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January 29, 2021

Caroline Rice
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg WI 53711

Re: Interim Action and Site Investigation Report
Enbridge Line 13, Milepost 312 Leaksite
Jefferson County, Wisconsin
WDNR BRRTS# 02-28-586199

Dear Ms. Rice:

Enclosed is one copy of the *Interim Action and Site Investigation Report* for Enbridge's Line 13 MP 312 Blackhawk Island Road site in Jefferson County, WI. The objectives of this submittal are to provide a summary of the leak discovery, immediate and interim actions, and the ensuing site investigation that occurred at the site in 2019-2020.

Please consider this submittal and Enbridge's request to the WDNR for technical assistance, per NR 700 series for remediation sites. The fee has bee submitted for payment and that will be received directly from Enbridge accounts payable via check.

If you have any questions please feel free to call me at (715) 718-1040 (cell phone as I am currently working from home).

Sincerely,
Enbridge Energy LP

Karl F. Beaster, P.G.
Sr. Environment Advisor

Enclosure

cc: Darin Albrecht; AECOM
file

Interim Action and Site Investigation Report

Line 13 Mile Post 312 (MP 312) Valve Site

Blackhawk Island Road
Fort Atkinson, Wisconsin

BRRTS# 02-28-586199
AECOM Project Number: 60626859

Quality Information

Prepared by	Checked by	Verified by	Approved by
			
William Montz	Paige Schutz, P.E.	Darin R. Albrecht, P.G.	Paul Sklar, P.G.
Project Geologist	Project Engineer	Project Manager	Project Hydrogeologist

Revision History

Revision	Revision date	Details	Authorized	Name	Position
0	1/28/2021	Original Submission	AECOM	Darin Albrecht, P.G.	Project Manager

Distribution List

# Hard Copies	PDF Required	Association / Company Name
1	Yes	Karl F. Beaster, P.G. Enbridge Energy

Prepared for:

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EXECUTIVE SUMMARY

AECOM Technical Services Inc. (AECOM) was retained by Enbridge Energy, Limited Partnership (Enbridge) to conduct a site investigation in response to a release of diluent liquid from the Line 13 MP 312 Valve Site (Site) near Fort Atkinson. The Site is located near the corner of Blackhawk Island Road and Westphal Lane, Fort Atkinson, Wisconsin. Enbridge infrastructure is present within a small fenced portion of a larger parcel that is predominantly open farmland.

The purpose of this report is to describe the initial response activities that occurred following the discovery of the release (interim or initial response action) and to document the methodology and results of the succeeding site investigation to determine of the extent and magnitude of further soil and groundwater impacts related to this release.

Following discovery of the release interim actions consisting of soil vapor and surface soil sampling were conducted to aid in identifying the release source. Three excavation efforts were conducted to daylight the source for repair and to remove impacted materials. One soil boring was advanced near the release source, and it was concluded that subsurface soil and groundwater impacts existed as a result of the release. The release was reported to the Wisconsin Department of Natural Resources (WDNR) on July 31, 2020, and a site investigation commenced to determine the extent and magnitude of impacted media.

During the site investigation, 27 soil borings were advanced, and a temporary monitoring well was installed in each soil boring. Based on groundwater results from the temporary monitoring wells, eight NR141 compliant monitoring wells were installed. MW-1 was installed in the area of release (and greatest impacts), and the remaining seven wells were installed beyond the edge of impacts. Site investigation results indicate the presence of impacted groundwater beneath and to the southeast of the release source. Impacted soils were not encountered during the site investigation phase of this assessment, indicating soil impacts likely remain constrained to beneath the release source.

Based on the results of the initial response actions and site investigation activities conducted at the site to date, the following conclusions can be made:

- The source of the diluent liquid release was identified as a leaking component on the Line 13 valve. Based on LNAPL saturation calculations and estimated volumes of impacts, the total estimated volume of diluent released ranges from approximately 29 to 33 barrels.

- Soil impacts, as defined by contaminant concentrations that exceed the most stringent WDNR Generic Residual Contaminant Limit (RCL; soil-to-groundwater pathway), exist on Site as a result of this release. Analytical results indicate the site investigation did not encounter impacts outside the fenced area of the Site and are constrained to a relatively small area beneath the release source.

- Groundwater impacts, as defined by contaminant concentrations that exceed the Wisconsin Administrative Code Preventive Action Limits (PAL), exist on the Site as a result of this release. Site investigation activities have delineated groundwater impacts to below the benzene PAL. Impacts extend from below the release source to an area approximately 250 feet to the southeast.

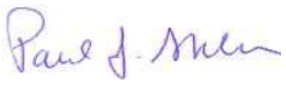
- Groundwater flow beneath the Site was determined to be to the southeast at a relatively low gradient (0.0002 foot per foot).
- Trichloroethene (TCE) was detected above the PAL but below the Enforcement Standard (ES) at MW-6. TCE is not expected to be encountered as a result of the diluent release, and this value will be monitored during future groundwater sampling events.
- Vapor-phase migration of VOC compounds to nearby residences is unlikely due to the limited extent of soil impacts and distance to nearby receptors.

Findings from the site investigation indicate the extent and magnitude of impacted soil and groundwater has been determined for this release. Further quarterly groundwater monitoring is planned to monitor trends in the concentrations of groundwater impacts and to assess the need for further remedial action.

CERTIFICATION

Interim Action & Site Investigation Report
Line 13 MP 312 Valve Site
Blackhawk Island Road
Fort Atkinson, Wisconsin
BRRTS Number: 02-28-586199

I, PAUL J. SKLAR, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of Ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of Ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chess. NR 700 to 726, Wis. Adm. Code.



1/28/2021

AECOM Technical Services, Inc. Date
Paul J. Sklar, P.G.

CHRONOLOGY

The following chronology summarizes activities that provided information for the site investigation and preparation of this report. The detailed findings are presented in the appropriate section of the report.

April 26, 2019	Whistle alarm reported to Enbridge Environment. Enbridge requested AECOM provide environmental support for initial response activities.
May 3-4, 2019	Enbridge conducted initial interim actions that included hand probes and AECOM installed temporary vapor monitoring probes around source area to help identify release source. Four soil gas samples were collected, and a shallow surface soil sample was collected at each soil gas sample location.
May 15-17, 2019	Additional interim actions included hydro-excavation around the suspected release source. Impacted soils removed and excavation extent samples collected for laboratory analysis. Two samples collected from removed soil for waste characterization.
May 17, 2019	The source of the release identified by Enbridge personnel with a petroleum identifying paste. Enbridge employed measures to temporarily repair the leaking valve fitting.
June 2, 2019	Leaking valve component was permanently repaired.
July 31 and August 2, 2019	Additional hydro-excavation of impacted soils. Excavation extent samples were collected for laboratory analysis.
October 9, 2019	Additional hydro-excavation of impacted soils to maximum extent practical within constrains of Site infrastructure. Excavation extent samples were collected for laboratory analysis.
July 21, 2020	One soil boring was advanced near the release source. A soil and groundwater sample were submitted for laboratory analysis.
July 31, 2020	The release of diluent liquid was reported to the Wisconsin Department of Natural Resources (WDNR).
August 3, 2020	Enbridge received a responsible party letter from the WDNR, and requested AECOM conduct a site investigation.
August 27 to September 3, 2020	Soil borings advanced and monitoring wells installed as part of site investigation. A soil and groundwater sample were collected from each boring.
September 14-17, 2020	Soil boring and monitor well installation activities continued.
October 2, 2020	Potable well sample collected from the Macleod Residence to the north of the Site.
October 8, 2020	First groundwater monitoring event completed. Eight groundwater samples collected for laboratory analysis.
November 2020	Calculations by AECOM estimate the volume of diluent released ranged from 29 to 33 barrels.

1.0 GENERAL INFORMATION

AECOM Technical Services Inc. (AECOM) was retained by Enbridge Energy, Limited Partnership (Enbridge) to provide environmental assistance with initial response actions associated with a release from a leaking valve component on Line 13 that transports diluent liquids. AECOM was contracted to conduct the subsequent site investigation to evaluate the extent and magnitude of soil and groundwater impacts as a result of this release. The purpose of this report is to describe the initial response actions that occurred following the discovery of the release and to document the results of the Line 13 MP 312 Site investigation activities thus far. These activities are being conducted, and this report prepared, in accordance with WAC Ch. NR716 requirements.

1.1 Site Description

The Line 13 MP 312 Valve Site is located near the southeast corner of Blackhawk Island Road and Westphal Lane, Jefferson County, Wisconsin and is situated approximately 1,000 feet east of state highway WI-26 (**Figure 1**). Based on the United States Geological Survey (USGS) Fort Atkinson Wisconsin 7.5-Minute Quadrangle map (USGS, 2018), the Site is in Section 8, Township 5 North, Range 14 East. The Site lies on a portion of a parcel identified as Tax Parcel ID: 016-0514-0824-003.

According to Jefferson County's online GIS records, the Site is on an approximately 68-acre parcel; however, the site investigation area is confined to approximately 3.5 acres. According to the Jefferson County GIS records, the subject property is owned by Dale G. Overson and Judith E Springer. Enbridge infrastructure is present within a small (3,200 square feet) fenced area with two small electric/maintenance sheds (no more than 30 square feet each). Four pipelines and associated valves are present (Lines 6, 14, 13, and 61) at this Site. The Site Layout is depicted in **Figure 2** and a visualization of Enbridge infrastructure within the fenced area is included in **Figure 3**.

The predominant land uses in the vicinity of the subject property are farming and residential use. A residential dwelling (MacLeod Residence) is located approximately 300 feet north of the site. Another residential home is located approximately 400 feet southwest of the Site. Other residential and farm buildings are located approximately 600 feet south and approximately 1,200 feet east of the Site.

The Rock River is approximately 2,500 feet southeast of the release site. Other surface water receptors include a man-made pond 600 feet north-east of the Site, marshy areas 2,000 feet to the east and west of the site, and Lake Koshkonong approximately two miles southwest of the Site.

1.2 Site Information

Facility:	Enbridge Line 13 MP 312 Valve Site Blackhawk Island Road Fort Atkinson, Wisconsin
Coordinates:	WTM91: 611849 meters, 271475 meters Latitude/Longitude: 42.9104 ºN, -88.8747 ºW
BRRTS Number:	02-28-586199
FID Number:	None
Responsible Party:	Enbridge Energy, Limited Partnership U.S. Environment Operations 11 East Superior Street Suite 125 Duluth, MN 55802
Contact:	Mr. Karl F. Beaster, P.G.
Telephone:	(715) 718-1040
Email:	Karl.Beaster@enbridge.com
Consultant:	AECOM Technical Services, Inc. 230 West Superior Street Suite 400 Duluth, MN 55802 Darin Albrecht, P.G. Darin.Albrecht@aecom.com
Laboratories:	Pace Analytical Services, LLC 1241 Bellevue Street Green Bay, WI 54302 WDNR Certification #: 405132750 CT Laboratories, LLC 1230 Lange Court Baraboo, WI 53913 WDNR Certification #: 157066030 Eurofins TestAmerica 2417 Bond Street University Park, IL 60484 WDNR Certification #: 999580010

2.0 BACKGROUND AND INTERIM ACTION INFORMATION

This section describes background information associated with the identification of the release and the field methods and results of initial response work conducted prior to site investigation activities.

2.1 Purpose

The purpose of this site investigation report is to document the interim actions conducted and results of the site investigation conducted to define the extent and magnitude of the impacts associated with the Enbridge Line 13 MP 312 Site release. Activities and analytical results associated with release discovery and response are described in this section. Methods and results of the ongoing site investigation are described in detail in the following sections of this report. The release was evaluated through collection and laboratory analysis of soil and groundwater samples from soil borings and monitoring wells completed from around the Site. The site investigation activities documented in this report are being provided in compliance WAC Ch. NR716.

2.2 Background and Interim Response Actions

A whistle alarm was reported to Enbridge Environment on April 26th, 2019 and Enbridge requested AECOM provide environmental support at the Site. AECOM screened surface soils and installed temporary vapor monitoring points around select points of interest (i.e., above-grade pipeline infrastructure) in order to help pinpoint the source of the release. Vapor screening and soil gas results suggested impacts may be present near a valve on Line 13. Enbridge Pipeline Maintenance (PLM) determined the source of release was a leaking valve component on Line 13 which transports diluent liquids.

Enbridge PLM and their contractors, with assistance by AECOM, conducted three soil excavation events (May 15th-17th, July 30th - August 2nd, and October 9th, 2019) using hydro excavation methods to remove impacted soils. Following each excavation effort, excavation soil samples were collected and submitted for laboratory analysis. The analytical results indicated impacts remained at the sidewalls of the final excavation; however, the excavation was completed to the extent practical within the constraints of Site infrastructure, and further removal of impacted soil was not feasible.

On July 21st, 2020 one soil boring was advanced near the release source to a depth of approximately 35 feet below grade to collect soil and groundwater samples to characterize potential impacts to these media. Analytical results indicated benzene concentrations in soil exceeded the WDNR Generic Residual Contaminant Levels (RCL) for the soil-to-groundwater pathway. Additionally, benzene concentrations in groundwater exceeded the Wisconsin Administrative Code (WAC) Ch. NR140 Enforcement Standard (ES).

On July 31st, 2020, within 24 hours of receiving analytical data, Enbridge notified the WDNR of a release of diluent liquid, and on August 3rd, 2020 WDNR issued a responsible party (RP) letter to Enbridge. Enbridge requested AECOM complete a site investigation to further define the extent and magnitude of the impacts associated with this release. Investigation activities include the collection and analysis of soil and groundwater samples from 27 soil borings and eight monitoring wells installed at the Site.

2.3 Identification of Release Source

Following the whistle alarm on April 26th, 2019 Enbridge Environment contacted AECOM to provide environmental support on response activities associated with release. On May 3rd, 2019 Enbridge personnel, with oversight by AECOM, advanced 10 shallow (0.8 to 4.0 feet below ground surface [bgs]) soil borings using hand tools at locations of interest around above grade features (e.g., valves) at the Site (**Figure 3**). AECOM screened the soil vapors from these borings with a photoionization detector (PID) and installed temporary vapor monitoring points at four locations with elevated field PID results (relative to the other boring locations). Three vapor monitoring points (13A, 13D, 16C) were installed around the Line 13 valve and one (14A) near the Line 14 valve. A soil gas sample was collected from each of these four locations and submitted to Pace Analytical Services, L.L.C (Pace) in Minneapolis, Minnesota for analysis of Volatile Organic Compounds (VOCs) by Method TO-15. Additionally, a shallow surface soil sample was collected from each of these four locations and submitted to Pace for analysis Diesel Range Organics (DRO) by the Wisconsin Modified DRO Method (WIDRO) and VOCs by EPA Method 8260.

Select TO-15 VOCs were detected in the four soil gas samples. In general, the highest concentrations of detected compounds were at the 16C sample location, and the lowest were at the 14A sample location. BTEX compounds (benzene, toluene, ethylbenzene, and xylene) were detected, with concentrations of benzene ranging from 8.1 to 2,070,000 micrograms per cubic meter (µg/m^3). Other notable detections include cyclohexane at concentrations ranging from 12.4 to 11,400,000 µg/m^3, n-heptane at concentrations ranging from 15.7 to 3,100,000 µg/m^3, and n-hexane at concentrations ranging from 34.0 to 30,000,000 µg/m^3. A summary of the soil gas analytical results is included as **Table 1** and the complete analytical laboratory report is included in **Appendix A**.

The shallow soil samples collected at these locations yielded detections only at 16C, with a benzene concentration of 0.314 milligrams per kilogram (mg/kg). This concentration exceeds the WDNR Generic RCL for soil-to-groundwater pathway of 0.0051 mg/kg. Additionally, concentrations of toluene, xylenes, and 1,2,4-trimethylbenzene were also detected at the 16C sample location. The complete analytical results for these surface soil samples are included in **Table 2** and the analytical laboratory report is included in **Appendix A**.

These analytical data, along with PID screening conducted at various locations within the Site, suggested that the release was associated with the valve on Line 13 at the Site. Initial excavation efforts (described in the following section) on May 15th-17th 2020 daylighted the Line 13 valve components. Using a petroleum identifying paste, Enbridge PLM personnel positively identified the release source as a leaking valve fitting on the north side of the Line 13 valve.

2.4 Excavation and Removal of Impacted Soils

Following the results of the soil gas and surface soil screening efforts by AECOM, Enbridge contracted Badger Daylighting Ltd. (Badger Daylighting) to remove sand, gravel, and clay fill from around the Line 13 valve in order to identify the valve component responsible for the release. Using hydro excavation methods, Badger Daylighting, with oversight by AECOM, began removing material on May 15th, 2019. On May 17th, 2019, using petroleum identifying paste, Enbridge personnel positively identified the leak from a valve fitting on Line 13 and installed a temporary repair to the valve fitting.

Soils removed during excavation activities were temporarily placed in lined roll off dumpsters. AECOM collected samples for waste characterization from both the solid soil removed from the excavation (WC-1) and the slurry created during hydro excavation (WC-2). A waste profile was created using the analytical results from WC-2, and approximately 250 cubic yards of solidified slurry and mechanically excavated soils were transported to the Mallard Ridge Landfill by Advanced Disposal Services. Waste manifests for the disposal are included in **Appendix B**.

On May 17th, 2019 AECOM collected limit of excavation samples from four sidewall locations and one floor location in the open excavation. Sidewall soils were screened with a PID at four, six, and eight feet bgs, and samples were collected from six feet bgs. The floor sample was collected from the center of the excavation at 10 feet bgs. Sampling from within the excavation was conducted with assistance of Enbridge personnel. Decontamination procedures involved washing the sample shovel with an Alconox soap solution and rinsing with deionized (DI) water between each sample. Soil samples were placed in laboratory supplied containers and submitted to Eurofins TestAmerica (TestAmerica) for analysis of VOCs by method 8260B, and polycyclic aromatic hydrocarbons (PAHs; a subset of Semi-volatile Organic Compounds [SVOCs]) by method 8270D.

Limit of excavation soil samples were compared with the WDNR Generic RCLs for non-industrial and industrial direct contact pathways, and the soil-to-groundwater pathway. Results from the May 17th excavation soil screening and sampling indicated that the limits of impacted material caused by the release had not yet been defined to below these regulatory limits. The sidewall samples on the western side of the excavation (13V-E and 13V-S) contained concentrations of BTEX compounds and naphthalene above the most stringent RCL (soil-to-groundwater pathway). The southeastern sidewall sample (13V-N) recorded concentrations of benzene, toluene, and methylene chloride that exceeded this RCL. The northeastern sidewall sample did not record detections above laboratory reporting limits. The excavation floor sample (13V-B) recorded a benzene concentration of 1.6 mg/kg, which exceeds both the non-industrial and soil-to-groundwater pathway RCLs. Sample locations and a summary of detections are displayed on **Figure 3**. The analytical results are included in **Table 2,** and the complete laboratory report is included in **Appendix A**.

Two additional excavation events (August 2nd, 2019 and October 9th, 2019) to remove additional impacted material were conducted following the initial response effort. Excavation during both events was conducted by Badger Daylighting with oversight by AECOM. AECOM field screened soils with a PID to detect impacted soils and determine the extent of material to be removed. On August 2nd the original excavation was expanded in each direction, with an additional section of soil removed from the southwestern sidewall. On October 9th a four- by eight-foot area was further excavated from the southwestern sidewall where impacted material remained. Four sidewall samples (SW-1 to SW-4) were collected following each excavation event, and a floor sample (B-1) was collected from beneath the Line 13 valve during the August 2nd event. Samples were submitted to ALS Environmental (ALS) in Holland, Michigan for analysis of VOCs by EPA 8260, DRO by WIDRO, and Gasoline Range Organics by the Wisconsin GRO Method (WIGRO).

Results indicate that the impacted material below the Line 13 valve and to the eastern side of the excavation had been successfully removed to below regulatory limits. However, the October 9th limit of excavation samples documented concentrations of benzene (0.012 to 0.064 mg/kg) that exceed the WDNR Generic RCL for soil-to-groundwater contact pathway of 0.0051 mg/kg (**Table 2**), suggesting soils impacted by the release were still present. At that time, the excavation to the

southwest was completed to the extent allowed by Site infrastructure until further material removal was not practical.

2.5 Soil Boring and Report of Release

On July 21, 2020 AECOM mobilized to the Line 13 MP 312 Valve Site to advance a soil boring in the area of the release and collect a subsurface soil and groundwater sample. Drilling activities were conducted by TriMedia Environmental & Engineering Services (TriMedia) with oversight by AECOM. The purpose of this boring, located southwest of the Line 13 valve and outside the excavation extent (**Figure 4**), was to further characterize potential impacts to subsurface soil and groundwater. The soil boring (B1) was advanced to a depth of 35 feet bgs, and AECOM collected one soil sample from a depth of 22 feet bgs. A temporary monitoring well was installed in the bore hole, and a groundwater sample (TW-01) was collected. The soil and groundwater samples were submitted to Pace Analytical for analysis of DRO, GRO, VOCs, and PAHs.

Benzene was detected in the soil sample at a concentration of 0.270 mg/kg, which exceeds the Generic RCL of 0.0051 mg/kg for the soil-to-groundwater pathway. Additionally, concentrations of GRO, DRO, and select VOCs and PAHs were detected at levels below regulatory limits. Results of the groundwater sample were compared with Wisconsin Administrative Code Preventive Action Limits (PAL) and Enforcement Standards (ES). Concentrations of benzene (4,800 micrograms per liter [µg/L]) and toluene (998 µg/L) both exceed their respective PAL and ES. GRO was detected at a concentration of 11,000 µg/L, DRO was detected at a concentration of 320 µg/L, and select VOCs and PAHs were detected at concentrations below Wisconsin's groundwater standards.

Following receipt of these data, Enbridge reported a 1.5-gallon release of diluent liquid to the WDNR on July 31, 2020. The WDNR issued a responsible party letter to Enbridge on August 3rd, 2020, and Enbridge requested AECOM to conduct a site investigation to assess the magnitude and extent of environmental media impacted by this release. Using the results from initial response and site investigation activities, in November 2020 AECOM estimated the volume of released diluent liquid to be between 29 and 33 barrels (1,225-1,386 gallons). The methods and results of this site investigation thus far are described in the following sections of this report.

3.0 METHODS OF INVESTIGATION

This section describes the field and laboratory methodology utilized during this site investigation.

3.1 Site Health and Safety Plan

A site health and safety plan was prepared for this site investigation in accordance with Occupational Safety and Health Administration (OSHA), Enbridge, and AECOM requirements prior to initiating investigation activities.

3.2 Utility Clearance and Selection of Boring Locations

AECOM contacted Digger's Hotline for the location of public utilities in the area of the investigation. AECOM also reviewed drilling locations with authorized site personnel for possible conflicts with site infrastructure and utilized a private utility locating subcontractor for clearance of each drilling location prior to ground disturbance. The locations of the pipelines were identified by utility locate and visually confirmed by daylighting onsite pipelines using hydro excavation methods. The utility work was conducted by TriMedia and the hydro excavation was completed by Badger Daylighting.

The location of the release source and the results of the July 21st, 2020 soil boring were considered when selecting locations of site investigation soil borings and temporary monitoring wells. The first set of soil borings were located near the source of release and groundwater impacts documented in July 2020. Subsequent soil borings and temporary wells were installed following the first set of results with the intent of identifying the extent of impacted media.

Eight WAC Ch. NR141 compliant monitoring wells were installed once the extent of groundwater impacts had been defined. Monitoring well MW-1 was installed in the area of highest documented concentrations benzene in groundwater. The other seven monitoring wells were installed beyond the extent of impacted groundwater to act as sentinel wells.

3.3 Soil Sampling

Soil sampling for the site investigation took place between August 27th and September 14th, 2020. Direct push drilling methods were utilized to advance 27 soil borings (SB-1 through SB-27) to depths between 20 and 30 feet bgs. Drilling activities were performed by TriMedia with oversight by AECOM. A track-mounted GeoProbe® was used to drive a 2-inch inner diameter sampling tube the desired depth at each boring. Soil boring locations and depths are presented in **Table 3** and locations are displayed on **Figure 4**.

Soil cores were continuously collected using a disposable 5-ft long plastic sleeve within the direct push sampling rod. Soils from each boring were described and logged by AECOM staff using standard USCS classification. Cores were field screened with a PID to guide sampling for laboratory analysis.

A single soil sample was collected from each boring at a depth with the highest PID results. Sample materials were placed into laboratory supplied containers and submitted to CT Laboratory in Baraboo, WI for analysis of GRO, BTEX, 1,2,4- and 1,3,5- trimethylbenzene (TMBs) and methyl-tert-butyl ether (MTBE). Analytical methods are summarized in Section 3.8

and soil analytical results are discussed in Section 5. Soil boring logs and abandonment forms are presented in **Appendix C**.

3.4 Groundwater Sampling

A temporary monitoring well was installed in each of the 27 soil borings. Temporary wells were constructed of a 1-inch PVC riser pipe and either a 5- or 10-foot slotted screen installed into the water table at each soil boring location. No filter pack sand was placed around the screened portion of the wells due to sandy soil documented at the depths of the screened intervals (see boring logs; **Appendix C**). Water level measurements were collected, and the wells were sampled either on the day of or the day after installation. Prior to collecting a sample at a given temporary well, groundwater was purged with a peristaltic pump until the turbidity had decreased to a point of being visually clear. Groundwater samples were collected from the center of the screened interval using a peristaltic pump with low-density polyethylene (LDPE) tubing. Samples were collected into laboratory supplied containers and submitted to CT Laboratory for analysis of GRO, BTEX, TMBs, and MTBE. Analytical methods are summarized in Section 3.8 and groundwater analytical results are discussed in Section 5.

Following the collection of groundwater samples from temporary wells, the well materials were removed, and the open borehole was backfilled with bentonite chips according to State of Wisconsin Well Code. Borehole abandonment and sealing forms are included in **Appendix C**.

In September 2020, eight monitoring wells were installed as part of the site investigation. Drilling and construction activities associated with the well installations were conducted by TriMedia with oversight by AECOM. Boreholes were advanced to depths between 24.9 and 31.9 feet bgs using a 4-inch inside diameter hollow stem auger. Upon reaching the desired depth (based on field observations by AECOM), a monitoring well was installed. Monitoring wells were constructed with 2-inch diameter PVC risers with a 10-foot 0.01-inch (#10) slot screened interval. Monitoring wells were constructed in accordance with WAC Ch. NR141 filter pack, annular space, bentonite, and surface seal material requirements, and were finished above-grade with a protective casing. Two concrete jersey barriers were placed near each well for added protection.

Monitoring wells were developed by TriMedia using a surge and purge technique. Construction details and development forms for each well are included in **Appendix C**.

On October 8th, 2020, the first quarterly groundwater sampling event was conducted by AECOM. Groundwater sampling was conducted with a peristaltic pump and dedicated LDPE tubing for each monitoring well. Prior to collecting a sample at each monitoring well, at least three, and no more than five, well volumes were purged. After the well purging, a groundwater sample was collected when stabilization of pH, temperature, conductivity, oxidation reduction potential, and dissolved oxygen field parameters were documented. Groundwater samples from monitoring wells were collected into laboratory supplied containers and submitted to Pace Analytical in Green Bay, Wisconsin for analysis of VOCs.

A water sample was also collected a residential well at the nearby MacLeod property (**Figure 4**). The sample was collected from a spigot on the outside of the residence. Approximately 50 gallons of water were purged to ensure the sample collected was representative of the groundwater within the aquifer. The sample was collected in laboratory supplied containers and submitted to Pace Analytical in Green Bay, Wisconsin for analysis of GRO and BTEX. Laboratory analytical methods are summarized in Section 3.8, and groundwater results from monitoring well samples are discussed in Section 5.

