.6	82	1.6	80	1.8	88	2.0	101
Benzo(a)anthracene	2	1.4	72	1.3	67	1.4	71	1.5	75
Benzo(a)pyrene	2	1.7	86	1.6	78	1.7	83	1.9	95
Benzo(b)fluoranthene	2	1.6	79	1.5	73	1.5	74	1.7	83
Benzo(g,h,i)perylene	2	1.0	52	0.99	50	0.93	46	1.2	58
Benzo(k)fluoranthene	2	1.8	89	1.6	82	1.7	83	1.9	97
Chrysene	2	1.9	97	2.0	98	2.0	100	2.4	119
Dibenz(a,h)anthracene	2	0.76	38	0.87	43	0.81	40	0.99	49
Fluoranthene	2	1.8	89	1.7	87	1.9	95	2.1 L1	***104***
Fluorene	2	1.6	78	1.4	70	1.6	80	1.7	84
Indeno(1,2,3-cd)pyrene	2	1.6	82	1.5	73	1.5	75	1.7	86
Naphthalene	2	1.3	63	1.1	56	1.3	65	1.3	67
Phenanthrene	2	1.5	77	1.5	75	1.7	85	1.7	86
Pyrene	2	1.8	88	1.7	86	1.8	91	2.1	104

3.2.8 Field Duplicates

Field duplicates generally show poor agreement for the analytes. Precision is only calculated where both the sample and the duplicate sample gave a positive result (NC=Not Calculated). Duplicate "NDs", however, are reported with 0% RPDs.

The National Functional Guidelines do not provide any guidance for qualifying data associated with field or sample duplicates for semivolatiles analyses. However, requirements that appear in the Multi-Site QAPP Addendum governing this project place a 30% limit on the RPD values where the results are greater than 2x the limit of quantitation. All of the RPDs which are greater than 30% have results which are less than 2x the limit of quantitation. Therefore no data will be qualified based on field duplicate precision. Note that Total PAHs do not have a limit of quantitation defined and the values are calculated based on the instrument response of everything in the samples. Since there is no limit of quantitation defined it is the validator's professional judgement that these values do not need to be qualified based on field duplicate precision.

The field duplicate results are given in Table 3-13.

Table 3-13. EPA 8270-SIM Field Duplicate Groundwater Sample Results

Parameter	*Sample ID: 111017001*			*Sample ID: 111017002*			*RPD*	*Sample ID: 111317008*			*Sample ID: 111317009*			*RPD*
	Result (µg/L)	**Lab Flag**	**LOQ**	**Result (µg/L)**	**Lab Flag**	**LOQ**		**Result (µg/L)**	**Lab Flag**	**LOQ**	**Result (µg/L)**	**Lab Flag**	**LOQ**	
1-Methylnaphthalene	0.013	J	0.027	0.013	J	0.027	0.0	0.57		0.028	0.52		0.027	9.2
2-Methylnaphthalene	0.0077	J	0.023	0.0076	J	0.023	1.3	0.24		0.023	0.22		0.023	8.7
Acenaphthene	0.14		0.028	0.15		0.028	6.9	1.2		0.028	1.1		0.028	8.7
Acenaphthylene	0.0046	U	0.023	0.0046	U	0.023	0.0	0.090		0.023	0.077		0.023	15.6
Anthracene	0.0097	U	0.048	0.0097	U	0.048	0.0	0.12		0.049	0.096		0.048	22.2
Benzo(a)anthracene	0.0070	U	0.035	0.0070	U	0.035	0.0	0.016	J	0.035	0.014	J	0.035	13.3
Benzo(a)pyrene	0.0098	U	0.049	0.0098	U	0.049	0.0	0.0098	U	0.049	0.0098	U	0.049	0.0
Benzo(b)fluoranthene	0.0053	U	0.027	0.0053	U	0.027	0.0	0.010	J	0.027	0.0080	J	0.027	22.2
Benzo(g,h,i)perylene	0.0063	U	0.031	0.0063	U	0.031	0.0	0.0063	U	0.032	0.0063	U	0.031	0.0
Benzo(k)fluoranthene	0.0070	U	0.035	0.0070	U	0.035	0.0	0.0071	U	0.035	0.0070	U	0.035	0.0
Chrysene	0.012	U	0.060	0.012	U	0.060	0.0	0.023	J	0.061	0.015	J	0.060	***42.1***
Dibenz(a,h)anthracene	0.0093	U	0.046	0.0093	U	0.046	0.0	0.0094	U	0.047	0.0093	U	0.046	0.0
Fluoranthene	0.023	J	0.049	0.019	J	0.049	19.0	0.21		0.050	0.18		0.049	15.4
Fluorene	0.016	J	0.037	0.013	J	0.037	20.7	0.57		0.037	0.54		0.037	5.4
Indeno(1,2,3-cd)pyrene	0.016	U	0.082	0.016	U	0.082	0.0	0.016	U	0.082	0.016	U	0.082	0.0
Naphthalene	0.017	U	0.085	0.017	U	0.085	0.0	2.0		0.086	1.8		0.085	10.5
Phenanthrene	0.060	J	0.064	0.066		0.064	9.5	0.63		0.064	0.59		0.064	6.6
Pyrene	0.019	J	0.035	0.017	J	0.035	11.1	0.22		0.036	0.18		0.035	20.0
Total PAHs	0.31			0.31			0.0	5.9			5.3			10.7