3.5 Surveying

The location of each soil boring and monitoring well was surveyed by TriMedia. Top of casing elevations were surveyed by AECOM staff using standard Trimble® laser-level equipment. Elevations of the ground surface and the top of PVC riser pipe were surveyed for each groundwater monitoring well relative to a local benchmark (100.00). The location of the benchmark is shown on **Figure 2**. Based on Google Earth Pro, the approximate elevation of the benchmark is 817 ft MSL. Groundwater elevations were calculated based on the depth to groundwater in each well relative to the elevation of the top of the surveyed PVC well casing and are presented in **Table 4**.

3.6 Equipment Decontamination

Equipment was decontaminated between each sample borehole and sample using an Alconox® solution and distilled water rinse. Decontamination liquids were containerized for proper disposal.

3.7 Waste Management

Soil generated during the advancement of soil borings and construction of monitoring wells was placed into 13, 55-gallon drums. Groundwater generated during well development and sampling purge and wastewater generated during decontamination procedure was placed into four 55-gallon drums. Containerized soil was disposed of at Mallard Ridge and well development and purged groundwater is pending appropriate disposal with a waste vendor.

3.8 Analytical Methods

Soil and groundwater samples from temporary wells were submitted to CT Laboratory in Baraboo, WI for analysis. Groundwater samples from monitoring wells were submitted to Pace Analytical in Green Bay, Wisconsin. The following analytical methods were used:

- VOCs by USEPA Method SW846-8260B
- BTEX/GRO by the WDNR GRO Modified Method

4.0 GEOLOGY AND HYDROGEOLOGY RESULTS

The following subsections present summaries of available topography, hydrology, geologic, and hydrogeologic data. Cross section transects are displayed on **Figure 4**, and geologic cross sections A-A' and B-B' are presented in **Figure 5A** and **Figure 5B**.

4.1 Site Topography

Based on the USGS Fort Atkinson, Wisconsin 7.5-Minute Quadrangle map (USGS 2018), the Site is in the southwest quarter of section 8, T5N R14E, City of Fort Atkinson, Jefferson County, Wisconsin and has an average elevation of 810 feet above sea level. The Site is on the side of a small hill that dips to the north, east and west. The range in elevation from the lowest point (SB-26) to the highest (SB-24) is approximately 19.4 feet.

4.2 Surface Water

Surface water receptors exist as near as 600 feet to the Site in the form of a man-made pond that is located north-east of the Site. The Rock River is located approximately 2,000 feet to the east and 3,500 feet south of the Site. A wet, marshy area begins approximately 2,000 feet east and west of the Site. Lake Koshkonong is located approximately two miles southwest of the site.

4.3 Geologic Deposits

Published geologic data was reviewed to assess soil and bedrock types in the area, regional groundwater flow direction, and groundwater sources. USGS 7.5-minute quadrangle maps were used to determine general land features in the area of the Site and to evaluate the local topography.

Stratigraphy encountered in site investigation soil borings consists of one foot of topsoil underlain by three to seven feet of silty clay. Beneath the clay lies three to ten feet of silty sand, which is underlain by a unit of sand with some gravel and trace boulders. Bedrock was not encountered during the current site investigation. Bedrock underlying the Site has been interpreted to be St. Peter Sandstone (USGS, 1975). Based on the publication from the USGS, the depth to bedrock is approximately 300 feet bgs. A well construction report from the WDNR well search located 0.17 miles north of the Site shows sandstone bedrock starting at 263 feet bgs.

4.4 Hydrogeologic Setting

Groundwater elevation measurements were collected at the eight monitoring wells on site in September and October 2020. Groundwater elevation at the site ranged from 74.54 to 74.60 feet relative to the local benchmark (25.70 to 18.85 feet bgs) in September 2020. October 2, 2020 water levels and the general direction of groundwater flow are consistent with September 2020 data. Based on these data, groundwater flow was determined to be toward the southeast (**Figure 6; Table 4**). The very flat potentiometric surface (0.0002 foot per foot) is considered to result from the extensive sands (high transmissivity) combined with the location of surface water bodies on three sides of the Site.

4.5 Well Receptor Survey

Well record information for wells nearby to the Site was obtained from the WDNR Well Records online database. Ten private potable wells were identified in the search and located within 1,200 feet of the edge of contamination, as shown on **Figure 7** with the neighboring parcel boundaries and owner names. Three wells are located upgradient (north) of the Site. Seven wells are located side gradient (south) of the Site. The closest side gradient well is 360 feet to the southwest. There are no wells directly down gradient to the southeast. A summary of well construction details for the wells is included in **Table 5**. Copies of well records are included in **Appendix D**.

Eight additional wells installed prior to 1988 were identified in the WDNR Well Records online database as located within the section, township, and range of the Site. Specific addresses or coordinates of these wells were not included in the WDNR Well Records due to the age of installation. Well records for these wells are also included in **Appendix D**.

No well was identified on the MacLeod property located closest to the Site, approximately 110 feet north of groundwater impacts; however, groundwater samples were collected from an exterior spigot on the property on October 2, 2020. There were no laboratory detections in water from this well. These data are described further in Section 5.2.3.

At this time there are no potential or known impacts of contamination to nearby well receptors.

5.0 SOIL AND GROUNDWATER ANALYTICAL RESULTS

Analytical results of samples collected during the site investigation are discussed in the following sections. Complete laboratory analytical reports are presented in **Appendix A**.

5.1 Soil Results

Twenty-seven soil samples were collected from soil borings during this site investigation. One additional soil sample was collected from boring B-1 near the release source prior to the start of investigation activities and is discussed here for completeness. The PID screening results during site investigation soil boring activities ranged from 0.0 ppm to 59.1 ppm with the highest PID readings documented nearest (SB-1) to the source of release. In contrast, PID screening during the advancement of B-1 in the immediate area of the release recorded a maximum headspace result of 401 ppm.

Soil analytical results from the initial B-1 boring document a benzene concentration of 0.0270 mg/kg, which exceeds the WDNR Generic RCL for soil-to-groundwater pathway of 0.0051 mg/kg. In the samples collected from the 27 site investigation soil borings, there were no documented detections of VOCs and GRO at concentrations above the laboratory detection limits. Soil analytical data are summarized in **Table 6**, and results of PID screening are included on the boring logs in **Appendix B**.

5.2 Groundwater Analytical Results

Groundwater samples were collected from temporary wells installed at each of the 27 soil borings and at the eight monitoring wells installed as part of this investigation. A groundwater sample (designated “TW-01”) was collected from the boring B-1 near the release source prior to the start of investigation activities, and its results are discussed with the temporary well results below. In the following sections, groundwater analytical results are compared with the State of Wisconsin groundwater quality standards, which comprise a two-tiered system consisting of the Preventive Action Limit (PAL), established to identify potential groundwater contamination problems, and the Enforcement Standard (ES). It should be noted that the NR140 standards for trimethylbenzene (1,2,4- and 1,3,5) and xylenes apply to the combined concentrations of the individual compounds.

Groundwater data are summarized in and displayed on **Table 7** and **Figure 8** for temporary wells and **Table 8** and **Figure 9** for monitoring and residential wells. Complete analytical laboratory reports are included in **Appendix A**.

5.2.1 Temporary Well Results

Groundwater analytical results from temporary wells documented detections of GRO in ten of the 28 samples and BTEX compounds in 20 of the 28 samples. Concentrations of GRO ranged from 29 µg/L (SB-21) to 11,000 µg/L (TW-01), and concentrations of benzene ranged from 0.46 µg/L (SB-22) to 5,600 µg/L (SB-3). Concentrations of benzene exceeded the ES of 5 µg/L in samples SB-3, TW-01, SB-5, SB-8, SB-7, SB-15, SB-9, SB-10 and SB-1 (in order of decreasing concentration). The ES for toluene (800 µg/L) was exceeded at TW-01 (998 µg/L), and individual PALs for benzene, MTBE, or toluene were exceeded at TW-01, SB-3, SB-8, SB-12, SB-13, and SB-18. There are no established standards for GRO in the State of Wisconsin.

5.2.2 October 2020 Monitoring Well Results

Groundwater analytical results from the October 8th, 2020 monitoring event document concentrations of benzene (23,700 µg/L) and toluene (7,650 µg/L) at MW-1 which exceed their respective ES. The concentrations of ethylbenzene (222 µg/L) and total xylene (728 µg/L) at MW-1 exceeded their respective PAL. Other VOCs were not detected at MW-1 at concentrations above laboratory reporting limits; however, it is noted that reporting limits for this sample exceeded groundwater standards for select VOCs. Lower method detection limits will be requested for future groundwater sampling events. Trichloroethene was detected at MW-6 at a concentration (1 µg/L) above its PAL (0.5 µg/L). There were no detections of VOCs above the laboratory detection limits in the remaining six monitoring wells.

5.2.3 MacLeod Residence Results

It is believed the MacLeod Residence north of the Site has a private potable well. However, the owner could not provide detailed information (physical location, depth, construction, etc.) on their water source at the time of sampling. There is no public well record for a current or abandoned well on this property. Laboratory analytical results from the water sample collected at an outdoor spigot on October 2, 2020 did not contain VOCs or GRO at concentrations above their laboratory detection limits.

5.3 Vapor Intrusion

The potential for vapor intrusion into the nearest residential structure was assessed in accordance to WDNR recommended procedures found in RR-800 *Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin* (January 2018). Sub-slab vapor samples were not collected from the nearest residence for the following reasons: The depth to water is greater than 20 feet bgs, no petroleum compounds were detected in the soil samples from radial soil borings above laboratory detection limits, no free product was observed, and the nearest benzene detection above the PAL (SB-1) is greater than 200 feet from the residence. Vapor intrusion risk is unlikely at the Site. Additionally, Site buildings within the fenced area are slab on-grade structures, are not continuously occupied and therefore pose a low vapor intrusion risk as a result of this release.

6.0 DISCUSSION

6.1 Discussion of Analytical Results

Following the completion of interim actions, limited soil impacts remain near the source of release and within the fenced area of the Line 13 MP 312 Site. The 27 samples from soil borings outside the fenced area did not contain concentrations of GRO or BTEX above laboratory detection limits. While a small amount of impacted soil may remain within the secured, fenced area, the extent and magnitude of soil impacts with respect to this release appears to be limited in nature and defined. The relatively small area of soil impacts is consistent with the high volatility and water solubility of the diluent.

Analytical results from the temporary wells indicate the presence of impacted groundwater slightly north of the release source and approximately 200-225 feet to the southeast. Monitoring well MW-1 was installed in an area that documented a high benzene concentration. Monitoring wells MW-2 through MW-8 were installed at locations believed to be beyond the extent of impacted groundwater, and analytical results from the first groundwater monitoring event confirm that the extent of impacted groundwater has been defined to below the PAL. As shown on **Table 3**, the outer monitoring wells were installed from approximately 125 feet to 275 feet from MW-1. Therefore, the benzene impacts associated with the release is confined to a relatively limited area, spanning from beneath the release source to approximately 200-225 feet to the southeast. Due to the relatively low water table gradient at this site (**Figure 6**), contaminant migration will likely be slow.

Trichloroethene was detected at MW-6 at a concentration that exceeds the PAL. This compound is not a constituent expected to be encountered with this diluent release, and it was not detected in other samples. This detection may have been a laboratory artifact or from a source unrelated to this release. This compound will continue to be monitored during quarterly groundwater sampling events.

6.2 Estimated Volume of Diluent Release

A volume of petroleum product release can be estimated using volume of impacted soil and LNAPL saturation, as LNAPL saturation is representative of the LNAPL-filled fraction of total porosity in soil, based on Equation 1 (ASTM, 2020).

$$V_{LNAPL} = V_{impacted\ soil} * n * S_{LNAPL} * 7.48\ \frac{gallons}{cubic\ foot}$$ Equation 1

Where:
V_{LNAPL} = volume of LNAPL, gallons
$V_{impacted\ soil}$ = volume of impacted soil, cubic feet
n = porosity, assumed for sand to be 0.4
S_{LNAPL} = LNAPL saturation, unitless

LNAPL saturation varies both vertically and horizontally in the subsurface. As saturation of a fluid increases, so does the fluid pore network. Thus, various areas of impacts and LNAPL saturations were used to support the final range of estimated release volume.

6.2.1 Volume of Impacted Soil

Six different areas of impacts were used to estimate the volume of impacted soil based on review of field notes from the excavations and site investigation, as shown below in the table below. Details pertaining to the volume estimates including dimensional areas and thickness of impacts for each area are included in **Table 9**.

Area		Estimated Volume (cubic feet)		Assumptions
		Minimum	Maximum	
1	Excavation on 5/17/2019	3,600		Dimensions from field notes
2	Excavation on 8/2/2019	1,309		Dimensions from field notes
3	Excavation on 10/9/2019	264		Dimensions from field notes
4	Area below excavations to top of water table	6,874		Accounts for impacts extending below the excavations to the top of the groundwater table.
5	Non-excavated near surface impacts near release area	3,716	7,431	Area estimated based on initial soil gas analytical and soil screening with photoionization detector (PID) data collected on May 3, 2019. Estimated thickness of impacts from 5 to 10 feet.
6	Benzene impacts >5 ug/L	39,051	195,255	Area based on benzene groundwater analytical contour of >5 ug/L (**Figure 9**). Estimated thickness of impacts from 1 to 5 feet.

6.2.2 LNAPL Saturation

Cumulative total petroleum hydrocarbon (TPH) soil analytical data (i.e. the sum of total petroleum hydrocarbons-gasoline range organics [TPH-g] and total petroleum hydrocarbons-diesel range organics [TPH-d]) were available for select soil samples collected during the excavation and site investigation efforts. Each area of impacts was assigned a representative soil sample based on applicability to the level of impacts. LNAPL saturation was estimated using cumulative TPH soil analytical data for the selected samples and other fluid and soil properties by Equation 2 (Interstate Technology and Regulatory Council [ITRC], 2013).

$$S_{LNAPL} = \frac{\rho_b * TPH}{\rho_{LNAPL} * n * 10^6}$$ Equation 2

Where:
ρ_b = soil bulk density, assumed for sand to be 1.6 grams per cubic centimeter (g/cm^3)
ρ_{LNAPL} = LNAPL density, assumed for condensate to be 0.67 g/cm^3
n = porosity, assumed for sand to be 0.4
TPH = cumulative total petroleum hydrocarbons, milligrams per kilogram (mg/kg)
10^6 = conversion factor, mg/kg

The following table includes the justification for the selected soil samples and calculated LNAPL saturations (Equation 2) for each impacted area. Analytical results for the selected soil samples are included in **Table 10**.

Area		Representative Soil Sample ID	Justification	Calculated LNAPL Saturation
1	Excavation on 5/17/2019	13V-E(6)	Sample with the highest cumulative TPH concentration from excavation areas	3.17%
2	Excavation on 8/2/2019			
3	Excavation on 10/9/2019			
4	Area below excavations to top of water table			
5	Non-excavated impacts near release area	WC-1	Waste characterization sample representative of concentration of fringe LNAPL migration in the vadose zone	0.50%
6	Benzene impacts >5 ug/L	SW-3(9)	Sample with cumulative TPH concentration less than soil saturation concentration (Csat; approximately 100 mg/kg) to represent elevated benzene in groundwater	0.02%

It is important to note that LNAPL saturation varies greatly in the subsurface both vertically and horizontally due to geologic complexities and water table fluctuations. There is an inherent uncertainty in using data from soil samples that represent less than a 5-ounce sample and projecting those results across hundreds of thousands of cubic feet of soil. Because of this uncertainty, the accuracy of this volume estimate is order of magnitude.

6.2.3 Estimated Release Volume

The following table includes the estimates of diluent release volume following Equation 1 and based on the LNAPL saturation results and high and low range of volume of impacted soil for each area. The total estimated volume of diluent released ranges from approximately 29 to 33 barrels. Detailed release volume calculations for each area are included in **Appendix E**.

Area			LNAPL Volume (gallons)	
			Minimum	Maximum
1	Excavation on 5/17/2019		341	341
2	Excavation on 8/2/2019		124	124
3	Excavation on 10/9/2019		25	25
4	Area below excavations to top of water table		652	652
5	Non-excavated near surface soil impacts near release area		55	111
6	Benzene impacts >5 ug/L		27	133
Range of Estimated Release Volume		**gallons**	**1,225**	**1,386**
		barrels	**29**	**33**

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the interim response and SI activities conducted at the site to date, and historical information reviewed as part of the SI, AECOM makes the following conclusions and recommendations:

- Stratigraphy identified beneath the Site generally consists of four distinct stratigraphic layers derived from glacial outwash. In order of increasing depth, these are: topsoil, silty clay, silty sand, and sand with some gravel;
- Groundwater elevation at the site ranged from 74.54 to 74.60 feet relative to the local benchmark (25.70 to 18.85 feet bgs) in September 2020. These data indicate a relatively flat water table with groundwater elevations varying by just over an inch between wells. Groundwater flow is generally to the southeast;
- Soil impacts, as defined by contaminant concentrations that exceed the most stringent WDNR RCL (soil-to-groundwater pathway), exist on Site as a result of this release. Analytical results indicate the site investigation did not encounter impacts outside the fenced area of the Site and are largely constrained to a relatively small area beneath the release source;
- Groundwater impacts, as defined by contaminant concentrations that exceed the NR140 PAL, exist on the Site as a result of this release. Site investigation activities have delineated groundwater impacts to below the benzene PAL. Impacts extend from an area approximately 75 feet north of the release source to an area approximately 250 feet to the southeast of the release source;
- Based on LNAPL saturation calculations and estimated volumes of impacts, the estimated volume of diluent released ranges from approximately 29 to 33 barrels. This range of values should be considered an order of magnitude estimate;
- The TCE detection at MW-6 above the PAL will continue to be monitored during future quarterly groundwater sampling events but is believed to be a false positive;
- Vapor-phase PVOC migration to nearby residences is unlikely due to the limited extent of soil impacts and distance between the receptors and the Site;
- Surface water receptors exist beyond the extent of soil and groundwater impacts. There is currently a low risk of contaminant migration to these receptors, and
- Further quarterly groundwater monitoring is planned to determine trends in groundwater concentration and to assess the potential need for further remedial action.

8.0 CLOSING AND NEXT STEPS

Enbridge respectfully submits this SIR and requests that the WDNR review and provide feedback regarding the following next steps for the Site:

- Quarterly groundwater monitoring will continue in January, April, July, and October 2021 with the following activities:
    - Collect fluid level measurements from the monitoring well network;
    - Collect groundwater samples from the monitoring network and submit for analysis of VOCs by USEPA Method 8260B and WIGRO by the Wisconsin Method;
    - Attempt to determine the MacLeod well location and collect water samples from nearby MacLeod residence and submit for analysis of VOCs by Method 8260B.
- Develop a Remedial Action Options Report (RAOR) and Remedial Action Plan (RAP) and submit to WDNR in the summer of 2021;
- Commence design and construction (as applicable) for a soil and/or groundwater remedy in summer of 2021 following WDNR approval of RAOR/RAP; and,
- Execute a remedial action in the fall of 2021 following WDNR approval of the RAOR/RAP report.

9.0 REFERENCES

ASTM, (2020). *Standard Guide for Development of Conceptual Site Models and Remediations Strategies for Light Non-Aqueous-Phase Liquids Release to the Subsurface.* ASTM E2531-06. ASTM International, West Conshohocken, PA.

Borman and Trotta, 1975. Ground-water Resources and Geology of Jefferson County, Wisconsin. Wisconsin Geological and Natural History Survey and United States Geological Survey. Information Circular Number 33.

ITRC, 2013. LNAPL Training Part 2: LNAPL Characterization and Recoverability – Improved Analysis. Washington, DC. (www.itrcweb.org) Training Co-Sponsored by: US EPA Technology Innovation and Field Services Division (TIFSD) (www.clu-in.org).

Soil Map of Jefferson County, Wisconsin. Geological and Natural History Survey, George Hanson. Soil survey 1963 to 1966 by Soil Survey Division, WGNHS, University Extension.

United States Geological Survey, 7.5-Minute Topographic Map of the Fort Atkinson, Wisconsin Quadrangle – 2018. Scale=1:24,000.

Wisconsin Administrative Code. Chapter NR140. Groundwater Quality Standards.

Wisconsin Administrative Code. Chapter NR 716. Site Investigations.

Wisconsin Department of Natural Resources. Soil RCL Worksheet, March 2017 (updated).

10.0 STATEMENT OF LIMITATIONS

AECOM's objective is to complete our work with care, exercising the customary thoroughness and competence of consulting professionals in the relevant disciplines, in accordance with the standards for professional services existing at the time and location those services are rendered. It is important to recognize that even the most comprehensive scope of services may fail to detect environmental liability on a site. Therefore, AECOM cannot act as insurers and cannot "certify" that a site is free of environmental contamination, and no expressed or implied representation or warranty is included or intended in our reports except that our work was performed within the limits prescribed by our proposal and with the customary thoroughness and competence of our profession.

TABLES

Table 1
Soil Gas Analytical Results
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Parameter Group	VOCs	Units	13A Line 13 5/3/2019	13D Line 13 5/3/2019	14A Line 14 5/3/2019	16C Line 13/16 5/3/2019
VOC	1,1,1-Trichloroethane	ug/m3	<2.1	<1790	<2.0	<104
VOC	1,1,2,2-Tetrachloroethane	ug/m3	<1.3	<1130	<1.3	<65.6
VOC	1,1,2-Trichloroethane	ug/m3	<1.0	<895	<1.0	<52.1
VOC	1,1,2-Trichlorotrifluoroethane	ug/m3	<2.9	<2520	<2.8	<147
VOC	1,1-Dichloroethane	ug/m3	<1.5	<1330	<1.5	<77.3
VOC	1,1-Dichloroethene	ug/m3	<1.5	<1300	<1.5	<75.7
VOC	1,2,4-Trichlorobenzene	ug/m3	<14.1	<12200	<13.6	<708
VOC	1,2,4-Trimethylbenzene	ug/m3	**5.6**	<1610	**7.9**	**317**
VOC	1,2-Dibromoethane (EDB)	ug/m3	<1.5	<1260	<1.4	<73.4
VOC	1,2-Dichlorobenzene	ug/m3	<2.3	<1970	<2.2	<115
VOC	1,2-Dichloroethane	ug/m3	<0.77	<663	<0.74	<38.6
VOC	1,2-Dichloropropane	ug/m3	<1.8	<1510	<1.7	<88.2
VOC	1,3,5-Trimethylbenzene	ug/m3	**2.4**	<1610	**3.5**	**206**
VOC	1,3-Butadiene	ug/m3	<0.84	<726	<0.81	<42.3
VOC	1,3-Dichlorobenzene	ug/m3	<2.3	<1970	<2.2	<115
VOC	1,4-Dichlorobenzene	ug/m3	<5.7	<4940	<5.5	<288
VOC	2-Butanone (MEK)	ug/m3	**25.5**	<4840	**29.1**	<282
VOC	2-Hexanone	ug/m3	<7.8	<6710	**7.5**	<391
VOC	2-Propanol	ug/m3	**13.6**	<4030	**21.2**	<235
VOC	4-Ethyltoluene	ug/m3	<4.7	<4030	<4.5	<235
VOC	4-Methyl-2-pentanone (MIBK)	ug/m3	<7.8	<6710	**12.6**	<391
VOC	Acetone	ug/m3	<4.5	<3890	**254**	<226
VOC	Benzene	ug/m3	**18.0**	**1020**	**8.1**	**2070000**
VOC	Benzyl chloride	ug/m3	<4.9	<4240	<4.7	<247
VOC	Bromodichloromethane	ug/m3	<2.5	<2190	<2.4	<128
VOC	Bromoform	ug/m3	<9.8	<8470	<9.4	<493
VOC	Bromomethane	ug/m3	<1.5	<1270	<1.4	<74.1
VOC	Carbon disulfide	ug/m3	<1.2	<1020	<1.1	<59.5
VOC	Carbon tetrachloride	ug/m3	<2.4	<2060	<2.3	<120
VOC	Chlorobenzene	ug/m3	<1.8	<1510	<1.7	<87.9
VOC	Chloroethane	ug/m3	<1.0	<864	<0.96	<50.4
VOC	Chloroform	ug/m3	<0.93	<800	<0.89	<46.6
VOC	Chloromethane	ug/m3	<0.79	<677	**0.92**	<39.5
VOC	Cyclohexane	ug/m3	**874**	**727000**	**12.4**	**11400000**
VOC	Dibromochloromethane	ug/m3	<3.2	<2790	<3.1	<163
VOC	Dichlorodifluoromethane	ug/m3	<1.9	<1630	**1.9**	<94.9
VOC	Dichlorotetrafluoroethane	ug/m3	<2.7	<2290	<2.6	<133
VOC	Ethanol	ug/m3	**102**	<3100	**80.0**	<180
VOC	Ethyl acetate	ug/m3	<1.4	<1180	<1.3	<68.9
VOC	Ethylbenzene	ug/m3	**4.2**	<1420	**3.8**	**2650**
VOC	Hexachloro-1,3-butadiene	ug/m3	<10.1	<8740	<9.8	<509
VOC	Methyl-tert-butyl ether	ug/m3	<6.8	<5900	<6.6	<344
VOC	Methylene Chloride	ug/m3	**16.1**	<5690	**14.3**	<332
VOC	Naphthalene	ug/m3	<5.0	<4290	<4.8	<250
VOC	Propylene	ug/m3	<0.65	<564	<0.63	<32.9
VOC	Styrene	ug/m3	<1.6	<1400	<1.6	<81.4
VOC	Tetrachloroethene	ug/m3	<1.3	<1110	**3.7**	<64.7
VOC	Tetrahydrofuran	ug/m3	<1.1	<968	**13.0**	<56.4
VOC	Toluene	ug/m3	**18.0**	<1240	**18.8**	**429000**

Table 1
Soil Gas Analytical Results
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Parameter Group	VOCs	Units	13A Line 13 5/3/2019	13D Line 13 5/3/2019	14A Line 14 5/3/2019	16C Line 13/16 5/3/2019
VOC	Trichloroethene	ug/m3	<1.0	<1760	<0.98	<103
VOC	Trichlorofluoromethane	ug/m3	<2.1	<1840	<2.1	<107
VOC	Vinyl acetate	ug/m3	<3.3	<1150	<3.2	<67.3
VOC	Vinyl chloride	ug/m3	<0.49	<419	<0.47	<24.4
VOC	cis-1,2-Dichloroethene	ug/m3	<1.5	<1300	<1.5	<75.7
VOC	cis-1,3-Dichloropropene	ug/m3	<1.7	<1490	<1.7	<86.7
VOC	m&p-Xylene	ug/m3	**13.8**	<2850	**13.4**	**9790**
VOC	n-Heptane	ug/m3	**31.7**	**17700**	**15.7**	**3100000**
VOC	n-Hexane	ug/m3	**1810**	**1440000**	**34.0**	**30000000**
VOC	o-Xylene	ug/m3	**4.3**	<1420	**4.7**	**2240**
VOC	trans-1,2-Dichloroethene	ug/m3	<1.5	<1300	<1.5	<75.7
VOC	trans-1,3-Dichloropropene	ug/m3	<1.7	<1490	<1.7	<86.7

General Notes:
Bold indicates detected parameter.