Table 3-13. EPA 8270-SIM Field Duplicate Groundwater Sample Results (Cont. 1)

Parameter	*Sample ID: 111517026*			*Sample ID: 111517027*			*RPD*	*Sample ID: 111617034*			*Sample ID: 111617035*			*RPD*
	Result (µg/L)	**Lab Flag**	**LOQ**	**Result (µg/L)**	**Lab Flag**	**LOQ**		**Result (µg/L)**	**Lab Flag**	**LOQ**	**Result (µg/L)**	**Lab Flag**	**LOQ**	
1-Methylnaphthalene	0.0056	U	0.028	0.0055	U	0.028	0.0	0.0057	U	0.028	0.0055	U	0.027	0.0
2-Methylnaphthalene	0.0046	U	0.023	0.0046	U	0.023	0.0	0.0053	J	0.024	0.0045	U	0.023	NC
Acenaphthene	0.0057	U	0.029	0.0057	U	0.028	0.0	0.0058	U	0.029	0.0056	U	0.028	0.0
Acenaphthylene	0.0047	U	0.023	0.0047	U	0.023	0.0	0.0048	U	0.024	0.0046	U	0.023	0.0
Anthracene	0.0099	U	0.049	0.0098	U	0.049	0.0	0.010	U	0.050	0.0097	U	0.048	0.0
Benzo(a)anthracene	0.0071	U	0.036	0.0071	U	0.035	0.0	0.0073	U	0.036	0.0070	U	0.035	0.0
Benzo(a)pyrene	0.0099	U	0.050	0.0098	U	0.049	0.0	0.010	U	0.051	0.0098	U	0.049	0.0
Benzo(b)fluoranthene	0.0054	U	0.027	0.0054	U	0.027	0.0	0.0055	U	0.028	0.0053	U	0.027	0.0
Benzo(g,h,i)perylene	0.0064	U	0.032	0.0063	U	0.032	0.0	0.014	J	0.033	0.0063	U	0.031	NC
Benzo(k)fluoranthene	0.0071	U	0.036	0.0071	U	0.035	0.0	0.0073	U	0.036	0.0070	U	0.035	0.0
Chrysene	0.012	U	0.062	0.012	U	0.061	0.0	0.013	U	0.063	0.012	U	0.060	0.0
Dibenz(a,h)anthracene	0.0095	U	0.047	0.0094	U	0.047	0.0	0.0096	U	0.048	0.0093	U	0.046	0.0
Fluoranthene	0.010	U	0.050	0.010	U	0.050	0.0	0.010	U	0.051	0.0099	U	0.049	0.0
Fluorene	0.0075	U	0.038	0.0074	U	0.037	0.0	0.0077	U	0.038	0.0074	U	0.037	0.0
Indeno(1,2,3-cd)pyrene	0.017	U	0.083	0.016	U	0.082	0.0	0.017	U	0.085	0.016	U	0.082	0.0
Naphthalene	0.017	U	0.086	0.017	U	0.086	0.0	0.018	U	0.088	0.017	U	0.085	0.0
Phenanthrene	0.013	U	0.065	0.013	U	0.064	0.0	0.013	U	0.066	0.013	U	0.064	0.0
Pyrene	0.0072	U	0.036	0.0071	U	0.036	0.0	0.0074	U	0.037	0.0071	U	0.035	0.0
Total PAHs	0.023			0.013			***55.6***	0.041			0.023			***56.3***

Attachment F

Well Abandonment Forms

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management ☒ Remediation/Redevelopment ☐ Other _____

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Milwaukee

Soil Boring or Well ID: MW-07 _____ Gov't Lot (if applicable)

Grid Location: NW 1/4 of NW 1/4 of Sec. 4 ; T. 6 N; R. 22 ☒ E ☐ W

376217 ft. ☒ N. ☐ S., 2559691 ft. ☒ E. ☐ W.