Aconyms and Abbreviations:
VOCs = volatile organic compounds
ug/m3 = micrograms per cubic meter

Table 2
Soil Analytical Results: Surface Soil and Excavation
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Parameter Group	Analyte	Units	Generic RCLs [1]			13A (1.4-3.4)	13D (1.1-3.2)	14A (0.7-4.0)	16C (0.9-3.0)	13V-B(10)	13V-E(6)	13V-N(6)	13V-S(6)	13V-W(6)	B-1	SW-1	SW-2	SW-3	SW-4	SW-1 (5)	SW-2 (5)	SW-3 (5)	SW-3 (9)	SW-4 (5)
			Direct Contact Pathway		Groundwater Pathway (C)	1.4 - 3.4 ft	1.1 - 3.2 ft	0.7 - 4 ft	0.9 - 3 ft	10 - 10 ft	6 - 6 ft	6 - 6 ft	6 - 6 ft	6 - 6 ft	11 - 11 ft	5 - 5 ft	7 - 7 ft	6 - 6 ft	8 - 8 ft	5 - 5 ft	5 - 5 ft	5 - 5 ft	9 - 9 ft	5 - 5 ft
			Non-Industrial (A)	Industrial (B)		May 3, 2019 Surface Soil Results				May 17, 2019 Limit of Excavation Results					August 2, 2019 Limit of Excavation Results					October 9, 2019 Limit of Excavation Results				
VOC	1,1,1,2-Tetrachloroethane	mg/kg	2.78	12.3	0.0534	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	1,1,1-Trichloroethane	mg/kg	640	640	0.1402	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	1,1,2,2-Tetrachloroethane	mg/kg	0.81	3.6	0.0002	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	1,1,2-Trichloroethane	mg/kg	1.59	7.01	0.0032	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	1,1,2-Trichlorotrifloroethane	mg/kg	910	910	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	1,1-Dichloroethane	mg/kg	5.06	22.2	0.4834	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	1,1-Dichloroethene	mg/kg	320	1190	0.005	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	1,1-Dichloropropene	mg/kg	--	--	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	1,2,3-Trichlorobenzene	mg/kg	62.6	934	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.092	< 0.11	< 0.12	< 0.13	< 0.11
VOC	1,2,3-Trichloropropane	mg/kg	0.0051	0.109	0.0519	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.13	< 0.52	< 0.27	< 0.5	< 0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	1,2,4-Trichlorobenzene	mg/kg	24	113	0.408	< 0.0476	< 0.0476	< 0.0476	< 0.0476	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.089	< 0.076	< 0.077	< 0.11	< 0.086	< 0.092	< 0.11	< 0.12	< 0.13	< 0.11
VOC	1,2,4-Trimethylbenzene	mg/kg	219	219	--	< 0.0250	< 0.0250	< 0.0250	0.0324 J	< 0.066	23	0.39	13	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	1,2-Dibromo-3-chloropropane	mg/kg	0.0075	0.0923	0.0002	< 0.0912	< 0.0912	< 0.0912	< 0.0912	< 0.33	< 1.3	< 0.66	< 1.3	< 0.33	< 0.089	< 0.076	< 0.077	< 0.11	< 0.086	< 0.092	< 0.11	< 0.12	< 0.13	< 0.11
VOC	1,2-Dibromoethane (EDB)	mg/kg	0.05	0.221	0.0000282	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	1,2-Dichlorobenzene	mg/kg	376	376	1.168	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	1,2-Dichloroethane	mg/kg	0.652	2.87	0.0028	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.089	< 0.076	< 0.077	< 0.11	< 0.086	< 0.092	< 0.11	< 0.12	< 0.13	< 0.11
VOC	1,2-Dichloropropane	mg/kg	3.4	15	0.0033	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	1,3,5-Trimethylbenzene	mg/kg	182	182	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	9.1	0.15	5.3	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	1,3-Dichlorobenzene	mg/kg	297	297	1.1528	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	1,3-Dichloropropane	mg/kg	1490	1490	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	1,4-Dichlorobenzene	mg/kg	3.74	16.4	0.144	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	2,2-Dichloropropane	mg/kg	191	191	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	2-Btanone (MEK)	mg/kg	28400	28400	1.6661	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.18	< 0.15	< 0.15	< 0.22	< 0.17	< 0.18	< 0.21	0.045 J	0.077 J	0.05 J
VOC	2-Chlorotolene	mg/kg	907	907	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	2-Hexanone	mg/kg	237	1760	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	4-Chlorotolene	mg/kg	253	253	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	4-Methyl-2-pentanone (MIBK)	mg/kg	3360	3360	0.2252	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Acetone	mg/kg	63400	100000	3.6766	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.089	< 0.076	< 0.077	< 0.11	< 0.086	< 0.092	< 0.11	< 0.12	< 0.13	< 0.11
VOC	Benzene	mg/kg	**1.6**	**7.07**	**0.0051**	< 0.0250	< 0.0250	< 0.0250	**0.314** C	**1.6** AC	**63** ABC	**2.9** AC	**94** ABC	< 0.016	< 0.027	< 0.023	< 0.023	**0.17** C	< 0.026	< 0.028	< 0.032	**0.012** CJ	**0.014** CJ	**0.064** C
VOC	Bromobenzene	mg/kg	342	679	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	Bromochloromethane	mg/kg	216	906	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Bromodichloromethane	mg/kg	0.418	1.83	0.0003	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Bromoform	mg/kg	25.4	113	0.0023	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Bromomethane	mg/kg	9.6	43	0.0051	< 0.0699	< 0.0699	< 0.0699	< 0.0699	< 0.2	< 0.77	< 0.4	< 0.75	< 0.2	< 0.089	< 0.076	< 0.077	< 0.11	< 0.086	< 0.092	< 0.11	< 0.12	< 0.13	< 0.11
VOC	Carbon disulfide	mg/kg	738	738	0.5919	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Carbon tetrachloride	mg/kg	0.916	4.03	0.0039	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Chlorobenzene	mg/kg	370	761	0.1358	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Chloroethane	mg/kg	2120	2120	0.2266	< 0.0670	< 0.0670	< 0.0670	< 0.0670	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.089	< 0.076	< 0.077	< 0.11	< 0.086	< 0.092	< 0.11	< 0.12	< 0.13	< 0.11
VOC	Chloroform	mg/kg	0.454	1.98	0.0033	< 0.0464	< 0.0464	< 0.0464	< 0.0464	< 0.13	< 0.52	< 0.27	< 0.5	< 0.13	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Chloromethane	mg/kg	159	669	0.0155	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.089	< 0.076	< 0.077	< 0.11	< 0.086	< 0.092	< 0.11	< 0.12	< 0.13	< 0.11
VOC	cis-1,2-Dichloroethene	mg/kg	156	2340	0.0412	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	cis-1,3-Dichloropropene	mg/kg	1210	1210	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Cyclohexane	mg/kg	117	117	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.089	< 0.076	< 0.077	0.14	< 0.086	< 0.092	< 0.11	0.1 J	0.26	0.34
VOC	Dibromochloromethane	mg/kg	8.28	38.9	0.032	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Dibromomethane	mg/kg	34	143	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	Dichlorodifluoromethane	mg/kg	126	530	3.0863	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.2	< 0.77	< 0.4	< 0.75	< 0.2	< 0.089	< 0.076	< 0.077	< 0.11	< 0.086	< 0.092	< 0.11	< 0.12	< 0.13	< 0.11
VOC	Ethylbenzene	mg/kg	**8.02**	35.4	**1.57**	< 0.0250	< 0.0250	< 0.0250	< 0.0250	0.019	**15** AC	0.33	**11** AC	< 0.016	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	0.0075 J	0.014 J	0.019 J
VOC	Hexachloro-1,3-btadiene	mg/kg	1.63	7.19	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	Isopropyl ether	mg/kg	2260	2260	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	Isopropylbenzene (Cumene)	mg/kg	268	268	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	2.2	< 0.13	1.3	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	0.015 J
VOC	m,p-Xylenes	mg/kg	--	--	--	< 0.0500	< 0.0500	< 0.0500	0.0743 J	NA	NA	NA	NA	NA	< 0.054	< 0.046	< 0.046	0.08	< 0.052	< 0.055	< 0.064	0.062 J	0.084	< 0.063
VOC	Methyl acetate	mg/kg	29000	29000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.2	0.68	0.49	1.0	0.57	< 0.23	< 0.27	< 0.29	< 0.32	< 0.26
VOC	Methylcyclohexane	mg/kg	67.6	67.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.027	< 0.023	< 0.023	0.17	< 0.026	< 0.028	< 0.032	0.18	0.75	0.36
VOC	Methylene Chloride	mg/kg	61.8	1150	**0.0026**	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.33	< 1.3	**0.27** CJ	< 1.3	< 0.33	< 0.22	< 0.19	< 0.19	< 0.27	< 0.22	< 0.23	< 0.27	< 0.29	< 0.32	< 0.26
VOC	Methyl-tert-butyl ether	mg/kg	63.8	282	0.027	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Naphthalene	mg/kg	5.52	24.1	**0.6582**	< 0.0400	< 0.0400	< 0.0400	< 0.0400	< 0.066	**1.1** C	< 0.13	**0.81** C	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	n-Butylbenzene	mg/kg	108	108	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	0.92	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	n-Propylbenzene	mg/kg	264	264	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	4.6	0.081 J	2.6	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	o-Xylene	mg/kg	434	434	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	NA	NA	NA	NA	NA	< 0.027	< 0.023	< 0.023	0.037	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	0.036
VOC	p-Isopropyltoluene	mg/kg	162	162	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	0.96	< 0.13	0.43	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	sec-Butylbenzene	mg/kg	145	145	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	1.1	< 0.13	0.5	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	Styrene	mg/kg	867	867	0.22	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	tert-Butylbenzene	mg/kg	183	183	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC	Tetrachloroethene	mg/kg	33	145	0.0045	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Toluene	mg/kg	818	818	**1.1072**	< 0.0250	< 0.0250	< 0.0250	0.209	0.074	**120** C	**2.9** C	**150** C	< 0.016	< 0.027	< 0.023	< 0.023	0.011 J	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	0.022 J
VOC	trans-1,2-Dichloroethene	mg/kg	1560	1850	0.0626	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	trans-1,3-Dichloropropene	mg/kg	1510	1510	--	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Trichloroethene	mg/kg	1.3	8.41	0.0036	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.033	< 0.13	< 0.066	< 0.13	< 0.033	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Trichlorofluoromethane	mg/kg	1230	1230	4.4775	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032

Table 2
Soil Analytical Results: Surface Soil and Excavation
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Parameter Group	Analyte	Units	Generic RCLs [1]			13A (1.4-3.4)	13D (1.1-3.2)	14A (0.7-4.0)	16C (0.9-3.0)	13V-B(10)	13V-E(6)	13V-N(6)	13V-S(6)	13V-W(6)	B-1	SW-1	SW-2	SW-3	SW-4	SW-1 (5)	SW-2 (5)	SW-3 (5)	SW-3 (9)	SW-4 (5)
			Direct Contact Pathway		Groundwater Pathway (C)	1.4 - 3.4 ft	1.1 - 3.2 ft	0.7 - 4 ft	0.9 - 3 ft	10 - 10 ft	6 - 6 ft	6 - 6 ft	6 - 6 ft	6 - 6 ft	11 - 11 ft	5 - 5 ft	7 - 7 ft	6 - 6 ft	8 - 8 ft	5 - 5 ft	5 - 5 ft	5 - 5 ft	9 - 9 ft	5 - 5 ft
			Non-Industrial (A)	Industrial (B)		May 3, 2019 Surface Soil Results				May 17, 2019 Limit of Excavation Results					August 2, 2019 Limit of Excavation Results					October 9, 2019 Limit of Excavation Results				
VOC	Vinyl chloride	mg/kg	0.0668	2.08	0.0001	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.066	< 0.26	< 0.13	< 0.25	< 0.066	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	< 0.032
VOC	Xylene (Total)	mg/kg	260	260	**3.96**	NA	NA	NA	NA	0.019 J	**83 C**	1.7	**68 C**	< 0.033	< 0.081	< 0.068	< 0.069	0.12	< 0.078	< 0.083	< 0.096	0.062 J	0.084 J	< 0.095
SVOC	1-Methyl naphthalene	mg/kg	17.6	72.7	--	NA	NA	NA	NA	< 0.075	0.029 J	< 0.074	0.042 J	< 0.073	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	2-Methylnaphthalene	mg/kg	239	3010	--	NA	NA	NA	NA	< 0.075	0.052 J	< 0.074	0.078	< 0.073	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Acenaphthene	mg/kg	3590	45200	--	NA	NA	NA	NA	< 0.037	< 0.036	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Acenaphthylene	mg/kg	--	--	--	NA	NA	NA	NA	< 0.037	< 0.036	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Anthracene	mg/kg	17900	100000	196.9492	NA	NA	NA	NA	< 0.037	< 0.036	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Benzo(a)anthracene	mg/kg	1.14	20.8	--	NA	NA	NA	NA	< 0.037	< 0.036	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Benzo(a)pyrene	mg/kg	0.115	2.11	0.47	NA	NA	NA	NA	< 0.037	< 0.036	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Benzo(b)fluoranthene	mg/kg	1.15	21.1	0.4781	NA	NA	NA	NA	< 0.037	< 0.036	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Benzo(g,h,i)perylene	mg/kg	--	--	--	NA	NA	NA	NA	< 0.037	< 0.036F1	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Benzo(k)fluoranthene	mg/kg	11.5	211	--	NA	NA	NA	NA	< 0.037	< 0.036	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Chrysene	mg/kg	115	2110	0.1442	NA	NA	NA	NA	< 0.037	< 0.036	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Dibenzo(a,h)anthracene	mg/kg	0.115	2.11	--	NA	NA	NA	NA	< 0.037	< 0.036F1	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Fluoranthene	mg/kg	2390	30100	88.8778	NA	NA	NA	NA	< 0.037	< 0.036	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Florene	mg/kg	2390	30100	14.8299	NA	NA	NA	NA	< 0.037	< 0.036	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Indeno(1,2,3-cd)pyrene	mg/kg	1.15	21.1	--	NA	NA	NA	NA	< 0.037	< 0.036F1	< 0.036	< 0.034	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Naphthalene	mg/kg	5.52	24.1	0.6582	NA	NA	NA	NA	< 0.037	0.033 J	< 0.036	0.039	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Phenanthrene	mg/kg	--	--	--	NA	NA	NA	NA	< 0.037	< 0.036	< 0.036	0.0063 J	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOC	Pyrene	mg/kg	1790	22600	54.5455	NA	NA	NA	NA	< 0.037	< 0.036	< 0.036	0.0069 J	< 0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hydrocarbon	Diesel Range Organics	mg/kg	--	--	--	< 1.4	< 1.4	< 1.4	< 1.4	NA	10	NA	NA	NA	< 5.4	< 5.4	< 5.7	< 5.8	3.0 J	1.7 J	1.6 J	2.4 J	25	1.6 J
Hydrocarbon	Gasoline Range Organics	mg/kg	--	--	--	NA	NA	NA	NA	NA	5300	NA	NA	NA	< 2.8	< 2.3	< 2.5	< 3.6	< 3	< 2.3	< 2.7	< 2.9	13	< 2.6
TCLP	Benzene, TCLP	mg/L	--	--	--	NA	NA	NA	NA	NA	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TCLP	Lead, TCLP	mg/L	--	--	--	NA	NA	NA	NA	NA	< 0.0075	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

General notes and footnotes:
-- = No generic RCL established
Generic RCLs Dec 2018 per WDNR PB-RR-890
Pace Non-detect VOC results (May 2019 samples) are reported on a wet weight basis
A = Parameter exceeds Generic RCL for Non-Industrial Direct Contact
B = Parameter exceeds Generic RCL for Industrial Direct Contact
C = Parameter exceeds Generic RCL for Groundwater Pathway

Acronyms and Abbreviations:
J = estimated value
mg/kg = micrograms per kilogram
mg/L = micrograms per liter
NA = not analyzed
SVOC = semi volatile organic compounds
VOC = volatile organic compounds
TCLP = toxicity characteristic leaching procedure

Table 3
Soil Boring and Monitoring Well Details
Line 13 MP312 Valve Station Fort Atkinson,
Wisconsin AECOM Project No. 60626859

Location ID	Date	Latitude (°N)	Longitude (°W)	Ground Elevation (feet)	Boring Depth (feet bgs)	Soil Sample Depth (feet bgs)	Depth to Water (feet bgs)	TOC Elevation (feet)	Well Depth (feet BTOC)	Approximate Distance from MW-1 (feet)
B-1	7/21/2020	42.910469	-88.874817	NM	35.0	22	24.30	-	-	57
SB-1	8/27/2020	42.9106528	-88.8747164	97.38	30.0	21	23.00	-	-	121
SB-2	8/27/2020	42.9108068	-88.8746470	95.70	26.0	20	21.00	-	-	179
SB-3	8/27/2020	42.9102624	-88.8748827	99.54	30.0	23	25.05	-	-	43
SB-4	8/27/2020	42.9102496	-88.8750728	96.48	28.0	19	22.60	-	-	91
SB-5	8/28/2020	42.9103198	-88.8745682	100.38	30.0	19	25.41	-	-	47
SB-6	8/28/2020	42.9108429	-88.8745102	95.81	25.0	19	21.20	-	-	200
SB-7	8/28/2020	42.9105909	-88.8743852	98.28	28.0	21	23.70	-	-	137
SB-8	8/28/2020	42.9101958	-88.8746504	100.62	30.0	19	25.97	-	-	53
SB-9	8/31/2020	42.9101160	-88.8745381	101.22	30.0	24	26.44	-	-	93
SB-10	8/31/2020	42.9099660	-88.8743986	101.35	30.0	23	26.91	-	-	160
SB-11	8/31/2020	42.9098881	-88.8742661	100.93	30.0	23	26.48	-	-	204
SB-12	8/31/2020	42.9100559	-88.8747456	100.81	30.0	23	26.30	-	-	97
SB-13	9/1/2020	42.9099205	-88.8745397	102.39	30.0	23	27.30	-	-	156
SB-14	9/1/2020	42.9108802	-88.8748764	93.66	30.0	18	19.25	-	-	206
SB-15	9/1/2020	42.9104394	-88.8743386	97.97	28.0	19	23.60	-	-	117
SB-16	9/1/2020	42.9102499	-88.8741753	97.63	25.0	19	22.00	-	-	155
SB-17	9/1/2020	42.9101617	-88.8740241	97.02	25.0	20	21.00	-	-	201
SB-18	9/2/2020	42.9105858	-88.8741287	96.79	25.0	19	22.30	-	-	191
SB-19	9/2/2020	42.9106784	-88.8740321	92.63	25.0	17	17.50	-	-	231
SB-20	9/2/2020	42.9103849	-88.8739396	96.38	25.0	19	22.90	-	-	217
SB-21	9/2/2020	42.9099490	-88.8747496	101.04	30.0	23	26.52	-	-	136
SB-22	9/2/2020	42.9100225	-88.8748924	98.91	30.0	22	24.40	-	-	116
SB-23	9/14/2020	42.9101457	-88.8751587	95.34	25.0	19	20.63	-	-	128
SB-24	9/14/2020	42.9097607	-88.8746004	102.94	30.0	24	28.26	-	-	208
SB-25	9/14/2020	42.9107982	-88.8753350	86.31	20.0	13	11.76	-	-	234
SB-26	9/14/2020	42.9110536	-88.8752800	83.55	20.0	10	8.97	-	-	302
SB-27	9/14/2020	42.9107695	-88.8742216	93.45	25.0	18	18.90	-	-	215
MW-1	9/2/2020	42.9103223	-88.8747459	100.16	31.9	-	25.57	103.45	35.20	0
MW-2	9/3/2020	42.9108773	-88.8748287	93.64	24.9	-	19.04	96.61	27.91	204
MW-3	9/15/2020	42.9107731	-88.8742199	93.45	25.3	-	18.85	96.33	28.13	216
MW-4	9/16/2020	42.9104797	-88.8737673	93.58	28.8	-	19.01	96.40	31.61	268
MW-5	9/15/2020	42.9101226	-88.8739413	96.93	30.2	-	22.36	99.82	33.08	227
MW-6	9/16/2020	42.9099127	-88.8742068	100.24	32.0	-	25.70	103.26	35.05	207

Table 3
Soil Boring and Monitoring Well Details
Line 13 MP312 Valve Station Fort
Atkinson, Wisconsin AECOM Project
No. 60626859

Location ID	Date	Latitude (°N)	Longitude (°W)	Ground Elevation (feet)	Boring Depth (feet bgs)	Soil Sample Depth (feet bgs)	Depth to Water (feet bgs)	TOC Elevation (feet)	Well Depth (feet BTOC)	Approximate Distance from MW-1 (feet)
MW-7	9/16/2020	42.9098405	-88.8749109	100.19	32.1	-	25.62	103.07	35.01	181
MW-8	9/15/2020	42.9101494	-88.8751680	95.34	27.1	-	20.75	98.24	29.96	129

General Notes:
Ground and TOC elevations are in feet relative to local benchmark
Soil sample and boring depths in feet below ground surface

Acronyms and Abbreviations:
- = Not applicable
bgs = below ground surface
BTOC = below top of casing
NM = not measured (not surveyed)
TOC = top of casing

Table 4
Groundwater Elevation Data
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Well Number	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6		MW-7		MW-8	
Ground Elevation (feet)	100.16		93.64		93.45		93.58		96.93		100.24		100.19		95.34	
Top of Casing Elevation (feet)	103.45		96.61		96.33		96.40		99.82		103.26		103.07		98.24	
Top of Screen Elevation (feet)	78.25		78.7		78.2		74.79		76.74		78.21		78.06		78.28	
Screen Length (feet)	10		10		10		10		10		10		10		10	
Well Depth (feet BTOC)[A]	35.20		27.91		28.13		31.61		33.08		35.05		35.01		29.96	
Gauging Date	**DTW (feet BTOC)**	**Groundwater Elevation (feet)**	**DTW (feet BTOC)**	**Groundwater Elevation (feet)**	**DTW (feet BTOC)**	**Groundwater Elevation (feet)**	**DTW (feet BTOC)**	**Groundwater Elevation (feet)**	**DTW (feet BTOC)**	**Groundwater Elevation (feet)**	**DTW (feet BTOC)**	**Groundwater Elevation (feet)**	**DTW (feet BTOC)**	**Groundwater Elevation (feet)**	**DTW (feet BTOC)**	**Groundwater Elevation (feet)**
9/16/2020	28.86	74.59	22.01	74.60	21.73	74.60	21.83	74.57	25.25	74.57	28.72	74.54	28.50	74.57	23.65	74.59
10/8/2020	29.08	74.37	22.23	74.38	21.93	74.40	22.05	74.35	25.46	74.36	28.94	74.32	28.73	74.34	23.83	74.41

General Notes and Footnotes:
Elevations are surveyed to a site benchmark set at 100.00 feet.
[A] = as measured inside well

Acronyms and Abbreviations:
BTOC = below top of casing
DTW = depth to water

Table 5
Well Receptor Survey
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Unique Well Number	Location	Distance from Extent of Impacts (feet)	Direction from Site	Address	Latitude (DD, °N)	Longitude (DD, °W)	Date Drilled	Well Purpose	Well Reason	Casing Type	Casing Diameter (inches)	Screen Diameter (inches)	Total Depth Drilled (feet bgs)	Depth to Bedrock (feet bgs)	Top of Screen Depth (feet bgs)	Bottom Screen Depth (feet bgs)
Wells installed within 1,200 feet of impacts after 1988. Exact locations of these wells are generally known.																
LN369	S8, T5N, R14E	1200	S	W6855 Christie Ct Fort Atkinson, WI 53538	42.9066	-88.8739	2/12/1997	Private, Potable	New Well	Steel	6	6	93	ND	90	93
LL177	S7, T5N, R14E	770	SW	N1811 Blackhawk Island Road Fort Atkinson, WI 53538	42.9085	-88.8768	11/22/1996	Private, Potable	Replacement for Old Well	Steel	6	6	78	ND	75	78
YE929	S8, T5N, R14E	615	S	W6871 Hartwig Lane Fort Atkinson, WI 53538	42.90822	-88.87512	11/3/2010	Private, Potable	Replacement for Point Well	Steel	6	5	60	ND	57	60
SB164	S8, T5N, R14E	500	S	W6876 Hartwig Lane Fort Atkinson, WI 53538	42.9085	-88.8746	8/1/2003	Private, Potable	Replacement for Old Well	Steel	6	5	61	ND	58	61
QI965	S8, T5N, R14E	600	SW	N1828 Blackhawk Island Road Fort Atkinson, WI 53538	42.9086	-88.876	8/1/2001	Private, Potable	New Well	Steel	6	6	81	ND	78	81
NC813	S8, T5N, R14E	1160	N	N1975 Blackhawk Island Road Fort Atkinson, WI 53538	42.9139	-88.8742	2/16/1999	Private, Potable	Replacement for Point Well	Steel	6	6	61	ND	58	61
NV713	S8, T5N, R14E	1190	N	N1975 Blackhawk Island Road Fort Atkinson, WI 53538	NA	NA	12/10/1999	Private, Potable	Water supply for chicken	Steel	6	6	57	ND	54	57
YI815	S8, T5N, R14E	960	NE	N1962 Blackhwak Island Road Fort Atkinson, WI 53538	42.91353	-88.8353	2/21/2013	Private, Potable	Replacement for Point Well	Steel	6	5	60	ND	57	60
AAB420	S8, T5N, R14E	360	SW	N1859 Blackhawk Island Road Fort Atkinson, WI 53538	42.9094	-88.8759	5/7/2020	Private, Potable	Replacement for Point Well	Steel	6	5	64	ND	59	64
TS593	S8, T5N, R14E	1050	SE	W6856 Christie Ct Fort Atkinson, WI 53538	42.9074	-88.8724	8/18/2004	Private, Potable	New Well	Steel	6	5	80	ND	77	80
Wells installed within Section 8,Township 5N, Range 14E of Jefferson Country prior to 1988. Exact locations of these wells are unknown.																
8BH711	S8, T5N, R14E	Unknown		NA	NA	NA	6/2/1961	Unknown	Unknown	Steel	6	NA	81	ND	NA	NA
8BH712	S8, T5N, R14E	Unknown		NA	NA	NA	5/4/1949	Private, Potable	Home use	Standard	4	NA	234	ND	NA	NA
8BH713	S8, T5N, R14E	Unknown		NA	NA	NA	1/7/1964	Private, Potable	Home use	Standard	6	NA	83	ND	NA	NA
8BH714	S8, T5N, R14E	Unknown		NA	NA	NA	1/8/1959	Private, Potable	Home use	Steel	5	NA	271	260	NA	NA
8BH715	S8, T5N, R14E	Unknown		NA	NA	NA	5/26/1961	Private, Potable	Home use	Steel	6	NA	81	ND	NA	NA
8BH716	S8, T5N, R14E	Unknown		NA	NA	NA	7/21/1973	Private, Potable	Unknown	Steel	6	NA	132	ND	NA	131
8BH717	S8, T5N, R14E	Unknown		NA	NA	NA	2/12/1971	Private, Potable	Water supply for chicken	Steel	6	NA	298	263	NA	NA
8BH718	S8, T5N, R14E	Unknown		NA	NA	NA	7/1/1974	City Owned	Sewage Treatment	Steel	Varies	NA	410	305	NA	NA

General Notes:
Well records obtained from Wisconsin Department of Natural Resources Well Records. Search completed on December 22, 2020.