Local Grid Origin ☐ (estimated: ☒) or Well Location ☒

Lat ___° ___' ___" Long ___° ___' ___" or

State Plane _____ ft. N. _____ ft. E. ☐ S ☐ C ☒ N Zone

Reason For Abandonment: Well Damaged | WI Unique Well No. of Replacement Well

(2) FACILITY /OWNER INFORMATION

Facility Name: Milwaukee Solvay Coke and Gas

Facility ID: 241219880 | License/Permit/Monitoring No.: WIN000508215

Street Address of Well: 311 East Greenfield Ave

City, Village, or Town: Milwaukee

Present Well Owner: Wisconsin Gas LLC DBA We Energies | Original Owner

Street Address or Route of Owner: 333 W. Everett Street

City, State, Zip Code: Milwaukee, WI 53203

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 12/18/2008

☒ Monitoring Well
☐ Water Well
☐ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) (From ground surface): 14.5 Casing Diameter (in.): 2.07

Casing Depth (ft.): _____

Lower Drillhole Diameter (in.): _____

Was Well Annular Space Grouted? ☐ Yes ☒ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet): 8.4

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

	Yes	No	Not Applicable
Pump & Piping Removed?	☐	☐	☒
Liner(s) Removed?	☐	☐	☒
Screen Removed?	☒	☐	☐
Casing Left in Place?	☐	☒	

	Yes	No
Was Casing Cut Off Below Surface?	☐	☒
Did Sealing Material Rise to Surface?	☒	☐
Did Material Settle After 24 Hours?	☐	☒
If Yes, Was Hole Retopped?	☐	☒

Required Method of Placing Sealing Material
☐ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)	Sacks Sealant	Mix Ratio or Mud Weight
Hole Plug-Bentonite	Surface	14.5	1	

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Andrew Cawrse | Date of Abandonment: 12/8/17

Signature of Person Doing Work: Andrew Cawrse | Date Signed: 12/14/17

Street or Route: 234 W. Florida, Floor 5 | Telephone Number: (414) 837-3607

City, State, Zip Code: Milwaukee,WI 53204

FOR DNR OR COUNTY USE ONLY
Date Received | Noted By
Comments

Date Modified: 12/13/2017

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State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management ☒ Remediation/Redevelopment ☐ Other _____

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Milwaukee

Soil Boring or Well ID: MW-27 _____ Gov't Lot (if applicable)

Grid Location: NW 1/4 of NW 1/4 of Sec. 4 ; T. 6 N; R. 22 ☒ E ☐ W

376001.75 ft. ☒ N. ☐ S., 2559402.01 ft. ☒ E. ☐ W.

Local Grid Origin ☐ (estimated: ☒) or Well Location ☒

Lat ___° ___' ___" Long ___° ___' ___" or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☒ Zone

Reason For Abandonment: Well Damaged | WI Unique Well No. of Replacement Well

(2) FACILITY /OWNER INFORMATION

Facility Name: Milwaukee Solvay Coke and Gas

Facility ID: 241219880 | License/Permit/Monitoring No.: WIN000508215

Street Address of Well: 311 East Greenfield Ave

City, Village, or Town: Milwaukee

Present Well Owner: Wisconsin Gas LLC DBA We Energies | Original Owner

Street Address or Route of Owner: 333 W. Everett Street

City, State, Zip Code: Milwaukee, WI 53203

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 1/8/2013

☒ Monitoring Well
☐ Water Well
☐ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) (From ground surface): 22.0 Casing Diameter (in.): 2.07

Casing Depth (ft.): _____

Lower Drillhole Diameter (in.): _____

Was Well Annular Space Grouted? ☐ Yes ☒ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet): 9.9

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

	Yes	No	Not Applicable
Pump & Piping Removed?	☐	☐	☒
Liner(s) Removed?	☐	☐	☒
Screen Removed?	☐	☒	☐
Casing Left in Place?	☐	☒	

	Yes	No
Was Casing Cut Off Below Surface?	☒	☐
Did Sealing Material Rise to Surface?	☒	☐
Did Material Settle After 24 Hours?	☐	☒
If Yes, Was Hole Retopped?	☐	☒

Required Method of Placing Sealing Material
☐ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)	Sacks Sealant	Mix Ratio or Mud Weight
Hole Plug-Bentonite	Surface	22.0	1	

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Andrew Cawrse | Date of Abandonment: 12/8/17

Signature of Person Doing Work: Andrew Cawrse | Date Signed: 12/14/17

Street or Route: 234 W. Florida, Floor 5 | Telephone Number: (414) 837-3607

City, State, Zip Code: Milwaukee,WI 53204

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Date Modified: 12/13/2017

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