Acronyms and Abbreviations:
bgs = below ground surface
DD = decimal degrees
°N = degrees North
°W = degrees West
NA = not available
ND = not detected

Table 6
Summary of Soil Analytical Results
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Parameters	Generic RCLs			B-1	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8	Hydrovac Soil	SB-9	SB-10	SB-11	SB-12	SB-13
	Direct Contact Pathway		Groundwater Pathway (C)	22'	21'	20'	23'	19'	19'	19'	21'	19'	N	24'	23'	23'	23'	23'
	Non-Industrial (A)	Industrial (B)		7/21/2020	8/27/2020	8/27/2020	8/27/2020	8/27/2020	8/28/2020	8/28/2020	8/28/2020	8/28/2020	8/28/2020	8/31/2020	8/31/2020	8/31/2020	8/31/2020	9/1/2020
Highest Field PID (PPM total VOCs)				401	59.1	11.2	55.2	6.4	46.6	4.4	7.0	32.6	-	13.3	15.2	0.0	38.4	2.8
Organics (mg/kg)																		
Diesel Range Organics	--	--	--	6.4 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	--	--	--	8.1	<1.2	<1.2	<1.2	<1.2	<1.1	<1.2	<1.2	<1.1	<1.2	<1.1	<1.1	<1.1	<1.1	<1.1
1,2,4-Trimethylbenzene	219	219	--	0.127	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
1,3,5-Trimethylbenzene	182	182	--	0.0486 J	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
Benzene	1.6	7.07	0.0051	**0.270 C**	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Ethylbenzene	8.02	35.4	1.57	0.0292 J	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
m,p-Xylene	--	--	--	0.139	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
Methylene Chloride	61.8	1150	0.0026	**0.0441 CJ**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butyl ether	63.8	282	0.027	<0.025	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
Naphthalene	5.52	24.1	0.6582	0.0504 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	--	--	--	0.0027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	264	264	--	0.0852	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	--	--	--	0.0489 J	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
Toluene	818	818	1.1072	0.231	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
Xylene (Total)	260	260	3.96	0.188 J	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034

General Notes and Footnotes:
Bold and shaded indicates RCL exceedance.
Generic RCLs Dec 2018 per WDNR PUB-RR-890.
Non-detect VOC results were reported on a wet weight basis.
A = Parameter exceeds Generic RCL for Non-Industrial Direct Contact.
B = Parameter exceeds Generic RCL for Industrial Direct Contact (none).
C = Parameter exceeds Generic RCL for Groundwater Pathway.
J = Estimated value.
-- = No generic RCL established.

Acronyms and Abbreviations:
mg/kg = milligrams per kilogram
NA = not analyzed
PID = photoionization detector
ppm = parts per million
RCL = residual contaminant level
VOCs = volatile organic compounds

Table 6
Summary of Soil Analytical Results
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Parameters	Generic RCLs			SB-14	SB-15	SB-16	SB-17	SB-18	SB-19	SB-20	SB-21	SB-22	SB-23	SB-24	SB-25	SB-26	SB-27
	Direct Contact Pathway		Groundwater Pathway (C)	18'	19'	19'	20'	19'	17'	19'	23'	22'	19'	24'	13'	10'	18'
	Non-Industrial (A)	Industrial (B)		9/1/2020	9/1/2020	9/1/2020	9/1/2020	9/2/2020	9/2/2020	9/2/2020	9/2/2020	9/2/2020	9/14/2020	9/14/2020	9/14/2020	9/14/2020	9/14/2020
Highest Field PID (PPM total VOCs)				0.0	44.4	13.5	0.0	17.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Organics (mg/kg)																	
Diesel Range Organics	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics	--	--	--	<1.2	<1.1	<1.1	<1.1	<1.1	<1.2	<1.1	<1.1	<1.1	<1.2	<1.1	<1.2	<1.2	<1.1
1,2,4-Trimethylbenzene	219	219	--	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
1,3,5-Trimethylbenzene	182	182	--	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
Benzene	1.6	7.07	0.0051	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Ethylbenzene	8.02	35.4	1.57	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
m,p-Xylene	--	--	--	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
Methylene Chloride	61.8	1150	0.0026	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butyl ether	63.8	282	0.027	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
Naphthalene	5.52	24.1	0.6582	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	264	264	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	--	--	--	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
Toluene	818	818	1.1072	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
Xylene (Total)	260	260	3.96	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034

General Notes and Footnotes:
Bold and shaded indicates RCL exceedance.
Generic RCLs Dec 2018 per WDNR PUB-RR-890.
Non-detect VOC results were reported on a wet weight basis.
[A] = Parameter exceeds Generic RCL for Non-Industrial Direct C
[B] = Parameter exceeds Generic RCL for Industrial Direct Conta
[C] = Parameter exceeds Generic RCL for Groundwater Pathway
[J] = Estimated value.
-- = No generic RCL established.

Acronyms and Abbreviations:
mg/kg = milligrams per kilogram
NA = not analyzed
PID = photoionization detector
ppm = parts per million
RCL = residual contaminant level
VOCs = volatile organic compounds

Table 7
Temporary Well Analytical Results
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Analyte:	ES	PAL	TW-01	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8	SB-9	SB-10	SB-11	SB-12	SB-13	SB-14	SB-15
			7/21/2020	8/27/2020	8/27/2020	8/27/2020	8/27/2020	8/28/2020	8/28/2020	8/28/2020	8/28/2020	8/31/2020	8/31/2020	8/31/2020	9/1/2020	9/1/2020	9/1/2020	9/1/2020
Petroleum Hydrocarbons (ug/L)																		
WI DRO	--	--	320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WI GRO	--	--	11,000 L	410 L	<27	6500 L	180	4300 L	<27	550 L	1300 L	34 J	39 J	<27	55 JL	<27	<27	<27 L
VOCs (ug/L)																		
1,2,4-Trimethylbenzene	**480**	*96*	21.9 J	<0.40	<0.40	8.8	<0.40	15	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
1,3,5-Trimethylbenzene	**480**	*96*	<8.7	<0.40	<0.40	5.4	<0.40	11	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Benzene	**5**	*0.5*	***4810***	***16***	<0.40	***5600***	<0.40	***3800***	<0.40	***68***	***800***	***6.1***	***26***	<0.40	*2.2*	*3.2*	<0.40	***6.9***
Ethylbenzene	**700**	*140*	86.5	0.67 J	<0.40	33	<0.40	40	<0.40	0.79 J	35	1.0 J	<0.40	<0.40	0.42 J	0.45 J	<0.40	<0.40
Fluoranthene	**400**	*80*	0.012 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	--	--	19.6 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butyl ether	**60**	*12*	*<12.5*	3.4	<0.40	11	<0.40	5.4	<0.40	1.5	*12*	1.0 J	<0.40	<0.40	0.46 J	1.2 J	<0.40	<0.40
Naphthalene	**100**	*10*	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	**250**	*50*	0.019 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	**800**	*160*	**998**	8.0	<0.40	*240* J	<0.40	5.8	<0.40	4.1	15	3.9	<0.40	<0.40	1.7	2.0	<0.40	1.1 J
Xylene, m&p-	--	--	131	<0.80	<0.80	59	<0.80	26	<0.80	1.2 J	1.2 J	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80
Xylene, o-	--	--	39.0	0.94 J	<0.40	39	<0.40	39	<0.40	<0.40	1.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Xylenes, Total (Calculated)	**2000**	*400*	170	0.94	<1.20	98	<1.20	65	<1.20	1.2	2.6	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20

General Notes and Footnotes:
TW-01 results only display detections.
J = estimated value
L = Significant peaks were detected outside the chromatographic window.
Shaded = Regulatory exceedance
Bold = ES exceedance
Underline/italics = PAL exceedance

Acronyms and Abbreviations:
ES = Enforcement Standard, Wisconsin Administrative Code NR 140.10 Table 1, February 2017
ug/L= micrograms per liter
NA = not analyzed
PAL = Preventive Action Limit, Wisconsin Administrative Code NR 140.10 Table 1, February 2017
VOCs = volatile organic compounds

Table 7
Temporary Well Analytical Results
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Analyte:	ES	PAL	SB-16 9/2/2020	SB-17 9/1/2020	SB-18 9/2/2020	SB-19 9/2/2020	SB-20 9/2/2020	SB-21 9/2/2020	SB-22 9/2/2020	SB-23 9/14/2020	SB-24 9/14/2020	SB-25 9/14/2020	SB-26 9/14/2020	SB-27 9/14/2020
Petroleum Hydrocarbons (ug/L)														
WI DRO	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WI GRO	--	--	<27 L	<27	<27	<27	<27	29 J	<27	<27	<27	<27	<27	<27
VOCs (ug/L)														
1,2,4-Trimethylbenzene	**480**	*96*	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
1,3,5-Trimethylbenzene	**480**	*96*	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Benzene	**5**	*0.5*	<0.40	<0.40	*2.6*	<0.40	<0.40	<0.40	0.46 J	<0.40	<0.40	<0.40	<0.40	<0.40
Ethylbenzene	**700**	*140*	<0.40	0.51 J	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.50 J	<0.40	<0.40	0.58 J
Fluoranthene	**400**	*80*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-tert-butyl ether	**60**	*12*	<0.40	1.7	<0.40	<0.40	1.3	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Naphthalene	**100**	*10*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	**250**	*50*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	**800**	*160*	1.3 J	1.9	1.3 J	0.73 J	1.6	0.53 J	0.98 J	0.67 J	1.4	<0.40	<0.40	1.5
Xylene, m&p-	--	--	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80
Xylene, o-	--	--	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Xylenes, Total (Calculated)	**2000**	*400*	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20

General Notes and Footnotes:
TW-01 results only display detections.
J = estimated value
L = Significant peaks were detected outside the c
Shaded = Regulatory exceedance
Bold = ES exceedance
Underline/italics = PAL exceedance

Acronyms and Abbreviations:
ES = Enforcement Standard, Wisconsin Adminis
ug/L= micrograms per liter
NA = not analyzed
PAL = Preventive Action Limit, Wisconsin Admin
VOCs = volatile organic compounds

Table 8
Groundwater Analytical Results
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Analyte	ES	PAL	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
			10/9/2020	10/8/2020	10/8/2020	10/8/2020	10/8/2020	10/8/2020	10/9/2020
Petroluem Hydrocarbons (ug/L)									
GRO			NA	NA	NA	NA	NA	NA	NA
VOCs (ug/L)									
Benzene	5	0.5	***23700***	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Bromobenzene	--	--	<48.2	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24
Bromochloromethane	--	--	<72.4	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36
Bromodichloromethane	0.6	0.06	<72.7	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36
Bromoform	4.4	0.44	<794	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Bromomethane	10	1	<194	<0.97	<0.97	<0.97	<0.97	<0.97	<0.97
n-Butylbenzene	--	--	<142	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71
sec-Butylbenzene	--	--	<170	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
tert-Butylbenzene	--	--	<60.8	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon tetrachloride	5	0.5	<215	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Chlorobenzene	100	20	<142	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71
Chloroethane	400	80	<268	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3
Chloroform	6	0.6	<255	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3
Chloromethane	30	3	<438	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2
2-Chlorotoluene	--	--	<185	<0.93	<0.93	<0.93	<0.93	<0.93	<0.93
4-Chlorotoluene	--	--	<151	<0.76	<0.76	<0.76	<0.76	<0.76	<0.76
1,2-Dibromo-3-chloropropane	0.2	0.02	<353	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
Dibromochloromethane	60	6	<520	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6
1,2-Dibromoethane (EDB)	0.05	0.005	<166	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83
Dibromomethane	--	--	<187	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94
1,2-Dichlorobenzene	600	60	<141	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71
1,3-Dichlorobenzene	600	120	<126	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63
1,4-Dichlorobenzene	75	15	<189	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94
Dichlorodifluoromethane	1000	200	<99.9	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	850	85	<54.5	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
1,2-Dichloroethane	5	0.5	<56.0	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
1,1-Dichloroethene	7	0.7	<49.0	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24
cis-1,2-Dichloroethene	70	7	<54.2	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
trans-1,2-Dichloroethene	100	20	<92.8	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46
1,2-Dichloropropane	5	0.5	<56.6	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
1,3-Dichloropropane	--	--	<165	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83
2,2-Dichloropropane	--	--	<453	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3
1,1-Dichloropropene	--	--	<108	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
cis-1,3-Dichloropropene	0.4	0.04	<726	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6
trans-1,3-Dichloropropene	0.4	0.04	<874	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
Diisopropyl ether	--	--	<378	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
Ethylbenzene	700	140	*222*	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32
Hexachloro-1,3-butadiene	--	--	<293	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Isopropylbenzene (Cumene)	--	--	<337	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
p-Isopropyltoluene	--	--	<160	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80
Methylene Chloride	5	0.5	<116	<0.58	<0.58	<0.58	<0.58	<0.58	<0.58
Methyl-tert-butyl ether	60	12	<249	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Naphthalene	100	10	<235	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
n-Propylbenzene	--	--	<162	<0.81	<0.81	<0.81	<0.81	<0.81	<0.81
Styrene	100	10	<602	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
1,1,1,2-Tetrachloroethane	70	7	<53.8	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
1,1,2,2-Tetrachloroethane	0.2	0.02	<55.1	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
Tetrachloroethene	5	0.5	<65.3	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Toluene	800	160	***7650***	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
1,2,3-Trichlorobenzene	--	--	<442	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2
1,2,4-Trichlorobenzene	70	14	<190	<0.95	<0.95	<0.95	<0.95	<0.95	<0.95
1,1,1-Trichloroethane	200	40	<49.0	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24
1,1,2-Trichloroethane	5	0.5	<110	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55
Trichloroethene	5	0.5	<51.0	<0.26	<0.26	<0.26	<0.26	*1.0*	<0.26
Trichlorofluoromethane	3490	698	<43.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
1,2,3-Trichloropropane	60	12	<118	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59
1,2,4-Trimethylbenzene	480	96	<168	<0.84	<0.84	<0.84	<0.84	<0.84	<0.84
1,3,5-Trimethylbenzene	480	96	<175	<0.87	<0.87	<0.87	<0.87	<0.87	<0.87
Vinyl chloride	0.2	0.02	<34.9	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
m&p-Xylene	--	--	*412*	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47
o-Xylene	--	--	316	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Xylene, Total (Calculated)	2000	400	*728*	<0.73	<0.73	<0.73	<0.73	<0.73	<0.73

General Notes:
Shaded = Regulatory exceedance
Bold = ES exceedance
Underline/italics = PAL exceedance

Acronyms and Abbreviations:
ES = Enforcement Standard, Wisconsin Administrative Code NR 140.10 Table 1, February 2017
ug/L= micrograms per liter
NA = not analyzed
PAL = Preventive Action Limit, Wisconsin Administrative Code NR 140.10 Table 1, February 2017
VOCs = volatile organic compounds

Table 8
Groundwater Analytical Results
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Analyte	ES	PAL	MW-8 10/9/2020	DUP 20201009 (MW-8) 10/9/2020	MACLEOD RESIDENCE 10/2/2020	MACLEOD RESIDENCE DUP 10/2/2020
Petroluem Hydrocarbons (ug/L)						
GRO			NA	NA	<30.5	<30.5
VOCs (ug/L)						
Benzene	5	0.5	<0.25	<0.25	<0.31	<0.31
Bromobenzene	--	--	<0.24	<0.24	NA	NA
Bromochloromethane	--	--	<0.36	<0.36	NA	NA
Bromodichloromethane	0.6	0.06	<0.36	<0.36	NA	NA
Bromoform	4.4	0.44	<4.0	<4.0	NA	NA
Bromomethane	10	1	<0.97	<0.97	NA	NA
n-Butylbenzene	--	--	<0.71	<0.71	NA	NA
sec-Butylbenzene	--	--	<0.85	<0.85	NA	NA
tert-Butylbenzene	--	--	<0.30	<0.30	NA	NA
Carbon tetrachloride	5	0.5	<1.1	<1.1	NA	NA
Chlorobenzene	100	20	<0.71	<0.71	NA	NA
Chloroethane	400	80	<1.3	<1.3	NA	NA
Chloroform	6	0.6	<1.3	<1.3	NA	NA
Chloromethane	30	3	<2.2	<2.2	NA	NA
2-Chlorotoluene	--	--	<0.93	<0.93	NA	NA
4-Chlorotoluene	--	--	<0.76	<0.76	NA	NA
1,2-Dibromo-3-chloropropane	0.2	0.02	<1.8	<1.8	NA	NA
Dibromochloromethane	60	6	<2.6	<2.6	NA	NA
1,2-Dibromoethane (EDB)	0.05	0.005	<0.83	<0.83	NA	NA
Dibromomethane	--	--	<0.94	<0.94	NA	NA
1,2-Dichlorobenzene	600	60	<0.71	<0.71	NA	NA
1,3-Dichlorobenzene	600	120	<0.63	<0.63	NA	NA
1,4-Dichlorobenzene	75	15	<0.94	<0.94	NA	NA
Dichlorodifluoromethane	1000	200	<0.50	<0.50	NA	NA
1,1-Dichloroethane	850	85	<0.27	<0.27	NA	NA
1,2-Dichloroethane	5	0.5	<0.28	<0.28	NA	NA
1,1-Dichloroethene	7	0.7	<0.24	<0.24	NA	NA
cis-1,2-Dichloroethene	70	7	<0.27	<0.27	NA	NA
trans-1,2-Dichloroethene	100	20	<0.46	<0.46	NA	NA
1,2-Dichloropropane	5	0.5	<0.28	<0.28	NA	NA
1,3-Dichloropropane	--	--	<0.83	<0.83	NA	NA
2,2-Dichloropropane	--	--	<2.3	<2.3	NA	NA
1,1-Dichloropropene	--	--	<0.54	<0.54	NA	NA
cis-1,3-Dichloropropene	0.4	0.04	<3.6	<3.6	NA	NA
trans-1,3-Dichloropropene	0.4	0.04	<4.4	<4.4	NA	NA
Diisopropyl ether	--	--	<1.9	<1.9	NA	NA
Ethylbenzene	700	140	<0.32	<0.32	<0.33	<0.33
Hexachloro-1,3-butadiene	--	--	<1.5	<1.5	NA	NA
Isopropylbenzene (Cumene)	--	--	<1.7	<1.7	NA	NA
p-Isopropyltoluene	--	--	<0.80	<0.80	NA	NA
Methylene Chloride	5	0.5	<0.58	<0.58	NA	NA
Methyl-tert-butyl ether	60	12	<1.2	<1.2	NA	NA
Naphthalene	100	10	<1.2	<1.2	NA	NA
n-Propylbenzene	--	--	<0.81	<0.81	NA	NA
Styrene	100	10	<3.0	<3.0	NA	NA
1,1,1,2-Tetrachloroethane	70	7	<0.27	<0.27	NA	NA
1,1,2,2-Tetrachloroethane	0.2	0.02	<0.28	<0.28	NA	NA
Tetrachloroethene	5	0.5	<0.33	<0.33	NA	NA
Toluene	800	160	<0.27	<0.27	<0.16	<0.16
1,2,3-Trichlorobenzene	--	--	<2.2	<2.2	NA	NA
1,2,4-Trichlorobenzene	70	14	<0.95	<0.95	NA	NA
1,1,1-Trichloroethane	200	40	<0.24	<0.24	NA	NA
1,1,2-Trichloroethane	5	0.5	<0.55	<0.55	NA	NA
Trichloroethene	5	0.5	<0.26	<0.26	NA	NA
Trichlorofluoromethane	3490	698	<0.21	<0.21	NA	NA
1,2,3-Trichloropropane	60	12	<0.59	<0.59	NA	NA
1,2,4-Trimethylbenzene	480	96	<0.84	<0.84	NA	NA
1,3,5-Trimethylbenzene	480	96	<0.87	<0.87	NA	NA
Vinyl chloride	0.2	0.02	<0.17	<0.17	NA	NA
m&p-Xylene	--	--	<0.47	<0.47	<0.32	<0.32
o-Xylene	--	--	<0.26	<0.26	<0.15	<0.15
Xylene, Total (Calculated)	2000	400	<0.73	<0.73	<0.47	<0.47

General Notes:
Shaded = Regulatory exceedance
Bold = ES exceedance
Underline/italics = PAL exceedance

Acronyms and Abbreviations:
ES = Enforcement Standard, Wisconsin Adminis
ug/L= micrograms per liter
NA = not analyzed
PAL = Preventive Action Limit, Wisconsin Admir
VOCs = volatile organic compounds

Table 9
Volume of Impacted Areas
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Area		Cumulative Area (feet^2)	Contoured Area (feet^2)	Area assumptions	Depth/ thickness of impacts (feet)		Thickness assumptions	Volume of Impacts (feet^3)	
					Min	Max		Min	Max
1	*Excavation 5/17/19*	360	360	From field notes	10	10	From field notes	3600	3600
2	*Excavation 8/2/19*	491	131	From field notes; appears to be reexcavation of original location plus additional area	10	10	From field notes	1309	1309
3	*Excavation 10/9/19*	32	32	From field notes; appears to be additional excavation to southeast.	8.25	8.25	From field notes	264	264
4	*Area Below Excavation*	491	491	DTW is approximately 24 feet bgs; assumed impacts extend from release to water	14	14	From B-1 boring log	6874	6874
5	*Non-excavated impacted area*	1266	743	Estimated outline around valve station based on soil gas and PID results	5	10	Assumed range	3716	7431
6	*Benzene impacts >5 ug/L*	40317	39051	>5 ug/L gw contour	1	5	Assumed range	39051	195255

General Notes:
LNAPL Volume was calculated using the following equation:

$$Volume_{LNAPL} = Volume_{impacts} * n * LNAPL\ Saturation * 7.48\ \frac{gallons}{cubic\ foot}$$

Acronyms and Abbreviations:
bgs = below ground surface
DTW = depth to water
min = minimum
max = maximum
feet^2 = square feet
feet^3 = cubic feet
LNAPL = light nonaqueous phase liquid
ug/L = micrograms per liter
n = porosity, 0.4
PID = photoionization detector

Table 10
LNAPL Saturation Results
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

Boring ID	Location	Sample Date	Depth (feet bgs)	Highest PID Reading (ppm)	Benzene (mg/kg)	TPH-g (mg/kg)	TPH-d (mg/kg)	Cumulative TPH (mg/kg)	LNAPL Saturation
SW-3 (9)	Excavation 3 sidewall sample	10/9/19	9	479.8	0.014	13	25	38	0.02%
WC-1	Excavation 1 waste characterization	5/16/19	--	--	NA	24	810	834	0.50%
13V-E(6)	Excavation 1 sidewall sample	5/17/19	6	209.7	63	5300	10	5310	3.17%

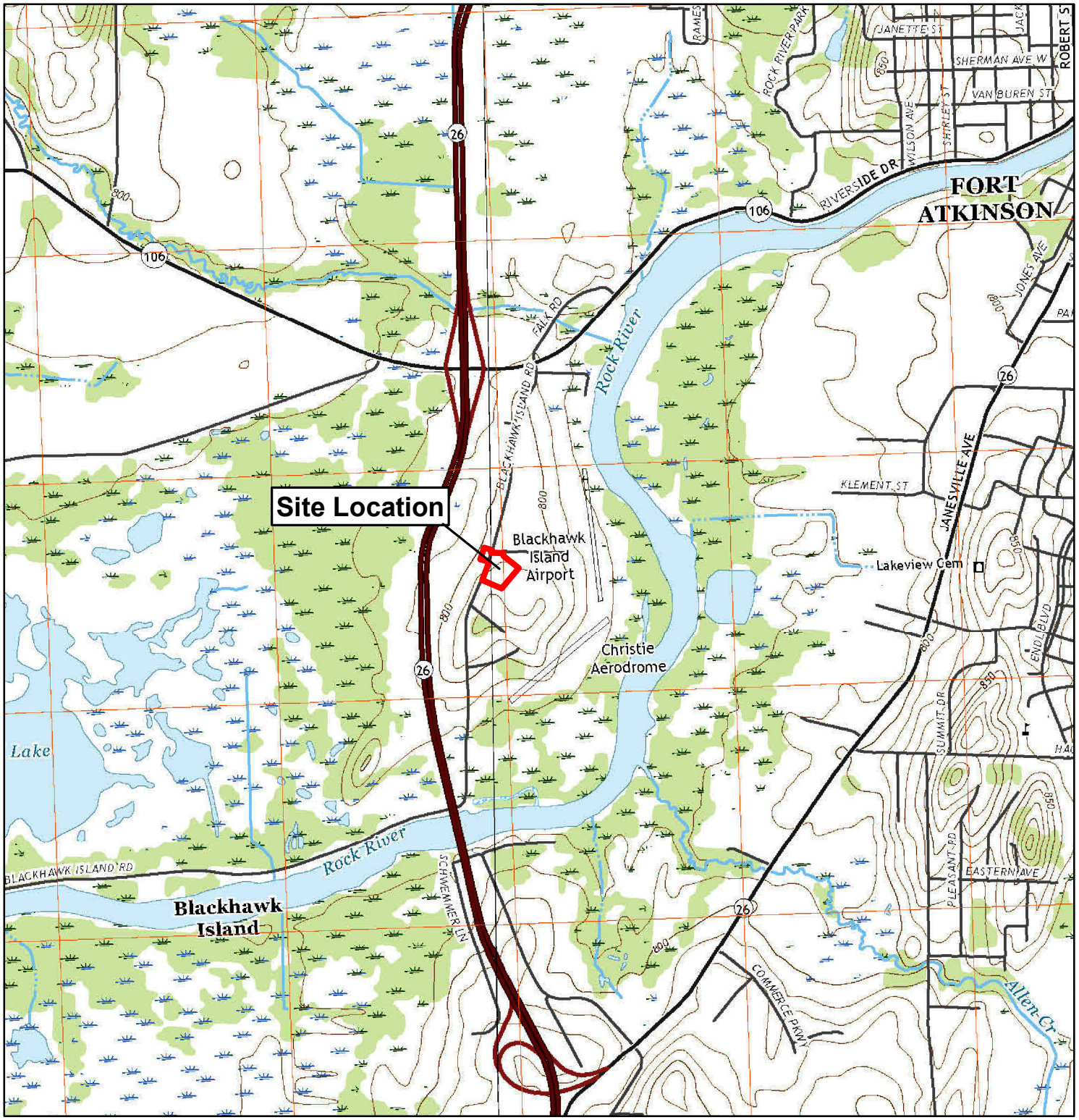
General Notes:
LNAPL saturation was calculated using the following equation (ITRC, 2013).

$$LNAPL\ Saturation = \frac{\rho_b * TPH}{\rho_{LNAPL} * n * 10^6}$$

Cumulative TPH is the sum of TPH-g and TPH-d.

Acronyms and Abbreviations:
-- = unapplicable
bgs = below ground surface
g/cm^3 = grams per cubic centimeter
LNAPL = light nonaqueous phase liquid
mg/kg = milligrams per kilogram
n = porosity; 40 percent (assumed, sand)
NA = not analyzed
ρ_b = soil bulk density; 1.6 g/cm^3 (assumed, sand)
ρ_{LNAPL} = LNAPL density; 0.67 g/cm^3 (assumed, similar to other condensate LNAPLs)
PID = photoionization detector
ppm = parts per million
TPH-g = total petroleum hydrocarbons - gasoline range organics
TPH-d = total petroleum hydrocarbons - diesel range organics
TPH = total petroleum hydrocarbons

FIGURES



MP 312 Valve Station

Line 13 MP 312
Along Blackhawk Island Road
Fort Atkinson, WI 53538

Site Location Map

ENBRIDGE

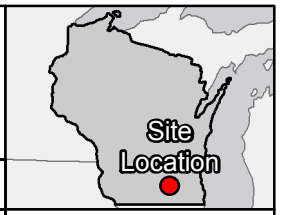
LEGEND

Investigation Area

N

0 1,000 2,000 Feet

Basemap:
USGS US Topo 7.5-minute maps for Busseyville and Fort Atkinson, WI 2018



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MP 312 Valve Station
Line 13 MP 312

Site Layout

LEGEND

- Investigation Area
- Fenced Valve Station
- Elevation Survey Benchmark
- Approximate Release Location

N

0 40 80 Feet

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Macleod Residence

Westphal Ln

Blackhawk Island Rd

SB-26 (A)
SB-25
SB-14
MW-2
SB-2
SB-6
MW-3 (B)
SB-27
SB-19
SB-1
SB-18
SB-7
MW-4
B-1
SB-15
SB-20
MW-1
SB-5
SB-4
SB-3
SB-16
SB-8
SB-17
MW-8
B'
SB-23
SB-9
MW-5
SB-12
SB-22
SB-10
SB-21
MW-6
A'
SB-13
SB-11
MW-7
SB-24

ENBRIDGE

Site Location

MP 312 Valve Station
Line 13 MP 312

Soil Boring and Monitoring Well Sampling Locations

LEGEND

- Monitoring Wells
- Soil Boring
- Cross Section Transects

N

0 40 80 Feet

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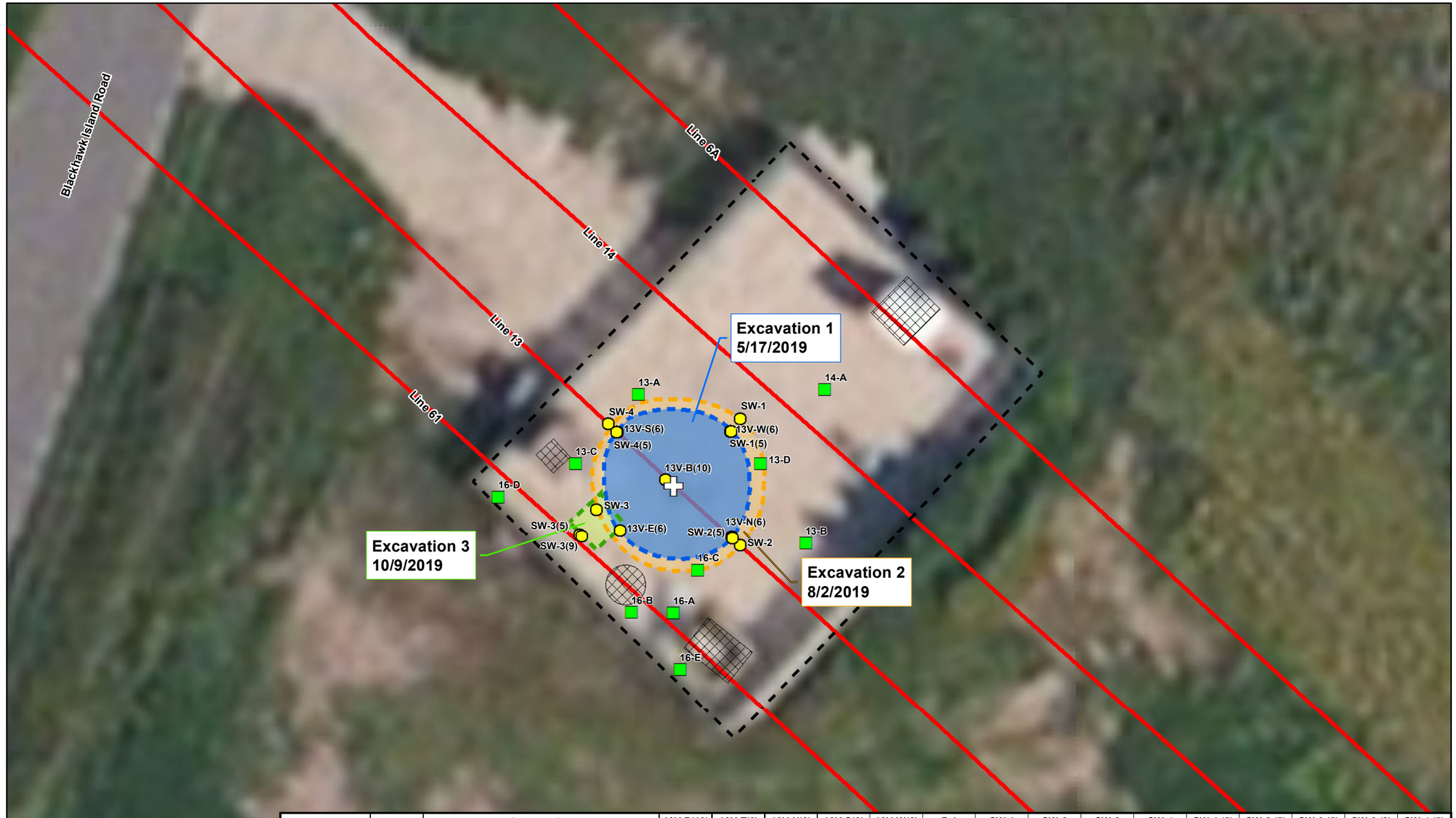

Analyte	Units	Generic RCLs			13V-B(10)	13V-E(6)	13V-N(6)	13V-S(6)	13V-W(6)	B-1	SW-1	SW-2	SW-3	SW-4	SW-1 (5)	SW-2 (5)	SW-3 (5)	SW-3 (9)	SW-4 (5)
		Direct Contact Pathway		Groundwater Pathway	10 ft bgs	6 ft bgs	6 ft bgs	6 ft bgs	6 ft bgs	11 ft bgs	5 ft bgs	7 ft bgs	6 ft bgs	8 ft bgs	5 ft bgs	5 ft bgs	5 ft bgs	9 ft bgs	5 ft bgs
		Non-Industrial	Industrial		Excavation 1: May 17, 2019					Excavation 2: August 2, 2019					Excavation 3: October 9, 2019				
Benzene	mg/kg	1.6	7.07	0.0051	**1.6**	**63**	**2.9**	**94**	< 0.016	< 0.027	< 0.023	< 0.023	**0.17**	< 0.026	< 0.028	< 0.032	**0.012 J**	**0.014 J**	**0.064**
Ethylbenzene	mg/kg	8.02	35.4	1.57	0.019	**15**	0.33	**11**	< 0.016	< 0.027	< 0.023	< 0.023	< 0.033	< 0.026	< 0.028	< 0.032	0.0075 J	0.014 J	0.019 J
Methylene Chloride	mg/kg	61.8	1150	0.0026	< 0.33	< 1.3	**0.27 J**	< 1.3	< 0.33	< 0.22	< 0.19	< 0.19	< 0.27	< 0.22	< 0.23	< 0.27	< 0.29	< 0.32	< 0.26
Naphthalene	mg/kg	5.52	24.1	0.6582	< 0.066	**1.1**	< 0.13	**0.81**	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	mg/kg	818	818	1.1072	0.074	**120**	**2.9**	**150**	< 0.016	< 0.027	< 0.023	< 0.023	0.011 J	< 0.026	< 0.028	< 0.032	< 0.035	< 0.038	0.022 J
Xylene (Total)	mg/kg	260	260	3.96	0.019 J	**83**	1.7	**68**	< 0.033	< 0.081	< 0.068	< 0.069	0.12	< 0.078	< 0.083	< 0.096	0.062 J	0.084 J	< 0.095

General notes and footnotes:

Generic Residual Contaminant Levels (RCLs) Dec 2018 per WDNR PB-RR-890.

Exceeds the groundwater pathway RCL

Exceeds non-industrial RCL

Exceeds industrial RCL

ft bgs = feet below ground surface

J = estimated value

mg/kg = micrograms per kilogram

NA = not analyzed

Table includes excavation samples and exceedances of RCLs. Full data results are included in Table 2.

SW-1(5), SW-2(5), and SW-4(5) samples were collected via hand auger around previous excavation extent.

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MP 312 Valve Station
Line 13 MP 312

Site Layout & Interim Actions Map

- Line 13 Valve
- Soil Gas Location
- Soil Boring Location
- Site Features
- Site Fence
- Excavation 1: Area of 360 square feet
- Excavation 2: Area of 131 square feet
- Excavation 3: Area fo 32 square feet
- Enbridge Pipeline

0 5 10 15 Feet

N

1 inch = 15 feet

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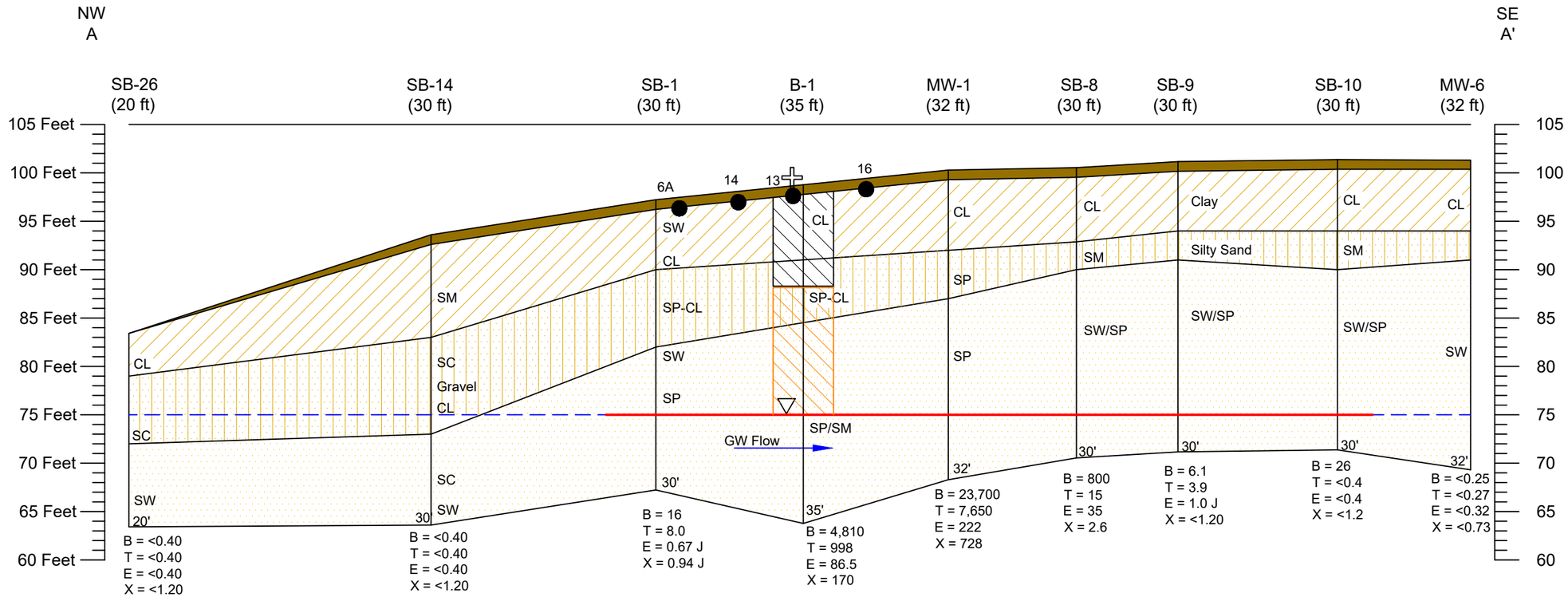

Notes:

Vertical elevations were surveyed to a local benchmark of 100.00 feet.

See Figure 4 for cross section locations

Results shown are for groundwater and are in micrograms per liter (ug/L)

0' 25' 50' 100'

HORIZONTAL SCALE

Vertical Exaggeration = 4x

MP 312 Valve Station

Line 13 MP 312

Cross Sections A-A'

LEGEND

- Topsoil
- Silty Clay (mixed)
- Silty Sand (mixed)
- Sand with some Gravel
- Valve (Source of Release)
- Enbridge Pipline
- Approximate Extent of Excavation (backfilled)
- Approximate Extent of Petroleum - Impacted Soil
- Approximate Extent of Groundwater Impacts (benzene) above the "ES"

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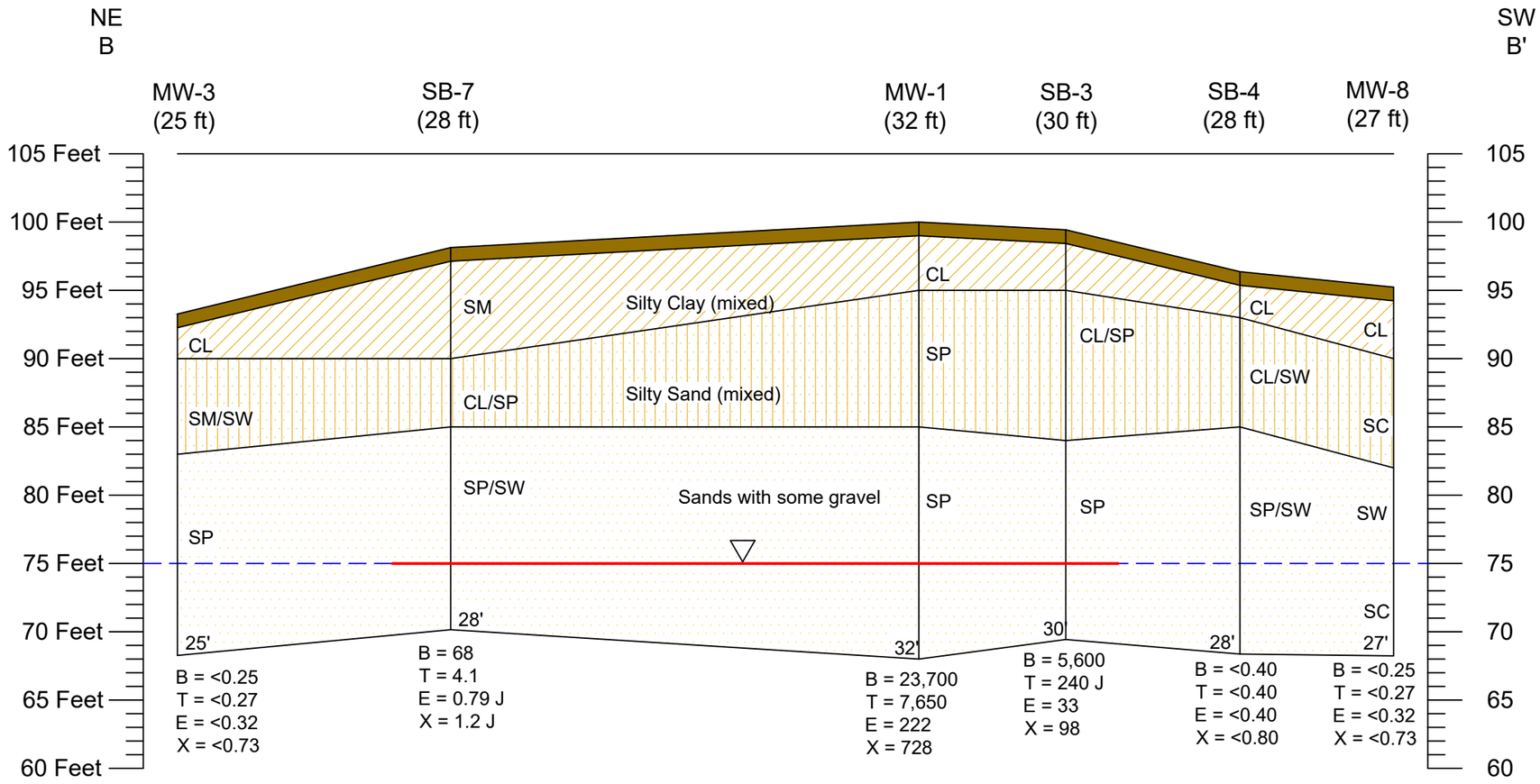


Notes:

Vertical elevations were surveyed to a local benchmark of 100.00 feet.

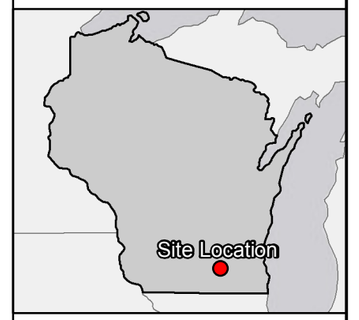
See Figure 4 for cross section locations

Results shown are for groundwater and are in micrograms per liter (ug/L)

0' 20' 40' 80'

HORIZONTAL SCALE

Vertical Exaggeration = 4x



MP312 Valve Station
Line 13 MP 312

Cross Sections
B-B'

LEGEND

- Topsoil
- Silty Clay (mixed)
- Silty Sand (mixed)
- Sand with some Gravel
- Approximate Extent of Groundwater Impacts (benzene) above the "ES"

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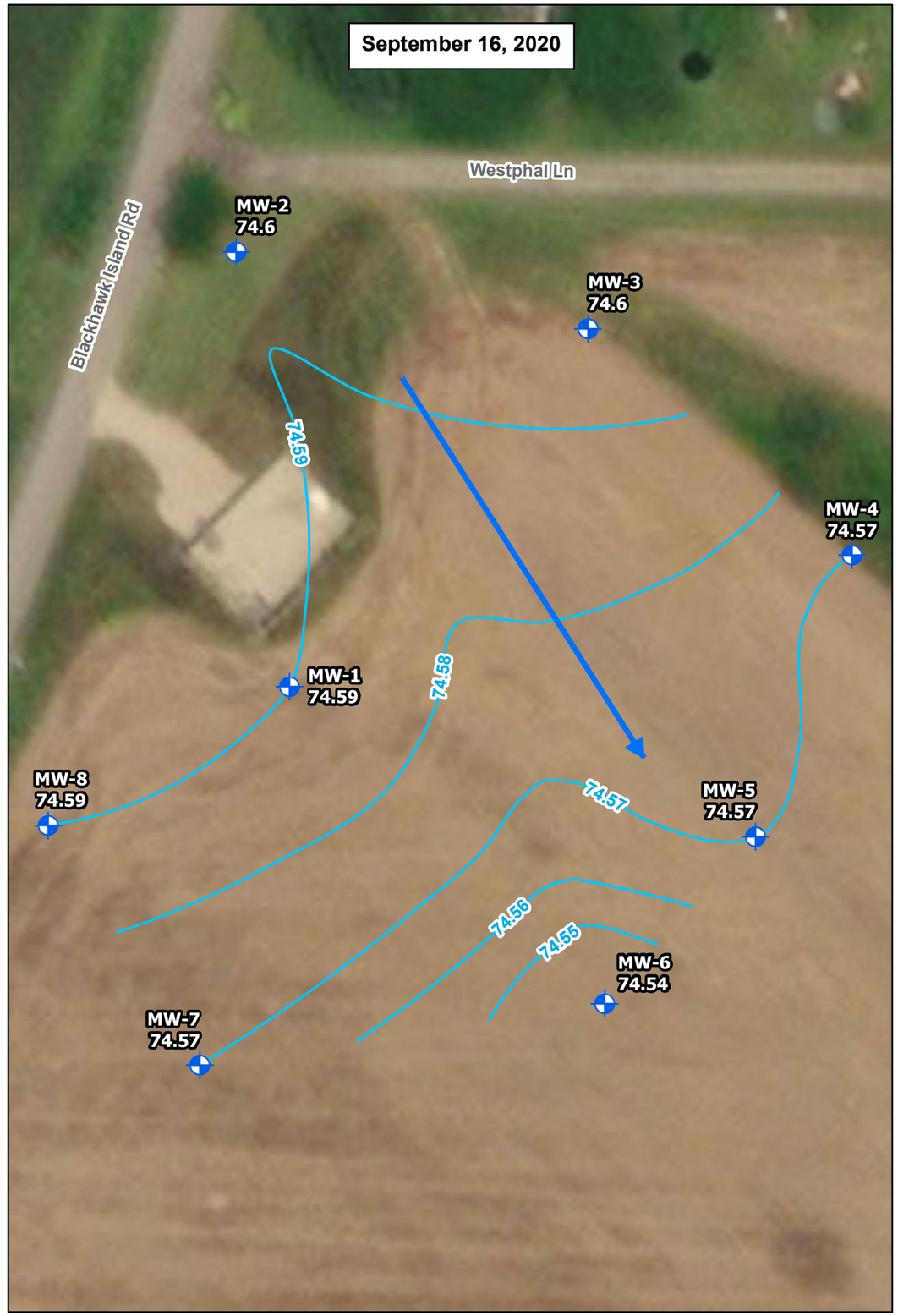

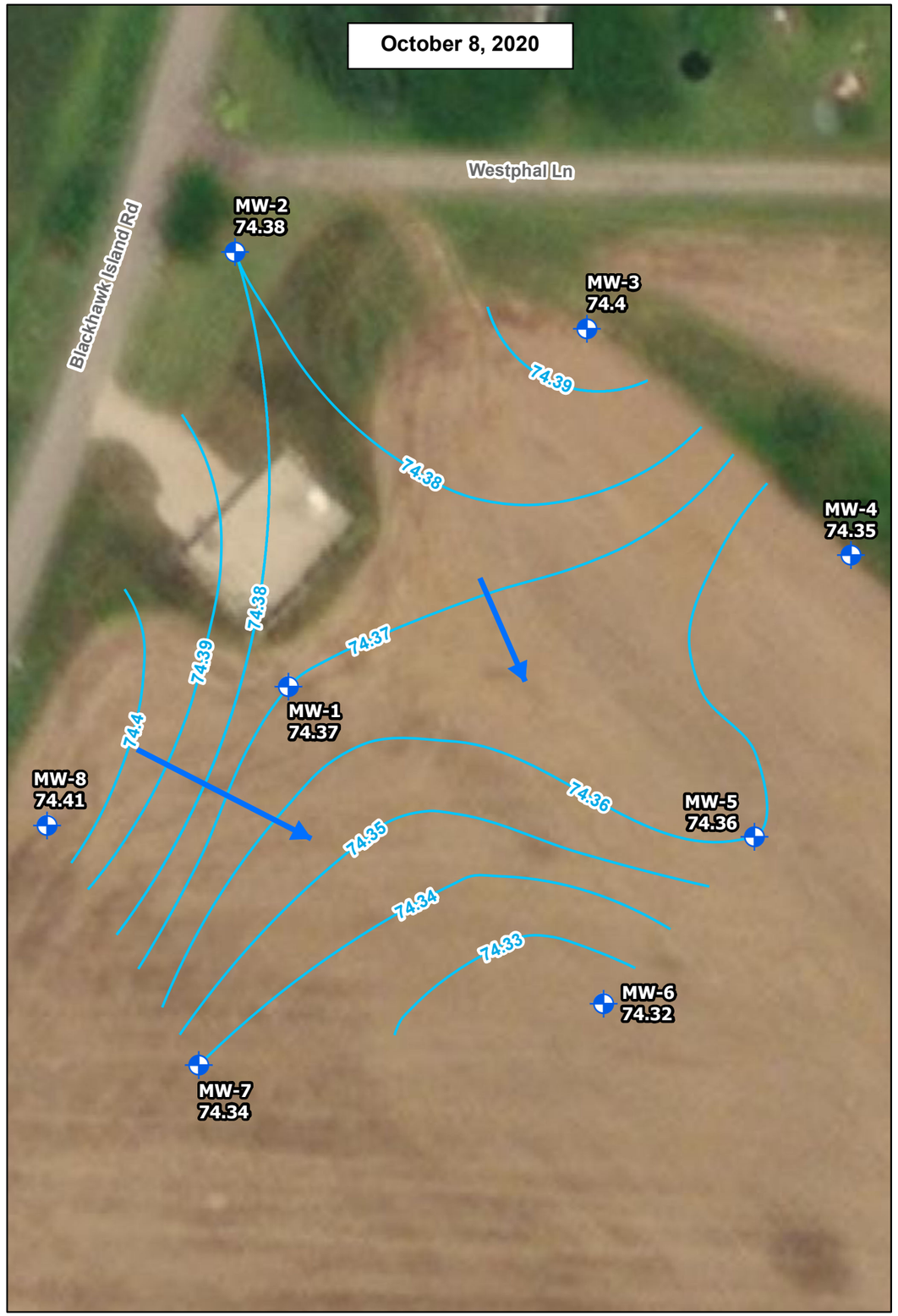

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MP 312 Valve Station
Line 13 MP 312

Groundwater Contour Map

LEGEND

- MW-1 74.59 — Monitoring Well ID / Groundwater Elevation (ft)
- Inferred Groundwater Elevation Contour
- Groundwater Flow Direction

N

0 30 60 Feet

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MP 312 Valve Station
Line 13 MP 312

Receptor Map

LEGEND

- Private, Potable Well (shown with Unique Well Number [UWN])
- Approximate Groundwater Impact Area
- Approximate Soil Impact Area
- 1,200-foot Impact Radius
- Property Boundary

PARCEL OWNER
PARCEL NUMBER

* = exact coordinates for well unknown

Eight additional wells installed prior to 1988 were identified in the well search to be within Section 8, Township 5N, and Range 14E. The locations and addresses of these wells are unknown.

Well record information obtained from Wisconsin Department of Natural Resources Well Records. Search completed on December 22, 2020.

N

0 150 300 Feet

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SB-25	9/14/20
GRO	<27
B	<0.40
T	<0.40
E	<0.40
X	<1.20

SB-26	9/14/20
GRO	<27
B	<0.40
T	<0.40
E	<0.40
X	<1.20

SB-14	9/1/20
GRO	<27
B	<0.40
T	<0.40
E	<0.40
X	<1.20

SB-1	8/27/20
GRO	410
B	**16**
T	8.0
E	0.67
X	0.94

SB-2	8/27/20
GRO	<27
B	<0.40
T	<0.40
E	<0.40
X	<1.20

SB-6	8/28/20
GRO	<27
B	<0.40
T	<0.40
E	<0.40
X	<1.20

SB-27	9/14/20
GRO	<27
B	<0.40
T	1.5
E	0.58
X	<1.20

SB-7	8/28/20
GRO	550
B	**68**
T	4.1
E	0.79
X	1.2

B-1	7/21/20
GRO	410
B	270
T	231
E	29.2
X	188

SB-19	9/2/20
GRO	<27
B	<0.40
T	0.73
E	<0.40
X	<1.20

SB-5	8/27/20
GRO	4300
B	**3800**
T	5.8
E	40
X	65

SB-18	9/2/20
GRO	<27
B	*2.6*
T	1.3
E	<0.40
X	<1.20

SB-3	8/27/20
GRO	6500
B	**5600**
T	*240*
E	33
X	98

SB-15	9/1/20
GRO	<27
B	**6.9**
T	1.1
E	<0.40
X	<1.20

SB-4	8/27/20
GRO	180
B	<0.40
T	<0.40
E	<0.40
X	<1.20

SB-20	9/2/20
GRO	<27
B	<0.40
T	1.6
E	<0.40
X	<1.20

SB-23	9/14/20
GRO	<27
B	<0.40
T	0.67
E	<0.40
X	<1.20

SB-16	9/2/20
GRO	<27
B	<0.40
T	1.3
E	<0.40
X	<1.20

SB-8	8/28/20
GRO	1300
B	**800**
T	15
E	35
X	2.6

SB-17	9/1/20
GRO	<27
B	<0.40
T	1.9
E	0.51
X	<1.20

SB-22	9/2/20
GRO	<27
B	0.46
T	0.98
E	<0.40
X	<1.20

SB-12	9/1/20
GRO	55
B	*2.2*
T	1.7
E	0.42
X	<1.20

SB-21	9/2/20
GRO	29
B	<0.40
T	0.53
E	<0.40
X	<1.20

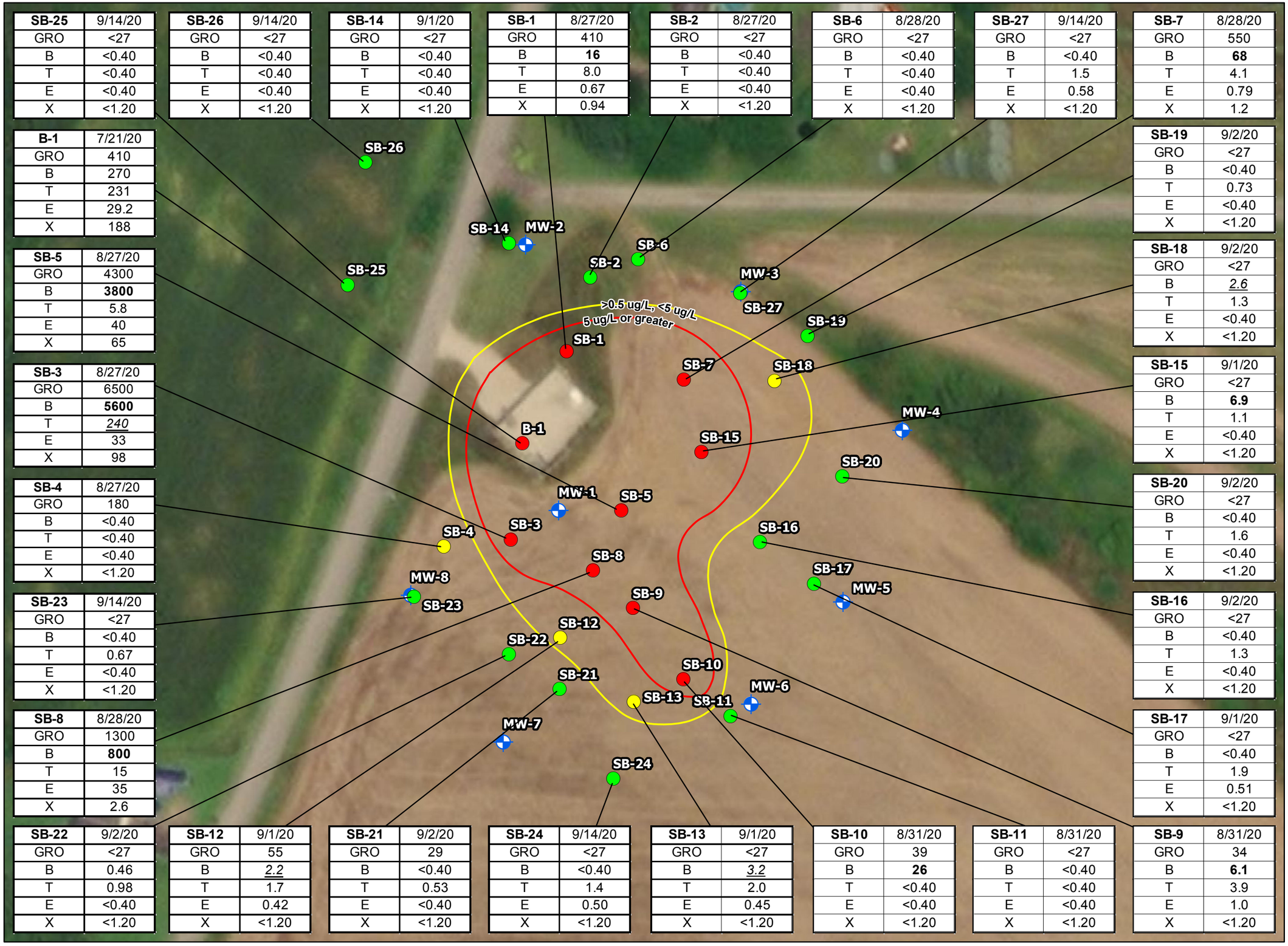
SB-24	9/14/20
GRO	<27
B	<0.40
T	1.4
E	0.50
X	<1.20

SB-13	9/1/20
GRO	<27
B	*3.2*
T	2.0
E	0.45
X	<1.20

SB-10	8/31/20
GRO	39
B	**26**
T	<0.40
E	<0.40
X	<1.20

SB-11	8/31/20
GRO	<27
B	<0.40
T	<0.40
E	<0.40
X	<1.20

SB-9	8/31/20
GRO	34
B	**6.1**
T	3.9
E	1.0
X	<1.20



ENBRIDGE

MP 312 Valve Station
Line 13 MP 312
Temporary Well Data Summary

LEGEND

- Monitoring Wells

Groundwater Results:

- <0.5 ug/L
- >0.5 ug/L, <5 ug/L
- >5 ug/L

Benzene Isocontours

- 5 ug/L or greater
- >0.5 ug/L, <5 ug/L

Action Limits		
Analyte (ug/L)	WAC NR 140 ES	WAC NR 140 PAL
B	5	*0.5*
T	700	*140*
E	800	*160*
X	2,000	*400*

Notes:

1) Total Xylene result (X) is sum of o-Xylene and m & p-Xylene.

N

0 40 80 Feet

Prepared by:

AECOM

230 West Superior Street
Suite 400
Duluth, MN 55802
www.AECOM.com

Drawn:	HP 12/18/2020
Approved:	EH 12/18/2020
Scale:	1:840
Project No:	60626859
Figure No:	8

Document Path: M:\Denver_GIS\Projects\Enbridge_Line13_MP312_JeffersonCo_WI\Map_Docs\Figures\Report_2020\Fig6_Temporary Well Data Summary.mxd

MW-2	10/8/20
B	<0.25
T	<0.27
E	<0.32
X	<0.73

Macleod Residence	10/2/20
GRO	<30.5
B	<0.31
T	<0.16
E	<0.33
X	<0.47

Westphal Ln

MW-2

MW-3

MW-3	10/8/20
B	<0.25
T	<0.27
E	<0.32
X	<0.73

0.5 ug/L

MW-4

MW-4	10/8/20
B	<0.25
T	<0.27
E	<0.32
X	<0.73

Blackhawk Island Rd

MW-1

10,000 ug/L

1,000 ug/L

MW-8

MW-5

MW-5	10/8/20
B	<0.25
T	<0.27
E	<0.32
X	<0.73

MW-6

MW-7

MW-8	10/9/20
B	<0.25
T	<0.27
E	<0.32
X	<0.73

MW-7	10/9/20
B	<0.25
T	<0.27
E	<0.32
X	<0.73

MW-1	10/9/20
B	**23,700**
T	**7,650**
E	*222*
X	*728*

MW-6	10/8/20
B	<0.25
T	<0.27
E	<0.32
X	<0.73

ENBRIDGE

MP 312 Valve Station
Line 13 MP 312
Groundwater Data Summary

LEGEND

- Monitoring Wells
- Approximate Release Location

Benzene Isocontours

- 0.5 ug/L
- 1,000 ug/L
- 10,000 ug/L

Action Limits		
Analyte (ug/L)	WAC NR 140 ES	WAC NR 140 PAL
B	**5**	*0.5*
T	**800**	*160*
E	**700**	*140*
X	**2,000**	*400*

Notes:

1) Total Xylene result (X) is sum of o-Xylene and m & p-Xylene.

N

0 40 80 Feet

AECOM
230 West Superior Street
Suite 400
Duluth, MN 55802
www.AECOM.com

Drawn:	HP 11/18/2020
Approved:	EH 11/18/2020
Scale:	1:840
Project No:	60626859
Figure No:	9

Document Path: M:\Denver_GIS\Projects\Enbridge_Line13_MP312_JeffersonCo_WIMap_Docs\Figures\Report_2020\Fig7_Groundwater Data Summary.mxd

APPENDIX A

LABORATORY REPORTS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

May 08, 2019

Darin Albrecht
AECOM
Duluth Technology Village
11 E. Superior St, Suite 150
Duluth, MN 55802

RE: Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Dear Darin Albrecht:
Enclosed are the analytical results for sample(s) received by the laboratory on May 04, 2019. 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,

Christopher Hyska

Christopher Hyska
christopher.hyska@pacelabs.com
(920)469-2436
Project Manager

Enclosures

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40187047001	**13A (1.4-3.4)**	Solid	05/03/19 09:20	05/04/19 09:15
40187047002	**16C (0.9-3.0)**	Solid	05/03/19 09:48	05/04/19 09:15
40187047003	**13D (1.1-3.2)**	Solid	05/03/19 10:15	05/04/19 09:15
40187047004	**14A (0.7-4.0)**	Solid	05/03/19 10:41	05/04/19 09:15
40187047005	**TRIP BLANK**	Solid	05/03/19 09:00	05/04/19 09:15

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40187047001	**13A (1.4-3.4)**	WI MOD DRO	CAH	1	PASI-G
		EPA 8260	ALD	64	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40187047002	**16C (0.9-3.0)**	WI MOD DRO	CAH	1	PASI-G
		EPA 8260	ALD	64	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40187047003	**13D (1.1-3.2)**	WI MOD DRO	CAH	1	PASI-G
		EPA 8260	ALD	64	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40187047004	**14A (0.7-4.0)**	WI MOD DRO	CAH	1	PASI-G
		EPA 8260	ALD	64	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40187047005	**TRIP BLANK**	EPA 8260	ALD	64	PASI-G

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40187047001	**13A (1.4-3.4)**					
ASTM D2974-87	Percent Moisture	9.4	%	0.10	05/06/19 17:41	
40187047002	**16C (0.9-3.0)**					
EPA 8260	Benzene	314	ug/kg	66.9	05/07/19 13:03	
EPA 8260	Toluene	209	ug/kg	66.9	05/07/19 13:03	
EPA 8260	1,2,4-Trimethylbenzene	32.4J	ug/kg	66.9	05/07/19 13:03	
EPA 8260	m&p-Xylene	74.3J	ug/kg	134	05/07/19 13:03	
ASTM D2974-87	Percent Moisture	10.3	%	0.10	05/06/19 17:41	
40187047003	**13D (1.1-3.2)**					
ASTM D2974-87	Percent Moisture	8.4	%	0.10	05/06/19 17:41	
40187047004	**14A (0.7-4.0)**					
ASTM D2974-87	Percent Moisture	11.0	%	0.10	05/06/19 17:41	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Sample: 13A (1.4-3.4) **Lab ID: 40187047001** Collected: 05/03/19 09:20 Received: 05/04/19 09:15 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
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	**<1.4**	mg/kg	4.8	1.4	1	05/07/19 10:16	05/08/19 08:38		D5
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	71-43-2	W
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	05/07/19 07:15	05/07/19 12:40	74-83-9	L1,W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	104-51-8	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	98-06-6	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	05/07/19 07:15	05/07/19 12:40	75-00-3	W
Chloroform	**<46.4**	ug/kg	250	46.4	1	05/07/19 07:15	05/07/19 12:40	67-66-3	W
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	74-87-3	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	106-43-4	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	05/07/19 07:15	05/07/19 12:40	96-12-8	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	124-48-1	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	106-93-4	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	74-95-3	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	95-50-1	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	541-73-1	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	106-46-7	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	75-71-8	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	75-34-3	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	107-06-2	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	75-35-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	156-59-2	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	156-60-5	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	78-87-5	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	142-28-9	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	594-20-7	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	563-58-6	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	10061-01-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	10061-02-6	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	98-82-8	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	99-87-6	W
Methylene Chloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	75-09-2	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	1634-04-4	W

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Sample: 13A (1.4-3.4) **Lab ID: 40187047001** Collected: 05/03/19 09:20 Received: 05/04/19 09:15 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								
Naphthalene	**<40.0**	ug/kg	250	40.0	1	05/07/19 07:15	05/07/19 12:40	91-20-3	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	103-65-1	W
Styrene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	100-42-5	W
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	630-20-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	79-34-5	W
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	127-18-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	108-88-3	W
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	87-61-6	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	05/07/19 07:15	05/07/19 12:40	120-82-1	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	71-55-6	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	79-00-5	W
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	75-69-4	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	96-18-4	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	108-67-8	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	75-01-4	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	05/07/19 07:15	05/07/19 12:40	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 12:40	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	137	%	57-146		1	05/07/19 07:15	05/07/19 12:40	1868-53-7	
Toluene-d8 (S)	137	%	64-134		1	05/07/19 07:15	05/07/19 12:40	2037-26-5	S3
4-Bromofluorobenzene (S)	112	%	54-126		1	05/07/19 07:15	05/07/19 12:40	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.4**	%	0.10	0.10	1		05/06/19 17:41		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Sample: 16C (0.9-3.0) **Lab ID: 40187047002** Collected: 05/03/19 09:48 Received: 05/04/19 09:15 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
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	**<1.4**	mg/kg	4.8	1.4	1	05/07/19 10:16	05/08/19 08:47		D5
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**314**	ug/kg	66.9	27.9	1	05/07/19 07:15	05/07/19 13:03	71-43-2	
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	05/07/19 07:15	05/07/19 13:03	74-83-9	L1,W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	104-51-8	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	98-06-6	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	05/07/19 07:15	05/07/19 13:03	75-00-3	W
Chloroform	**<46.4**	ug/kg	250	46.4	1	05/07/19 07:15	05/07/19 13:03	67-66-3	W
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	74-87-3	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	106-43-4	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	05/07/19 07:15	05/07/19 13:03	96-12-8	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	124-48-1	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	106-93-4	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	74-95-3	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	95-50-1	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	541-73-1	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	106-46-7	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	75-71-8	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	75-34-3	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	107-06-2	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	75-35-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	156-59-2	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	156-60-5	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	78-87-5	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	142-28-9	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	594-20-7	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	563-58-6	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	10061-01-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	10061-02-6	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	98-82-8	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	99-87-6	W
Methylene Chloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	75-09-2	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	1634-04-4	W

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Sample: 16C (0.9-3.0) **Lab ID: 40187047002** Collected: 05/03/19 09:48 Received: 05/04/19 09:15 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								
Naphthalene	**<40.0**	ug/kg	250	40.0	1	05/07/19 07:15	05/07/19 13:03	91-20-3	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	103-65-1	W
Styrene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	100-42-5	W
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	630-20-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	79-34-5	W
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	127-18-4	W
Toluene	**209**	ug/kg	66.9	27.9	1	05/07/19 07:15	05/07/19 13:03	108-88-3	
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	87-61-6	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	05/07/19 07:15	05/07/19 13:03	120-82-1	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	71-55-6	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	79-00-5	W
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	75-69-4	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	96-18-4	W
1,2,4-Trimethylbenzene	**32.4J**	ug/kg	66.9	27.9	1	05/07/19 07:15	05/07/19 13:03	95-63-6	
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	108-67-8	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	75-01-4	W
m&p-Xylene	**74.3J**	ug/kg	134	55.8	1	05/07/19 07:15	05/07/19 13:03	179601-23-1	
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:03	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	122	%	57-146		1	05/07/19 07:15	05/07/19 13:03	1868-53-7	
Toluene-d8 (S)	128	%	64-134		1	05/07/19 07:15	05/07/19 13:03	2037-26-5	
4-Bromofluorobenzene (S)	104	%	54-126		1	05/07/19 07:15	05/07/19 13:03	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**10.3**	%	0.10	0.10	1		05/06/19 17:41		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Sample: 13D (1.1-3.2) **Lab ID: 40187047003** Collected: 05/03/19 10:15 Received: 05/04/19 09:15 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
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	**<1.4**	mg/kg	4.7	1.4	1	05/07/19 10:16	05/08/19 08:56		D5
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	71-43-2	W
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	05/07/19 07:15	05/07/19 11:55	74-83-9	L1,M0, W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	104-51-8	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	98-06-6	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	05/07/19 07:15	05/07/19 11:55	75-00-3	W
Chloroform	**<46.4**	ug/kg	250	46.4	1	05/07/19 07:15	05/07/19 11:55	67-66-3	W
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	74-87-3	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	106-43-4	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	05/07/19 07:15	05/07/19 11:55	96-12-8	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	124-48-1	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	106-93-4	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	74-95-3	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	95-50-1	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	541-73-1	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	106-46-7	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	75-71-8	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	75-34-3	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	107-06-2	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	75-35-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	156-59-2	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	156-60-5	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	78-87-5	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	142-28-9	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	594-20-7	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	563-58-6	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	10061-01-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	10061-02-6	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	98-82-8	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	99-87-6	W
Methylene Chloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	75-09-2	W

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Sample: 13D (1.1-3.2) **Lab ID: 40187047003** Collected: 05/03/19 10:15 Received: 05/04/19 09:15 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								
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	1634-04-4	W
Naphthalene	**<40.0**	ug/kg	250	40.0	1	05/07/19 07:15	05/07/19 11:55	91-20-3	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	103-65-1	W
Styrene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	100-42-5	W
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	630-20-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	79-34-5	W
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	127-18-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	108-88-3	W
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	87-61-6	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	05/07/19 07:15	05/07/19 11:55	120-82-1	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	71-55-6	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	79-00-5	W
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	75-69-4	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	96-18-4	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	108-67-8	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	75-01-4	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	05/07/19 07:15	05/07/19 11:55	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:55	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	105	%	57-146		1	05/07/19 07:15	05/07/19 11:55	1868-53-7	
Toluene-d8 (S)	108	%	64-134		1	05/07/19 07:15	05/07/19 11:55	2037-26-5	
4-Bromofluorobenzene (S)	85	%	54-126		1	05/07/19 07:15	05/07/19 11:55	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**8.4**	%	0.10	0.10	1		05/06/19 17:41		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Sample: 14A (0.7-4.0) **Lab ID: 40187047004** Collected: 05/03/19 10:41 Received: 05/04/19 09:15 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
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	**<1.4**	mg/kg	4.8	1.4	1	05/07/19 10:16	05/08/19 09:05		D5
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	71-43-2	W
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	05/07/19 07:15	05/07/19 13:27	74-83-9	L1,W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	104-51-8	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	98-06-6	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	05/07/19 07:15	05/07/19 13:27	75-00-3	W
Chloroform	**<46.4**	ug/kg	250	46.4	1	05/07/19 07:15	05/07/19 13:27	67-66-3	W
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	74-87-3	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	106-43-4	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	05/07/19 07:15	05/07/19 13:27	96-12-8	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	124-48-1	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	106-93-4	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	74-95-3	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	95-50-1	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	541-73-1	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	106-46-7	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	75-71-8	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	75-34-3	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	107-06-2	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	75-35-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	156-59-2	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	156-60-5	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	78-87-5	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	142-28-9	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	594-20-7	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	563-58-6	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	10061-01-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	10061-02-6	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	98-82-8	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	99-87-6	W
Methylene Chloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	75-09-2	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	1634-04-4	W

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Sample: 14A (0.7-4.0) **Lab ID: 40187047004** Collected: 05/03/19 10:41 Received: 05/04/19 09:15 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								
Naphthalene	**<40.0**	ug/kg	250	40.0	1	05/07/19 07:15	05/07/19 13:27	91-20-3	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	103-65-1	W
Styrene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	100-42-5	W
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	630-20-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	79-34-5	W
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	127-18-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	108-88-3	W
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	87-61-6	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	05/07/19 07:15	05/07/19 13:27	120-82-1	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	71-55-6	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	79-00-5	W
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	75-69-4	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	96-18-4	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	108-67-8	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	75-01-4	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	05/07/19 07:15	05/07/19 13:27	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 13:27	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	146	%	57-146		1	05/07/19 07:15	05/07/19 13:27	1868-53-7	
Toluene-d8 (S)	146	%	64-134		1	05/07/19 07:15	05/07/19 13:27	2037-26-5	S3
4-Bromofluorobenzene (S)	116	%	54-126		1	05/07/19 07:15	05/07/19 13:27	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.0**	%	0.10	0.10	1		05/06/19 17:41		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Sample: TRIP BLANK **Lab ID: 40187047005** Collected: 05/03/19 09:00 Received: 05/04/19 09:15 Matrix: Solid

Results reported on a "wet-weight" basis

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	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	71-43-2	W
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	05/07/19 07:15	05/07/19 11:33	74-83-9	L1,W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	104-51-8	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	98-06-6	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	05/07/19 07:15	05/07/19 11:33	75-00-3	W
Chloroform	**<46.4**	ug/kg	250	46.4	1	05/07/19 07:15	05/07/19 11:33	67-66-3	W
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	74-87-3	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	106-43-4	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	05/07/19 07:15	05/07/19 11:33	96-12-8	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	124-48-1	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	106-93-4	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	74-95-3	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	95-50-1	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	541-73-1	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	106-46-7	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	75-71-8	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	75-34-3	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	107-06-2	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	75-35-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	156-59-2	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	156-60-5	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	78-87-5	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	142-28-9	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	594-20-7	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	563-58-6	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	10061-01-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	10061-02-6	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	98-82-8	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	99-87-6	W
Methylene Chloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	75-09-2	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	1634-04-4	W
Naphthalene	**<40.0**	ug/kg	250	40.0	1	05/07/19 07:15	05/07/19 11:33	91-20-3	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	103-65-1	W
Styrene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	100-42-5	W

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Sample: TRIP BLANK **Lab ID: 40187047005** Collected: 05/03/19 09:00 Received: 05/04/19 09:15 Matrix: Solid

Results reported on a "wet-weight" basis

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								
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	630-20-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	79-34-5	W
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	127-18-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	108-88-3	W
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	87-61-6	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	05/07/19 07:15	05/07/19 11:33	120-82-1	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	71-55-6	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	79-00-5	W
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	75-69-4	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	96-18-4	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	108-67-8	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	75-01-4	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	05/07/19 07:15	05/07/19 11:33	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	05/07/19 07:15	05/07/19 11:33	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	120	%	57-146		1	05/07/19 07:15	05/07/19 11:33	1868-53-7	
Toluene-d8 (S)	115	%	64-134		1	05/07/19 07:15	05/07/19 11:33	2037-26-5	
4-Bromofluorobenzene (S)	100	%	54-126		1	05/07/19 07:15	05/07/19 11:33	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

QC Batch: 320559 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Normal List
Associated Lab Samples: 40187047001, 40187047002, 40187047003, 40187047004, 40187047005

METHOD BLANK: 1862020 Matrix: Solid
Associated Lab Samples: 40187047001, 40187047002, 40187047003, 40187047004, 40187047005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<13.7	50.0	05/07/19 08:32	
1,1,1-Trichloroethane	ug/kg	<14.4	50.0	05/07/19 08:32	
1,1,2,2-Tetrachloroethane	ug/kg	<17.5	50.0	05/07/19 08:32	
1,1,2-Trichloroethane	ug/kg	<20.2	50.0	05/07/19 08:32	
1,1-Dichloroethane	ug/kg	<17.6	50.0	05/07/19 08:32	
1,1-Dichloroethene	ug/kg	<17.6	50.0	05/07/19 08:32	
1,1-Dichloropropene	ug/kg	<14.0	50.0	05/07/19 08:32	
1,2,3-Trichlorobenzene	ug/kg	<17.0	50.0	05/07/19 08:32	
1,2,3-Trichloropropane	ug/kg	<22.3	50.0	05/07/19 08:32	
1,2,4-Trichlorobenzene	ug/kg	<47.6	250	05/07/19 08:32	
1,2,4-Trimethylbenzene	ug/kg	<12.2	50.0	05/07/19 08:32	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	250	05/07/19 08:32	
1,2-Dibromoethane (EDB)	ug/kg	<14.7	50.0	05/07/19 08:32	
1,2-Dichlorobenzene	ug/kg	<16.2	50.0	05/07/19 08:32	
1,2-Dichloroethane	ug/kg	<15.0	50.0	05/07/19 08:32	
1,2-Dichloropropane	ug/kg	<16.8	50.0	05/07/19 08:32	
1,3,5-Trimethylbenzene	ug/kg	<14.5	50.0	05/07/19 08:32	
1,3-Dichlorobenzene	ug/kg	<13.2	50.0	05/07/19 08:32	
1,3-Dichloropropane	ug/kg	<12.0	50.0	05/07/19 08:32	
1,4-Dichlorobenzene	ug/kg	<15.9	50.0	05/07/19 08:32	
2,2-Dichloropropane	ug/kg	<12.6	50.0	05/07/19 08:32	
2-Chlorotoluene	ug/kg	<15.8	50.0	05/07/19 08:32	
4-Chlorotoluene	ug/kg	<13.0	50.0	05/07/19 08:32	
Benzene	ug/kg	<9.2	20.0	05/07/19 08:32	
Bromobenzene	ug/kg	<20.6	50.0	05/07/19 08:32	
Bromochloromethane	ug/kg	<21.4	50.0	05/07/19 08:32	
Bromodichloromethane	ug/kg	<9.8	50.0	05/07/19 08:32	
Bromoform	ug/kg	<19.8	50.0	05/07/19 08:32	
Bromomethane	ug/kg	<69.9	250	05/07/19 08:32	
Carbon tetrachloride	ug/kg	<12.1	50.0	05/07/19 08:32	
Chlorobenzene	ug/kg	<14.8	50.0	05/07/19 08:32	
Chloroethane	ug/kg	<67.0	250	05/07/19 08:32	
Chloroform	ug/kg	<46.4	250	05/07/19 08:32	
Chloromethane	ug/kg	<20.4	50.0	05/07/19 08:32	
cis-1,2-Dichloroethene	ug/kg	<16.6	50.0	05/07/19 08:32	
cis-1,3-Dichloropropene	ug/kg	<16.6	50.0	05/07/19 08:32	
Dibromochloromethane	ug/kg	<17.9	50.0	05/07/19 08:32	
Dibromomethane	ug/kg	<19.3	50.0	05/07/19 08:32	
Dichlorodifluoromethane	ug/kg	<12.3	50.0	05/07/19 08:32	
Diisopropyl ether	ug/kg	<17.7	50.0	05/07/19 08:32	
Ethylbenzene	ug/kg	<12.4	50.0	05/07/19 08:32	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

METHOD BLANK: 1862020 Matrix: Solid
Associated Lab Samples: 40187047001, 40187047002, 40187047003, 40187047004, 40187047005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/kg	<24.5	50.0	05/07/19 08:32	
Isopropylbenzene (Cumene)	ug/kg	<12.6	50.0	05/07/19 08:32	
m&p-Xylene	ug/kg	<34.4	100	05/07/19 08:32	
Methyl-tert-butyl ether	ug/kg	<12.7	50.0	05/07/19 08:32	
Methylene Chloride	ug/kg	<16.2	50.0	05/07/19 08:32	
n-Butylbenzene	ug/kg	<10.5	50.0	05/07/19 08:32	
n-Propylbenzene	ug/kg	<11.6	50.0	05/07/19 08:32	
Naphthalene	ug/kg	<40.0	250	05/07/19 08:32	
o-Xylene	ug/kg	<14.0	50.0	05/07/19 08:32	
p-Isopropyltoluene	ug/kg	<12.0	50.0	05/07/19 08:32	
sec-Butylbenzene	ug/kg	<11.9	50.0	05/07/19 08:32	
Styrene	ug/kg	<9.0	50.0	05/07/19 08:32	
tert-Butylbenzene	ug/kg	<9.5	50.0	05/07/19 08:32	
Tetrachloroethene	ug/kg	<12.9	50.0	05/07/19 08:32	
Toluene	ug/kg	<11.2	50.0	05/07/19 08:32	
trans-1,2-Dichloroethene	ug/kg	<16.5	50.0	05/07/19 08:32	
trans-1,3-Dichloropropene	ug/kg	<14.4	50.0	05/07/19 08:32	
Trichloroethene	ug/kg	<23.6	50.0	05/07/19 08:32	
Trichlorofluoromethane	ug/kg	<24.7	50.0	05/07/19 08:32	
Vinyl chloride	ug/kg	<21.1	50.0	05/07/19 08:32	
4-Bromofluorobenzene (S)	%	90	54-126	05/07/19 08:32	
Dibromofluoromethane (S)	%	114	57-146	05/07/19 08:32	
Toluene-d8 (S)	%	113	64-134	05/07/19 08:32	

LABORATORY CONTROL SAMPLE: 1862021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2670	107	70-132	
1,1,2,2-Tetrachloroethane	ug/kg	2500	2720	109	70-130	
1,1,2-Trichloroethane	ug/kg	2500	2760	110	70-130	
1,1-Dichloroethane	ug/kg	2500	3010	121	70-130	
1,1-Dichloroethene	ug/kg	2500	2880	115	77-126	
1,2,4-Trichlorobenzene	ug/kg	2500	2610	104	66-130	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2480	99	54-129	
1,2-Dibromoethane (EDB)	ug/kg	2500	2550	102	70-130	
1,2-Dichlorobenzene	ug/kg	2500	2600	104	70-130	
1,2-Dichloroethane	ug/kg	2500	2980	119	70-134	
1,2-Dichloropropane	ug/kg	2500	3030	121	74-124	
1,3-Dichlorobenzene	ug/kg	2500	2550	102	70-130	
1,4-Dichlorobenzene	ug/kg	2500	2590	104	70-130	
Benzene	ug/kg	2500	2870	115	70-130	
Bromodichloromethane	ug/kg	2500	2770	111	70-130	
Bromoform	ug/kg	2500	2550	102	47-115	
Bromomethane	ug/kg	2500	4580	183	64-165	L1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

LABORATORY CONTROL SAMPLE: 1862021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/kg	2500	2760	110	70-131	
Chlorobenzene	ug/kg	2500	2700	108	70-130	
Chloroethane	ug/kg	2500	4480	179	28-197	
Chloroform	ug/kg	2500	2790	112	80-131	
Chloromethane	ug/kg	2500	2320	93	45-118	
cis-1,2-Dichloroethene	ug/kg	2500	2580	103	70-130	
cis-1,3-Dichloropropene	ug/kg	2500	2650	106	70-130	
Dibromochloromethane	ug/kg	2500	2460	98	70-130	
Dichlorodifluoromethane	ug/kg	2500	2390	96	38-108	
Ethylbenzene	ug/kg	2500	2740	110	82-122	
Isopropylbenzene (Cumene)	ug/kg	2500	2730	109	70-130	
m&p-Xylene	ug/kg	5000	5460	109	70-130	
Methyl-tert-butyl ether	ug/kg	2500	2270	91	70-130	
Methylene Chloride	ug/kg	2500	3080	123	70-130	
o-Xylene	ug/kg	2500	2600	104	70-130	
Styrene	ug/kg	2500	2730	109	70-130	
Tetrachloroethene	ug/kg	2500	2730	109	70-130	
Toluene	ug/kg	2500	2880	115	80-121	
trans-1,2-Dichloroethene	ug/kg	2500	2660	106	70-130	
trans-1,3-Dichloropropene	ug/kg	2500	2340	94	70-130	
Trichloroethene	ug/kg	2500	2880	115	70-130	
Trichlorofluoromethane	ug/kg	2500	3200	128	81-141	
Vinyl chloride	ug/kg	2500	2860	114	68-121	
4-Bromofluorobenzene (S)	%			104	54-126	
Dibromofluoromethane (S)	%			113	57-146	
Toluene-d8 (S)	%			115	64-134	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1862022 1862023

Parameter	Units	40187047003 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	1360	1360	1290	1370	95	101	64-132	6	20	
1,1,2,2-Tetrachloroethane	ug/kg	<25.0	1360	1360	1290	1310	94	96	70-132	2	20	
1,1,2-Trichloroethane	ug/kg	<25.0	1360	1360	1230	1380	90	101	70-130	11	20	
1,1-Dichloroethane	ug/kg	<25.0	1360	1360	1480	1550	108	114	70-130	5	20	
1,1-Dichloroethene	ug/kg	<25.0	1360	1360	1480	1490	109	109	65-126	0	21	
1,2,4-Trichlorobenzene	ug/kg	<47.6	1360	1360	1210	1290	89	95	66-139	7	20	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	1360	1360	1120	1230	82	90	47-146	10	23	
1,2-Dibromoethane (EDB)	ug/kg	<25.0	1360	1360	1150	1250	84	91	70-130	8	20	
1,2-Dichlorobenzene	ug/kg	<25.0	1360	1360	1290	1310	95	96	70-130	1	20	
1,2-Dichloroethane	ug/kg	<25.0	1360	1360	1430	1490	105	109	70-136	4	20	
1,2-Dichloropropane	ug/kg	<25.0	1360	1360	1410	1500	103	110	74-124	6	20	
1,3-Dichlorobenzene	ug/kg	<25.0	1360	1360	1180	1270	87	93	70-130	7	20	
1,4-Dichlorobenzene	ug/kg	<25.0	1360	1360	1190	1390	87	102	70-130	15	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1862022 1862023

Parameter	Units	40187047003 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	1370	1450	101	106	70-130	5	20	
Bromodichloromethane	ug/kg	<25.0	1360	1360	1290	1350	95	99	70-130	4	20	
Bromoform	ug/kg	<25.0	1360	1360	1070	1090	79	80	47-129	2	20	
Bromomethane	ug/kg	<69.9	1360	1360	2390	2550	175	186	41-180	6	20	M0
Carbon tetrachloride	ug/kg	<25.0	1360	1360	1280	1370	94	101	58-133	7	20	
Chlorobenzene	ug/kg	<25.0	1360	1360	1260	1350	93	99	70-130	7	20	
Chloroethane	ug/kg	<67.0	1360	1360	2280	2380	167	175	28-197	5	20	
Chloroform	ug/kg	<46.4	1360	1360	1410	1480	103	109	80-131	5	20	
Chloromethane	ug/kg	<25.0	1360	1360	1210	1250	89	92	26-118	4	20	
cis-1,2-Dichloroethene	ug/kg	<25.0	1360	1360	1260	1290	92	95	70-130	2	20	
cis-1,3-Dichloropropene	ug/kg	<25.0	1360	1360	1180	1240	86	91	70-130	5	20	
Dibromochloromethane	ug/kg	<25.0	1360	1360	1070	1190	78	87	67-130	11	20	
Dichlorodifluoromethane	ug/kg	<25.0	1360	1360	1050	1120	77	82	12-108	7	29	
Ethylbenzene	ug/kg	<25.0	1360	1360	1210	1330	88	97	80-122	9	20	
Isopropylbenzene (Cumene)	ug/kg	<25.0	1360	1360	1200	1310	88	96	70-130	8	20	
m&p-Xylene	ug/kg	<50.0	2730	2730	2510	2700	92	99	70-130	7	20	
Methyl-tert-butyl ether	ug/kg	<25.0	1360	1360	1080	1160	79	85	70-130	8	20	
Methylene Chloride	ug/kg	<25.0	1360	1360	1500	1590	110	116	70-130	6	20	
o-Xylene	ug/kg	<25.0	1360	1360	1170	1270	86	93	70-130	8	20	
Styrene	ug/kg	<25.0	1360	1360	1220	1280	90	94	70-130	5	20	
Tetrachloroethene	ug/kg	<25.0	1360	1360	1280	1390	94	102	70-130	8	20	
Toluene	ug/kg	<25.0	1360	1360	1330	1460	97	107	80-121	10	20	
trans-1,2-Dichloroethene	ug/kg	<25.0	1360	1360	1310	1360	96	99	70-130	3	20	
trans-1,3-Dichloropropene	ug/kg	<25.0	1360	1360	1110	1160	81	85	70-130	5	20	
Trichloroethene	ug/kg	<25.0	1360	1360	1360	1420	100	104	70-130	4	20	
Trichlorofluoromethane	ug/kg	<25.0	1360	1360	1600	1640	117	120	60-141	3	26	
Vinyl chloride	ug/kg	<25.0	1360	1360	1420	1500	104	110	46-121	6	20	
4-Bromofluorobenzene (S)	%						94	95	54-126			
Dibromofluoromethane (S)	%						108	105	57-146			
Toluene-d8 (S)	%						108	108	64-134			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

QC Batch: 320552 Analysis Method: WI MOD DRO
QC Batch Method: WI MOD DRO Analysis Description: WIDRO GCS
Associated Lab Samples: 40187047001, 40187047002, 40187047003, 40187047004

METHOD BLANK: 1862003 Matrix: Solid
Associated Lab Samples: 40187047001, 40187047002, 40187047003, 40187047004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/kg	<1.3	4.4	05/08/19 08:29	

LABORATORY CONTROL SAMPLE & LCSD: 1862004 1862005

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Range Organics	mg/kg	40	28.5	31.9	71	80	70-120	11	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

QC Batch: 320527 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40187047001, 40187047002, 40187047003, 40187047004

SAMPLE DUPLICATE: 1861924

Parameter	Units	40187076001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.3	20.9	3	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(920)469-2436

QUALIFIERS

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

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, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

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

ANALYTE QUALIFIERS

D5	The sample was re-weighed into a new container because the sample weight in the original container exceeded the method specifications.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated sample.
W	Non-detect results are reported on a wet weight basis.

Pace Analytical Services, LLC
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Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60596530.3 ENBRIDGE FORT ATKIN
Pace Project No.: 40187047

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40187047001	**13A (1.4-3.4)**	WI MOD DRO	320552	WI MOD DRO	320662
40187047002	**16C (0.9-3.0)**	WI MOD DRO	320552	WI MOD DRO	320662
40187047003	**13D (1.1-3.2)**	WI MOD DRO	320552	WI MOD DRO	320662
40187047004	**14A (0.7-4.0)**	WI MOD DRO	320552	WI MOD DRO	320662
40187047001	**13A (1.4-3.4)**	EPA 5035/5030B	320559	EPA 8260	320561
40187047002	**16C (0.9-3.0)**	EPA 5035/5030B	320559	EPA 8260	320561
40187047003	**13D (1.1-3.2)**	EPA 5035/5030B	320559	EPA 8260	320561
40187047004	**14A (0.7-4.0)**	EPA 5035/5030B	320559	EPA 8260	320561
40187047005	**TRIP BLANK**	EPA 5035/5030B	320559	EPA 8260	320561
40187047001	**13A (1.4-3.4)**	ASTM D2974-87	320527		
40187047002	**16C (0.9-3.0)**	ASTM D2974-87	320527		
40187047003	**13D (1.1-3.2)**	ASTM D2974-87	320527		
40187047004	**14A (0.7-4.0)**	ASTM D2974-87	320527		

Pace Analytical®
www.pacelabs.com

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Page 1 of

CHAIN OF CUSTODY

4018704

(Please Print Clearly)	
Company Name:	AECOM
Branch/Location:	MKE
Project Contact:	Darin Albrecht
Phone:	218-625-8768
Project Number:	60596530.3
Project Name:	ENBRIDGE FORT ATKINSON
Project State:	WI
Sampled By (Print):	TORY A SCHULTZ (TAS)
Sampled By (Sign):	Tory A Schultz
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:	Darin Albrecht
Mail To Company:	AECOM
Mail To Address:	DARIN.ALBRECHT@AECOM.COM
Invoice To Contact:	USAPIMAGING@AECOM.COM
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	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Analyses Requested	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	DRO	VOC	Dry Weight	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)
						N	A					
						N	F					
						N	A					
001	13A (1.4-3.4)	5/3/19	0920	S				1	2	1	~~HOLD~~	PID (ppm) 2.0
002	16C (0.9-3.0)		0948	S				1	2	1	~~HOLD~~	98.6
003	13D (1.1-3.2)		1015	S				1	2	1	~~HOLD~~	0.2
004	14A (0.7-4.0)		1041	S				1	2	1	~~HOLD~~ ①	0.1
005	TripBlank		0900	-					2		~~HOLD~~	

JV

① Bumper Darin A. Analysis requested rush by wed 5/8. OK 5/6/19

TAS 5/2/19

Rush Turnaround Time Requested - Prelim ①
(Rush TAT subject to approval/surcharge)
Date Needed: CALL 218-625-8768

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:
Tory A Schultz	5/3/19 1500		
FedEx	5-4-19 0911	Paul Pace	5-4-19 0915

PACE Project No. 4018704

Receipt Temp = 2.0 °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 Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: AECOM Project # 40187047

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☒N/A Initial when completed: Date/ Time:

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass							Plastic							Vials						Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3B	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN							
001																			2			1	1										2.5 / 5 / 10
002																			2			1	1										2.5 / 5 / 10
003																			2			1	1										2.5 / 5 / 10
004																			2			1	1										2.5 / 5 / 10
005																			2														2.5 / 5 / 10
006																																	2.5 / 5 / 10
007																																	2.5 / 5 / 10
008																																	2.5 / 5 / 10
009																																	2.5 / 5 / 10
010																																	2.5 / 5 / 10
011																																	2.5 / 5 / 10
012																																	2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																																	2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☒N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3B	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

Pace Analytical™ 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
	Document No.: F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #: WO# : 40187047

40187047

Client Name: AECOM

Courier: ☐ CS Logistics ☑ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other: ____

Tracking #: 7870 3827 8589

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 - NA **Type of Ice:** Wet Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: /Corr: ROI

Temp Blank Present: ☐ yes ☑ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Person examining contents:
Date: 5-4-19
Initials: JK

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	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No	MS/MSD: ☐Yes ☑No ☐N/A	8. No Headspace in Dro jars 5-4-19 JK 003 vials have little to no MeOH present on received
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☑No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☐Yes ☑No ☐N/A	12. Polys – ID only, 002 vials ID "16C (1.1-3.2)" 5-4-19 JK
Trip Blank Present:	☑Yes ☐No ☐N/A	13. MeOH Blank 5-4-19 JK
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: Darin Albrecht Date/Time: 5/6/19

Comments/ Resolution: 003 vials had no MeOH present. Lab subsampled per client request from glass jar. 5/6/19 CAH

Project Manager Review: CH **Date:** 5/6/19

Page 2 of 2

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

May 09, 2019

Darin Albrecht
AECOM
Duluth Technology Village
11 E Superior St, Suite 150
Duluth, MN 55802

RE: Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Dear Darin Albrecht:
Enclosed are the analytical results for sample(s) received by the laboratory on May 04, 2019. 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,

Tina Soltani
tina.soltani@pacelabs.com
(612)607-6384
Project Manager

Enclosures

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
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CERTIFICATIONS

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE SUMMARY

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10473491001	**14A**	Air	05/03/19 11:49	05/04/19 09:00
10473491002	**13A**	Air	05/03/19 12:00	05/04/19 09:00
10473491003	**13D**	Air	05/03/19 12:01	05/04/19 09:00
10473491004	**16C**	Air	05/03/19 12:07	05/04/19 09:00

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SAMPLE ANALYTE COUNT

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10473491001	**14A**	TO-15	CH1	61
10473491002	**13A**	TO-15	CH1	61
10473491003	**13D**	TO-15	MG2	61
10473491004	**16C**	TO-15	MG2	61

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SUMMARY OF DETECTION

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10473491001	**14A**					
TO-15	Acetone	254	ug/m3	4.3	05/07/19 19:30	
TO-15	Benzene	8.1	ug/m3	0.58	05/07/19 19:30	
TO-15	2-Butanone (MEK)	29.1	ug/m3	5.4	05/07/19 19:30	
TO-15	Chloromethane	0.92	ug/m3	0.76	05/07/19 19:30	
TO-15	Cyclohexane	12.4	ug/m3	3.2	05/07/19 19:30	
TO-15	Dichlorodifluoromethane	1.9	ug/m3	1.8	05/07/19 19:30	
TO-15	Ethanol	80.0	ug/m3	3.5	05/07/19 19:30	
TO-15	Ethylbenzene	3.8	ug/m3	1.6	05/07/19 19:30	
TO-15	n-Heptane	15.7	ug/m3	1.5	05/07/19 19:30	
TO-15	n-Hexane	34.0	ug/m3	1.3	05/07/19 19:30	
TO-15	2-Hexanone	7.5	ug/m3	7.5	05/07/19 19:30	
TO-15	Methylene Chloride	14.3	ug/m3	6.4	05/07/19 19:30	
TO-15	4-Methyl-2-pentanone (MIBK)	12.6	ug/m3	7.5	05/07/19 19:30	
TO-15	2-Propanol	21.2	ug/m3	4.5	05/07/19 19:30	
TO-15	Tetrachloroethene	3.7	ug/m3	1.2	05/07/19 19:30	
TO-15	Tetrahydrofuran	13.0	ug/m3	1.1	05/07/19 19:30	
TO-15	Toluene	18.8	ug/m3	1.4	05/07/19 19:30	
TO-15	1,2,4-Trimethylbenzene	7.9	ug/m3	1.8	05/07/19 19:30	
TO-15	1,3,5-Trimethylbenzene	3.5	ug/m3	1.8	05/07/19 19:30	
TO-15	m&p-Xylene	13.4	ug/m3	3.2	05/07/19 19:30	
TO-15	o-Xylene	4.7	ug/m3	1.6	05/07/19 19:30	
10473491002	**13A**					
TO-15	Benzene	18.0	ug/m3	0.61	05/07/19 19:58	
TO-15	2-Butanone (MEK)	25.5	ug/m3	5.6	05/07/19 19:58	
TO-15	Cyclohexane	874	ug/m3	98.2	05/08/19 22:18	
TO-15	Ethanol	102	ug/m3	3.6	05/07/19 19:58	
TO-15	Ethylbenzene	4.2	ug/m3	1.7	05/07/19 19:58	
TO-15	n-Heptane	31.7	ug/m3	1.6	05/07/19 19:58	
TO-15	n-Hexane	1810	ug/m3	40.2	05/08/19 22:18	
TO-15	Methylene Chloride	16.1	ug/m3	6.6	05/07/19 19:58	
TO-15	2-Propanol	13.6	ug/m3	4.7	05/07/19 19:58	
TO-15	Toluene	18.0	ug/m3	1.4	05/07/19 19:58	
TO-15	1,2,4-Trimethylbenzene	5.6	ug/m3	1.9	05/07/19 19:58	
TO-15	1,3,5-Trimethylbenzene	2.4	ug/m3	1.9	05/07/19 19:58	
TO-15	m&p-Xylene	13.8	ug/m3	3.3	05/07/19 19:58	
TO-15	o-Xylene	4.3	ug/m3	1.7	05/07/19 19:58	
10473491003	**13D**					
TO-15	Benzene	1020	ug/m3	524	05/08/19 15:47	
TO-15	Cyclohexane	727000	ug/m3	22600	05/09/19 12:42	
TO-15	n-Heptane	17700	ug/m3	1340	05/08/19 15:47	
TO-15	n-Hexane	1440000	ug/m3	9240	05/09/19 12:42	E
10473491004	**16C**					
TO-15	Benzene	2070000	ug/m3	7820	05/09/19 13:06	
TO-15	Cyclohexane	11400000	ug/m3	42100	05/09/19 13:06	E
TO-15	Ethylbenzene	2650	ug/m3	83.0	05/08/19 16:12	
TO-15	n-Heptane	3100000	ug/m3	20000	05/09/19 13:06	E

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SUMMARY OF DETECTION

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10473491004	**16C**					
TO-15	n-Hexane	30000000	ug/m3	17200	05/09/19 13:06	E
TO-15	Toluene	429000	ug/m3	18400	05/09/19 13:06	
TO-15	1,2,4-Trimethylbenzene	317	ug/m3	93.9	05/08/19 16:12	
TO-15	1,3,5-Trimethylbenzene	206	ug/m3	93.9	05/08/19 16:12	
TO-15	m&p-Xylene	9790	ug/m3	166	05/08/19 16:12	
TO-15	o-Xylene	2240	ug/m3	83.0	05/08/19 16:12	

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PROJECT NARRATIVE

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Date: May 09, 2019

14A (Lab ID: 10473491001)

- K3: The Total Hydrocarbon (THC) pattern is evenly distributed throughout the chromatogram (before and after toluene).

13A (Lab ID: 10473491002)

- K1: The Total Hydrocarbon (THC) pattern occured in the first half of the chromatogram (before toluene).

13D (Lab ID: 10473491003)

- K1: The Total Hydrocarbon (THC) pattern occured in the first half of the chromatogram (before toluene).

16C (Lab ID: 10473491004)

- K1: The Total Hydrocarbon (THC) pattern occured in the first half of the chromatogram (before toluene).

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PROJECT NARRATIVE

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Method: **TO-15**
Description: TO15 MSV AIR
Client: AECOM MN ND
Date: May 09, 2019

General Information:
4 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 604244

E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- DUP (Lab ID: 3267909)
  - Ethanol

QC Batch: 604497

E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- 13D (Lab ID: 10473491003)
  - n-Hexane
- 16C (Lab ID: 10473491004)
  - Cyclohexane
  - n-Heptane
  - n-Hexane

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Sample: 14A **Lab ID: 10473491001** Collected: 05/03/19 11:49 Received: 05/04/19 09:00 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	**254**	ug/m3	4.3	2.2	1.8		05/07/19 19:30	67-64-1	
Benzene	**8.1**	ug/m3	0.58	0.28	1.8		05/07/19 19:30	71-43-2	
Benzyl chloride	ND	ug/m3	4.7	2.2	1.8		05/07/19 19:30	100-44-7	
Bromodichloromethane	ND	ug/m3	2.4	0.66	1.8		05/07/19 19:30	75-27-4	
Bromoform	ND	ug/m3	9.4	2.6	1.8		05/07/19 19:30	75-25-2	
Bromomethane	ND	ug/m3	1.4	0.41	1.8		05/07/19 19:30	74-83-9	
1,3-Butadiene	ND	ug/m3	0.81	0.23	1.8		05/07/19 19:30	106-99-0	
2-Butanone (MEK)	**29.1**	ug/m3	5.4	0.66	1.8		05/07/19 19:30	78-93-3	
Carbon disulfide	ND	ug/m3	1.1	0.39	1.8		05/07/19 19:30	75-15-0	
Carbon tetrachloride	ND	ug/m3	2.3	0.77	1.8		05/07/19 19:30	56-23-5	
Chlorobenzene	ND	ug/m3	1.7	0.50	1.8		05/07/19 19:30	108-90-7	
Chloroethane	ND	ug/m3	0.96	0.47	1.8		05/07/19 19:30	75-00-3	
Chloroform	ND	ug/m3	0.89	0.35	1.8		05/07/19 19:30	67-66-3	
Chloromethane	**0.92**	ug/m3	0.76	0.28	1.8		05/07/19 19:30	74-87-3	
Cyclohexane	**12.4**	ug/m3	3.2	0.64	1.8		05/07/19 19:30	110-82-7	
Dibromochloromethane	ND	ug/m3	3.1	1.3	1.8		05/07/19 19:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.4	0.66	1.8		05/07/19 19:30	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	2.2	0.90	1.8		05/07/19 19:30	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	2.2	1.0	1.8		05/07/19 19:30	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	5.5	1.8	1.8		05/07/19 19:30	106-46-7	
Dichlorodifluoromethane	**1.9**	ug/m3	1.8	0.53	1.8		05/07/19 19:30	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.40	1.8		05/07/19 19:30	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	0.27	1.8		05/07/19 19:30	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	0.49	1.8		05/07/19 19:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	0.39	1.8		05/07/19 19:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	0.51	1.8		05/07/19 19:30	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.7	0.41	1.8		05/07/19 19:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.7	0.55	1.8		05/07/19 19:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.7	0.79	1.8		05/07/19 19:30	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.6	0.79	1.8		05/07/19 19:30	76-14-2	
Ethanol	**80.0**	ug/m3	3.5	1.5	1.8		05/07/19 19:30	64-17-5	
Ethyl acetate	ND	ug/m3	1.3	0.34	1.8		05/07/19 19:30	141-78-6	
Ethylbenzene	**3.8**	ug/m3	1.6	0.55	1.8		05/07/19 19:30	100-41-4	
4-Ethyltoluene	ND	ug/m3	4.5	1.0	1.8		05/07/19 19:30	622-96-8	
n-Heptane	**15.7**	ug/m3	1.5	0.68	1.8		05/07/19 19:30	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	9.8	3.5	1.8		05/07/19 19:30	87-68-3	
n-Hexane	**34.0**	ug/m3	1.3	0.56	1.8		05/07/19 19:30	110-54-3	
2-Hexanone	**7.5**	ug/m3	7.5	1.3	1.8		05/07/19 19:30	591-78-6	
Methylene Chloride	**14.3**	ug/m3	6.4	1.7	1.8		05/07/19 19:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	**12.6**	ug/m3	7.5	0.93	1.8		05/07/19 19:30	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	6.6	1.2	1.8		05/07/19 19:30	1634-04-4	
Naphthalene	ND	ug/m3	4.8	2.4	1.8		05/07/19 19:30	91-20-3	
2-Propanol	**21.2**	ug/m3	4.5	1.3	1.8		05/07/19 19:30	67-63-0	
Propylene	ND	ug/m3	0.63	0.26	1.8		05/07/19 19:30	115-07-1	
Styrene	ND	ug/m3	1.6	0.62	1.8		05/07/19 19:30	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.3	0.53	1.8		05/07/19 19:30	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Sample: 14A **Lab ID: 10473491001** Collected: 05/03/19 11:49 Received: 05/04/19 09:00 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	**3.7**	ug/m3	1.2	0.57	1.8		05/07/19 19:30	127-18-4	
Tetrahydrofuran	**13.0**	ug/m3	1.1	0.47	1.8		05/07/19 19:30	109-99-9	
Toluene	**18.8**	ug/m3	1.4	0.63	1.8		05/07/19 19:30	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	13.6	6.7	1.8		05/07/19 19:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.0	0.56	1.8		05/07/19 19:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	0.45	1.8		05/07/19 19:30	79-00-5	
Trichloroethene	ND	ug/m3	0.98	0.46	1.8		05/07/19 19:30	79-01-6	
Trichlorofluoromethane	ND	ug/m3	2.1	0.66	1.8		05/07/19 19:30	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.8	1.0	1.8		05/07/19 19:30	76-13-1	
1,2,4-Trimethylbenzene	**7.9**	ug/m3	1.8	0.81	1.8		05/07/19 19:30	95-63-6	
1,3,5-Trimethylbenzene	**3.5**	ug/m3	1.8	0.72	1.8		05/07/19 19:30	108-67-8	
Vinyl acetate	ND	ug/m3	3.2	0.49	1.8		05/07/19 19:30	108-05-4	
Vinyl chloride	ND	ug/m3	0.47	0.23	1.8		05/07/19 19:30	75-01-4	
m&p-Xylene	**13.4**	ug/m3	3.2	1.3	1.8		05/07/19 19:30	179601-23-1	
o-Xylene	**4.7**	ug/m3	1.6	0.62	1.8		05/07/19 19:30	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Sample: 13A **Lab ID: 10473491002** Collected: 05/03/19 12:00 Received: 05/04/19 09:00 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	ND	ug/m3	4.5	2.3	1.87		05/07/19 19:58	67-64-1	
Benzene	**18.0**	ug/m3	0.61	0.29	1.87		05/07/19 19:58	71-43-2	
Benzyl chloride	ND	ug/m3	4.9	2.2	1.87		05/07/19 19:58	100-44-7	
Bromodichloromethane	ND	ug/m3	2.5	0.68	1.87		05/07/19 19:58	75-27-4	
Bromoform	ND	ug/m3	9.8	2.7	1.87		05/07/19 19:58	75-25-2	
Bromomethane	ND	ug/m3	1.5	0.42	1.87		05/07/19 19:58	74-83-9	
1,3-Butadiene	ND	ug/m3	0.84	0.24	1.87		05/07/19 19:58	106-99-0	
2-Butanone (MEK)	**25.5**	ug/m3	5.6	0.69	1.87		05/07/19 19:58	78-93-3	
Carbon disulfide	ND	ug/m3	1.2	0.41	1.87		05/07/19 19:58	75-15-0	
Carbon tetrachloride	ND	ug/m3	2.4	0.80	1.87		05/07/19 19:58	56-23-5	
Chlorobenzene	ND	ug/m3	1.8	0.51	1.87		05/07/19 19:58	108-90-7	
Chloroethane	ND	ug/m3	1.0	0.49	1.87		05/07/19 19:58	75-00-3	
Chloroform	ND	ug/m3	0.93	0.37	1.87		05/07/19 19:58	67-66-3	
Chloromethane	ND	ug/m3	0.79	0.29	1.87		05/07/19 19:58	74-87-3	
Cyclohexane	**874**	ug/m3	98.2	19.8	56.1		05/08/19 22:18	110-82-7	
Dibromochloromethane	ND	ug/m3	3.2	1.3	1.87		05/07/19 19:58	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.5	0.68	1.87		05/07/19 19:58	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	2.3	0.93	1.87		05/07/19 19:58	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	2.3	1.1	1.87		05/07/19 19:58	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	5.7	1.9	1.87		05/07/19 19:58	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	1.9	0.55	1.87		05/07/19 19:58	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.42	1.87		05/07/19 19:58	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.77	0.28	1.87		05/07/19 19:58	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	0.51	1.87		05/07/19 19:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	0.41	1.87		05/07/19 19:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	0.53	1.87		05/07/19 19:58	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.8	0.43	1.87		05/07/19 19:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.7	0.57	1.87		05/07/19 19:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.7	0.82	1.87		05/07/19 19:58	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.7	0.82	1.87		05/07/19 19:58	76-14-2	
Ethanol	**102**	ug/m3	3.6	1.5	1.87		05/07/19 19:58	64-17-5	
Ethyl acetate	ND	ug/m3	1.4	0.36	1.87		05/07/19 19:58	141-78-6	
Ethylbenzene	**4.2**	ug/m3	1.7	0.57	1.87		05/07/19 19:58	100-41-4	
4-Ethyltoluene	ND	ug/m3	4.7	1.1	1.87		05/07/19 19:58	622-96-8	
n-Heptane	**31.7**	ug/m3	1.6	0.71	1.87		05/07/19 19:58	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	10.1	3.7	1.87		05/07/19 19:58	87-68-3	
n-Hexane	**1810**	ug/m3	40.2	17.4	56.1		05/08/19 22:18	110-54-3	
2-Hexanone	ND	ug/m3	7.8	1.4	1.87		05/07/19 19:58	591-78-6	
Methylene Chloride	**16.1**	ug/m3	6.6	1.8	1.87		05/07/19 19:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	7.8	0.97	1.87		05/07/19 19:58	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	6.8	1.2	1.87		05/07/19 19:58	1634-04-4	
Naphthalene	ND	ug/m3	5.0	2.5	1.87		05/07/19 19:58	91-20-3	
2-Propanol	**13.6**	ug/m3	4.7	1.3	1.87		05/07/19 19:58	67-63-0	
Propylene	ND	ug/m3	0.65	0.27	1.87		05/07/19 19:58	115-07-1	
Styrene	ND	ug/m3	1.6	0.64	1.87		05/07/19 19:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.3	0.55	1.87		05/07/19 19:58	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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ANALYTICAL RESULTS

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Sample: 13A **Lab ID: 10473491002** Collected: 05/03/19 12:00 Received: 05/04/19 09:00 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	ND	ug/m3	1.3	0.59	1.87		05/07/19 19:58	127-18-4	
Tetrahydrofuran	ND	ug/m3	1.1	0.49	1.87		05/07/19 19:58	109-99-9	
Toluene	**18.0**	ug/m3	1.4	0.66	1.87		05/07/19 19:58	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	14.1	7.0	1.87		05/07/19 19:58	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.1	0.58	1.87		05/07/19 19:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	0.47	1.87		05/07/19 19:58	79-00-5	
Trichloroethene	ND	ug/m3	1.0	0.48	1.87		05/07/19 19:58	79-01-6	
Trichlorofluoromethane	ND	ug/m3	2.1	0.68	1.87		05/07/19 19:58	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.9	1.1	1.87		05/07/19 19:58	76-13-1	
1,2,4-Trimethylbenzene	**5.6**	ug/m3	1.9	0.85	1.87		05/07/19 19:58	95-63-6	
1,3,5-Trimethylbenzene	**2.4**	ug/m3	1.9	0.75	1.87		05/07/19 19:58	108-67-8	
Vinyl acetate	ND	ug/m3	3.3	0.50	1.87		05/07/19 19:58	108-05-4	
Vinyl chloride	ND	ug/m3	0.49	0.24	1.87		05/07/19 19:58	75-01-4	
m&p-Xylene	**13.8**	ug/m3	3.3	1.3	1.87		05/07/19 19:58	179601-23-1	
o-Xylene	**4.3**	ug/m3	1.7	0.64	1.87		05/07/19 19:58	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Sample: 13D **Lab ID: 10473491003** Collected: 05/03/19 12:01 Received: 05/04/19 09:00 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	ND	ug/m3	3890	1950	1613		05/08/19 15:47	67-64-1	
Benzene	**1020**	ug/m3	524	247	1613		05/08/19 15:47	71-43-2	
Benzyl chloride	ND	ug/m3	4240	1940	1613		05/08/19 15:47	100-44-7	
Bromodichloromethane	ND	ug/m3	2190	590	1613		05/08/19 15:47	75-27-4	
Bromoform	ND	ug/m3	8470	2290	1613		05/08/19 15:47	75-25-2	
Bromomethane	ND	ug/m3	1270	366	1613		05/08/19 15:47	74-83-9	
1,3-Butadiene	ND	ug/m3	726	206	1613		05/08/19 15:47	106-99-0	
2-Butanone (MEK)	ND	ug/m3	4840	595	1613		05/08/19 15:47	78-93-3	
Carbon disulfide	ND	ug/m3	1020	353	1613		05/08/19 15:47	75-15-0	
Carbon tetrachloride	ND	ug/m3	2060	692	1613		05/08/19 15:47	56-23-5	
Chlorobenzene	ND	ug/m3	1510	444	1613		05/08/19 15:47	108-90-7	
Chloroethane	ND	ug/m3	864	419	1613		05/08/19 15:47	75-00-3	
Chloroform	ND	ug/m3	800	316	1613		05/08/19 15:47	67-66-3	
Chloromethane	ND	ug/m3	677	252	1613		05/08/19 15:47	74-87-3	
Cyclohexane	**727000**	ug/m3	22600	4550	12902		05/09/19 12:42	110-82-7	
Dibromochloromethane	ND	ug/m3	2790	1160	1613		05/08/19 15:47	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1260	590	1613		05/08/19 15:47	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1970	803	1613		05/08/19 15:47	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	1970	937	1613		05/08/19 15:47	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	4940	1610	1613		05/08/19 15:47	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	1630	473	1613		05/08/19 15:47	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1330	363	1613		05/08/19 15:47	75-34-3	
1,2-Dichloroethane	ND	ug/m3	663	242	1613		05/08/19 15:47	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1300	442	1613		05/08/19 15:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1300	353	1613		05/08/19 15:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1300	460	1613		05/08/19 15:47	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1510	371	1613		05/08/19 15:47	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1490	490	1613		05/08/19 15:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1490	710	1613		05/08/19 15:47	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2290	705	1613		05/08/19 15:47	76-14-2	
Ethanol	ND	ug/m3	3100	1310	1613		05/08/19 15:47	64-17-5	
Ethyl acetate	ND	ug/m3	1180	306	1613		05/08/19 15:47	141-78-6	
Ethylbenzene	ND	ug/m3	1420	492	1613		05/08/19 15:47	100-41-4	
4-Ethyltoluene	ND	ug/m3	4030	919	1613		05/08/19 15:47	622-96-8	
n-Heptane	**17700**	ug/m3	1340	613	1613		05/08/19 15:47	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	8740	3180	1613		05/08/19 15:47	87-68-3	
n-Hexane	**1440000**	ug/m3	9240	4010	12902		05/09/19 12:42	110-54-3	E
2-Hexanone	ND	ug/m3	6710	1200	1613		05/08/19 15:47	591-78-6	
Methylene Chloride	ND	ug/m3	5690	1520	1613		05/08/19 15:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	6710	835	1613		05/08/19 15:47	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	5900	1070	1613		05/08/19 15:47	1634-04-4	
Naphthalene	ND	ug/m3	4290	2130	1613		05/08/19 15:47	91-20-3	
2-Propanol	ND	ug/m3	4030	1120	1613		05/08/19 15:47	67-63-0	
Propylene	ND	ug/m3	564	231	1613		05/08/19 15:47	115-07-1	
Styrene	ND	ug/m3	1400	555	1613		05/08/19 15:47	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1130	471	1613		05/08/19 15:47	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Sample: 13D **Lab ID: 10473491003** Collected: 05/03/19 12:01 Received: 05/04/19 09:00 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	ND	ug/m3	1110	506	1613		05/08/19 15:47	127-18-4	
Tetrahydrofuran	ND	ug/m3	968	421	1613		05/08/19 15:47	109-99-9	
Toluene	ND	ug/m3	1240	566	1613		05/08/19 15:47	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	12200	6000	1613		05/08/19 15:47	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1790	498	1613		05/08/19 15:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	895	403	1613		05/08/19 15:47	79-00-5	
Trichloroethene	ND	ug/m3	1760	414	1613		05/08/19 15:47	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1840	590	1613		05/08/19 15:47	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2520	910	1613		05/08/19 15:47	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	1610	729	1613		05/08/19 15:47	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1610	644	1613		05/08/19 15:47	108-67-8	
Vinyl acetate	ND	ug/m3	1150	435	1613		05/08/19 15:47	108-05-4	
Vinyl chloride	ND	ug/m3	419	203	1613		05/08/19 15:47	75-01-4	
m&p-Xylene	ND	ug/m3	2850	1130	1613		05/08/19 15:47	179601-23-1	
o-Xylene	ND	ug/m3	1420	555	1613		05/08/19 15:47	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Sample: 16C **Lab ID: 10473491004** Collected: 05/03/19 12:07 Received: 05/04/19 09:00 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	ND	ug/m3	226	114	93.96		05/08/19 16:12	67-64-1	
Benzene	**2070000**	ug/m3	7820	3680	24054		05/09/19 13:06	71-43-2	
Benzyl chloride	ND	ug/m3	247	113	93.96		05/08/19 16:12	100-44-7	
Bromodichloromethane	ND	ug/m3	128	34.4	93.96		05/08/19 16:12	75-27-4	
Bromoform	ND	ug/m3	493	133	93.96		05/08/19 16:12	75-25-2	
Bromomethane	ND	ug/m3	74.1	21.3	93.96		05/08/19 16:12	74-83-9	
1,3-Butadiene	ND	ug/m3	42.3	12.0	93.96		05/08/19 16:12	106-99-0	
2-Butanone (MEK)	ND	ug/m3	282	34.7	93.96		05/08/19 16:12	78-93-3	
Carbon disulfide	ND	ug/m3	59.5	20.6	93.96		05/08/19 16:12	75-15-0	
Carbon tetrachloride	ND	ug/m3	120	40.3	93.96		05/08/19 16:12	56-23-5	
Chlorobenzene	ND	ug/m3	87.9	25.8	93.96		05/08/19 16:12	108-90-7	
Chloroethane	ND	ug/m3	50.4	24.4	93.96		05/08/19 16:12	75-00-3	
Chloroform	ND	ug/m3	46.6	18.4	93.96		05/08/19 16:12	67-66-3	
Chloromethane	ND	ug/m3	39.5	14.7	93.96		05/08/19 16:12	74-87-3	
Cyclohexane	**11400000**	ug/m3	42100	8490	24054		05/09/19 13:06	110-82-7	E
Dibromochloromethane	ND	ug/m3	163	67.6	93.96		05/08/19 16:12	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	73.4	34.4	93.96		05/08/19 16:12	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	115	46.8	93.96		05/08/19 16:12	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	115	54.6	93.96		05/08/19 16:12	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	288	94.0	93.96		05/08/19 16:12	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	94.9	27.5	93.96		05/08/19 16:12	75-71-8	
1,1-Dichloroethane	ND	ug/m3	77.3	21.1	93.96		05/08/19 16:12	75-34-3	
1,2-Dichloroethane	ND	ug/m3	38.6	14.1	93.96		05/08/19 16:12	107-06-2	
1,1-Dichloroethene	ND	ug/m3	75.7	25.7	93.96		05/08/19 16:12	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	75.7	20.6	93.96		05/08/19 16:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	75.7	26.8	93.96		05/08/19 16:12	156-60-5	
1,2-Dichloropropane	ND	ug/m3	88.2	21.6	93.96		05/08/19 16:12	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	86.7	28.6	93.96		05/08/19 16:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	86.7	41.3	93.96		05/08/19 16:12	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	133	41.1	93.96		05/08/19 16:12	76-14-2	
Ethanol	ND	ug/m3	180	76.3	93.96		05/08/19 16:12	64-17-5	
Ethyl acetate	ND	ug/m3	68.9	17.9	93.96		05/08/19 16:12	141-78-6	
Ethylbenzene	**2650**	ug/m3	83.0	28.7	93.96		05/08/19 16:12	100-41-4	
4-Ethyltoluene	ND	ug/m3	235	53.6	93.96		05/08/19 16:12	622-96-8	
n-Heptane	**3100000**	ug/m3	20000	9140	24054		05/09/19 13:06	142-82-5	E
Hexachloro-1,3-butadiene	ND	ug/m3	509	185	93.96		05/08/19 16:12	87-68-3	
n-Hexane	**30000000**	ug/m3	17200	7480	24054		05/09/19 13:06	110-54-3	E
2-Hexanone	ND	ug/m3	391	70.0	93.96		05/08/19 16:12	591-78-6	
Methylene Chloride	ND	ug/m3	332	88.7	93.96		05/08/19 16:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	391	48.7	93.96		05/08/19 16:12	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	344	62.3	93.96		05/08/19 16:12	1634-04-4	
Naphthalene	ND	ug/m3	250	124	93.96		05/08/19 16:12	91-20-3	
2-Propanol	ND	ug/m3	235	65.5	93.96		05/08/19 16:12	67-63-0	
Propylene	ND	ug/m3	32.9	13.4	93.96		05/08/19 16:12	115-07-1	
Styrene	ND	ug/m3	81.4	32.3	93.96		05/08/19 16:12	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	65.6	27.4	93.96		05/08/19 16:12	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Sample: 16C **Lab ID: 10473491004** Collected: 05/03/19 12:07 Received: 05/04/19 09:00 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	ND	ug/m3	64.7	29.5	93.96		05/08/19 16:12	127-18-4	
Tetrahydrofuran	ND	ug/m3	56.4	24.5	93.96		05/08/19 16:12	109-99-9	
Toluene	**429000**	ug/m3	18400	8440	24054		05/09/19 13:06	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	708	350	93.96		05/08/19 16:12	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	104	29.0	93.96		05/08/19 16:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	52.1	23.5	93.96		05/08/19 16:12	79-00-5	
Trichloroethene	ND	ug/m3	103	24.1	93.96		05/08/19 16:12	79-01-6	
Trichlorofluoromethane	ND	ug/m3	107	34.4	93.96		05/08/19 16:12	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	147	53.0	93.96		05/08/19 16:12	76-13-1	
1,2,4-Trimethylbenzene	**317**	ug/m3	93.9	42.5	93.96		05/08/19 16:12	95-63-6	
1,3,5-Trimethylbenzene	**206**	ug/m3	93.9	37.5	93.96		05/08/19 16:12	108-67-8	
Vinyl acetate	ND	ug/m3	67.3	25.4	93.96		05/08/19 16:12	108-05-4	
Vinyl chloride	ND	ug/m3	24.4	11.8	93.96		05/08/19 16:12	75-01-4	
m&p-Xylene	**9790**	ug/m3	166	65.7	93.96		05/08/19 16:12	179601-23-1	
o-Xylene	**2240**	ug/m3	83.0	32.3	93.96		05/08/19 16:12	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

QC Batch: 604244 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10473491001, 10473491002

METHOD BLANK: 3266783 Matrix: Air
Associated Lab Samples: 10473491001, 10473491002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	0.31	05/07/19 11:07	
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.70	0.29	05/07/19 11:07	
1,1,2-Trichloroethane	ug/m3	ND	0.56	0.25	05/07/19 11:07	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	1.6	0.56	05/07/19 11:07	
1,1-Dichloroethane	ug/m3	ND	0.82	0.22	05/07/19 11:07	
1,1-Dichloroethene	ug/m3	ND	0.81	0.27	05/07/19 11:07	
1,2,4-Trichlorobenzene	ug/m3	ND	7.5	3.7	05/07/19 11:07	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	0.45	05/07/19 11:07	
1,2-Dibromoethane (EDB)	ug/m3	ND	0.78	0.37	05/07/19 11:07	
1,2-Dichlorobenzene	ug/m3	ND	1.2	0.50	05/07/19 11:07	
1,2-Dichloroethane	ug/m3	ND	0.41	0.15	05/07/19 11:07	
1,2-Dichloropropane	ug/m3	ND	0.94	0.23	05/07/19 11:07	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	0.40	05/07/19 11:07	
1,3-Butadiene	ug/m3	ND	0.45	0.13	05/07/19 11:07	
1,3-Dichlorobenzene	ug/m3	ND	1.2	0.58	05/07/19 11:07	
1,4-Dichlorobenzene	ug/m3	ND	3.1	1.0	05/07/19 11:07	
2-Butanone (MEK)	ug/m3	ND	3.0	0.37	05/07/19 11:07	
2-Hexanone	ug/m3	ND	4.2	0.74	05/07/19 11:07	
2-Propanol	ug/m3	ND	2.5	0.70	05/07/19 11:07	
4-Ethyltoluene	ug/m3	ND	2.5	0.57	05/07/19 11:07	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	4.2	0.52	05/07/19 11:07	
Acetone	ug/m3	ND	2.4	1.2	05/07/19 11:07	
Benzene	ug/m3	ND	0.32	0.15	05/07/19 11:07	
Benzyl chloride	ug/m3	ND	2.6	1.2	05/07/19 11:07	
Bromodichloromethane	ug/m3	ND	1.4	0.37	05/07/19 11:07	
Bromoform	ug/m3	ND	5.2	1.4	05/07/19 11:07	
Bromomethane	ug/m3	ND	0.79	0.23	05/07/19 11:07	
Carbon disulfide	ug/m3	ND	0.63	0.22	05/07/19 11:07	
Carbon tetrachloride	ug/m3	ND	1.3	0.43	05/07/19 11:07	
Chlorobenzene	ug/m3	ND	0.94	0.28	05/07/19 11:07	
Chloroethane	ug/m3	ND	0.54	0.26	05/07/19 11:07	
Chloroform	ug/m3	ND	0.50	0.20	05/07/19 11:07	
Chloromethane	ug/m3	ND	0.42	0.16	05/07/19 11:07	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	0.22	05/07/19 11:07	
cis-1,3-Dichloropropene	ug/m3	ND	0.92	0.30	05/07/19 11:07	
Cyclohexane	ug/m3	ND	1.8	0.35	05/07/19 11:07	
Dibromochloromethane	ug/m3	ND	1.7	0.72	05/07/19 11:07	
Dichlorodifluoromethane	ug/m3	ND	1.0	0.29	05/07/19 11:07	
Dichlorotetrafluoroethane	ug/m3	ND	1.4	0.44	05/07/19 11:07	
Ethanol	ug/m3	ND	1.9	0.81	05/07/19 11:07	
Ethyl acetate	ug/m3	ND	0.73	0.19	05/07/19 11:07	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

METHOD BLANK: 3266783 Matrix: Air
Associated Lab Samples: 10473491001, 10473491002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethylbenzene	ug/m3	ND	0.88	0.30	05/07/19 11:07	
Hexachloro-1,3-butadiene	ug/m3	ND	5.4	2.0	05/07/19 11:07	
m&p-Xylene	ug/m3	ND	1.8	0.70	05/07/19 11:07	
Methyl-tert-butyl ether	ug/m3	ND	3.7	0.66	05/07/19 11:07	
Methylene Chloride	ug/m3	ND	3.5	0.94	05/07/19 11:07	
n-Heptane	ug/m3	ND	0.83	0.38	05/07/19 11:07	
n-Hexane	ug/m3	ND	0.72	0.31	05/07/19 11:07	
Naphthalene	ug/m3	ND	2.7	1.3	05/07/19 11:07	
o-Xylene	ug/m3	ND	0.88	0.34	05/07/19 11:07	
Propylene	ug/m3	ND	0.35	0.14	05/07/19 11:07	
Styrene	ug/m3	ND	0.87	0.34	05/07/19 11:07	
Tetrachloroethene	ug/m3	ND	0.69	0.31	05/07/19 11:07	
Tetrahydrofuran	ug/m3	ND	0.60	0.26	05/07/19 11:07	
Toluene	ug/m3	ND	0.77	0.35	05/07/19 11:07	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	0.28	05/07/19 11:07	
trans-1,3-Dichloropropene	ug/m3	ND	0.92	0.44	05/07/19 11:07	
Trichloroethene	ug/m3	ND	0.55	0.26	05/07/19 11:07	
Trichlorofluoromethane	ug/m3	ND	1.1	0.37	05/07/19 11:07	
Vinyl acetate	ug/m3	ND	1.8	0.27	05/07/19 11:07	MN
Vinyl chloride	ug/m3	ND	0.26	0.13	05/07/19 11:07	

LABORATORY CONTROL SAMPLE: 3266784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	51.4	93	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	66.6	95	70-132	
1,1,2-Trichloroethane	ug/m3	55.5	53.4	96	70-130	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	72.1	93	70-130	
1,1-Dichloroethane	ug/m3	41.1	39.1	95	70-130	
1,1-Dichloroethene	ug/m3	40.3	38.7	96	70-130	
1,2,4-Trichlorobenzene	ug/m3	75.4	61.4	81	56-130	
1,2,4-Trimethylbenzene	ug/m3	50	47.2	95	70-134	
1,2-Dibromoethane (EDB)	ug/m3	78.1	70.5	90	70-130	
1,2-Dichlorobenzene	ug/m3	61.1	55.7	91	70-132	
1,2-Dichloroethane	ug/m3	41.1	31.6	77	70-130	
1,2-Dichloropropane	ug/m3	47	46.6	99	70-130	
1,3,5-Trimethylbenzene	ug/m3	50	47.7	95	70-132	
1,3-Butadiene	ug/m3	22.5	21.3	95	65-130	
1,3-Dichlorobenzene	ug/m3	61.1	59.7	98	70-137	
1,4-Dichlorobenzene	ug/m3	61.1	53.5	88	70-134	
2-Butanone (MEK)	ug/m3	30	23.9	80	70-130	
2-Hexanone	ug/m3	41.6	39.5	95	70-135	
2-Propanol	ug/m3	125	114	91	68-130	
4-Ethyltoluene	ug/m3	50	48.2	96	70-138	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

LABORATORY CONTROL SAMPLE: 3266784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Methyl-2-pentanone (MIBK)	ug/m3	41.6	39.9	96	70-131	
Acetone	ug/m3	121	98.3	81	67-130	
Benzene	ug/m3	32.5	28.4	87	70-130	
Benzyl chloride	ug/m3	52.6	43.8	83	70-130	
Bromodichloromethane	ug/m3	68.1	64.6	95	70-130	
Bromoform	ug/m3	105	82.3	78	70-132	
Bromomethane	ug/m3	39.5	39.1	99	69-130	
Carbon disulfide	ug/m3	31.6	29.8	94	56-137	
Carbon tetrachloride	ug/m3	64	58.4	91	66-131	
Chlorobenzene	ug/m3	46.8	41.4	88	70-130	
Chloroethane	ug/m3	26.8	26.2	98	70-130	
Chloroform	ug/m3	49.6	46.4	94	70-130	
Chloromethane	ug/m3	21	19.9	95	66-130	
cis-1,2-Dichloroethene	ug/m3	40.3	38.7	96	70-130	
cis-1,3-Dichloropropene	ug/m3	46.1	43.5	94	70-133	
Cyclohexane	ug/m3	35	34.9	100	68-132	
Dibromochloromethane	ug/m3	86.6	81.7	94	70-130	
Dichlorodifluoromethane	ug/m3	50.3	46.2	92	70-130	
Dichlorotetrafluoroethane	ug/m3	71	64.7	91	70-130	
Ethanol	ug/m3	95.8	86.7	91	68-133	
Ethyl acetate	ug/m3	36.6	34.2	93	69-130	
Ethylbenzene	ug/m3	44.1	42.6	96	67-131	
Hexachloro-1,3-butadiene	ug/m3	108	102	94	66-137	
m&p-Xylene	ug/m3	88.3	82.7	94	70-132	
Methyl-tert-butyl ether	ug/m3	36.6	33.9	92	70-130	
Methylene Chloride	ug/m3	177	162	92	65-130	
n-Heptane	ug/m3	41.7	39.1	94	65-130	
n-Hexane	ug/m3	35.8	34.1	95	66-130	
Naphthalene	ug/m3	53.3	42.9	81	56-130	
o-Xylene	ug/m3	44.1	41.3	94	70-130	
Propylene	ug/m3	17.5	16.0	91	67-130	
Styrene	ug/m3	43.3	42.4	98	69-136	
Tetrachloroethene	ug/m3	68.9	64.7	94	70-130	
Tetrahydrofuran	ug/m3	30	27.8	93	68-131	
Toluene	ug/m3	38.3	36.2	94	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	38.7	96	70-130	
trans-1,3-Dichloropropene	ug/m3	46.1	44.5	96	70-134	
Trichloroethene	ug/m3	54.6	47.4	87	70-130	
Trichlorofluoromethane	ug/m3	57.1	50.4	88	65-130	
Vinyl acetate	ug/m3	35.8	28.1	78	61-133	
Vinyl chloride	ug/m3	26	26.5	102	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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(612)607-1700

QUALITY CONTROL DATA

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

SAMPLE DUPLICATE: 3267909

Parameter	Units	10473341004 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2,2-Tetrachloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	2.2	2.6	15	25	
1,2-Dibromoethane (EDB)	ug/m3	ND	ND		25	
1,2-Dichlorobenzene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,2-Dichloropropane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	2.2	2.2	1	25	
1,3-Butadiene	ug/m3	ND	ND		25	
1,3-Dichlorobenzene	ug/m3	9.6	9.0	6	25	
1,4-Dichlorobenzene	ug/m3	ND	ND		25	
2-Butanone (MEK)	ug/m3	11.0	11.6	5	25	
2-Hexanone	ug/m3	ND	ND		25	
2-Propanol	ug/m3	386	431	11	25	
4-Ethyltoluene	ug/m3	ND	ND		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	ND		25	
Acetone	ug/m3	38.9	45.2	15	25	
Benzene	ug/m3	ND	0.47		25	
Benzyl chloride	ug/m3	ND	ND		25	
Bromodichloromethane	ug/m3	ND	ND		25	
Bromoform	ug/m3	ND	ND		25	
Bromomethane	ug/m3	ND	ND		25	
Carbon disulfide	ug/m3	ND	ND		25	
Carbon tetrachloride	ug/m3	ND	ND		25	
Chlorobenzene	ug/m3	ND	ND		25	
Chloroethane	ug/m3	ND	ND		25	
Chloroform	ug/m3	ND	ND		25	
Chloromethane	ug/m3	1.3	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
cis-1,3-Dichloropropene	ug/m3	ND	ND		25	
Cyclohexane	ug/m3	ND	ND		25	
Dibromochloromethane	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	6.9	7.0	1	25	
Dichlorotetrafluoroethane	ug/m3	ND	ND		25	
Ethanol	ug/m3	466	530	13	25	E
Ethyl acetate	ug/m3	20.3	21.3	5	25	
Ethylbenzene	ug/m3	ND	ND		25	
Hexachloro-1,3-butadiene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	3.8	4.0	5	25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	2.9J		25	
n-Heptane	ug/m3	1.8	1.9	7	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

SAMPLE DUPLICATE: 3267909

Parameter	Units	10473341004 Result	Dup Result	RPD	Max RPD	Qualifiers
n-Hexane	ug/m3	ND	.96J		25	
Naphthalene	ug/m3	ND	ND		25	
o-Xylene	ug/m3	2.0	1.9	7	25	
Propylene	ug/m3	ND	ND		25	
Styrene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Tetrahydrofuran	ug/m3	ND	1.9		25	
Toluene	ug/m3	3.3	3.3	2	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
trans-1,3-Dichloropropene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Trichlorofluoromethane	ug/m3	1.8	ND		25	
Vinyl acetate	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

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QUALITY CONTROL DATA

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

QC Batch: 604497 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10473491003, 10473491004

METHOD BLANK: 3267991 Matrix: Air
Associated Lab Samples: 10473491003, 10473491004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	0.31	05/08/19 10:13	
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.70	0.29	05/08/19 10:13	
1,1,2-Trichloroethane	ug/m3	ND	0.56	0.25	05/08/19 10:13	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	1.6	0.56	05/08/19 10:13	
1,1-Dichloroethane	ug/m3	ND	0.82	0.22	05/08/19 10:13	
1,1-Dichloroethene	ug/m3	ND	0.81	0.27	05/08/19 10:13	
1,2,4-Trichlorobenzene	ug/m3	ND	7.5	3.7	05/08/19 10:13	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	0.45	05/08/19 10:13	
1,2-Dibromoethane (EDB)	ug/m3	ND	0.78	0.37	05/08/19 10:13	
1,2-Dichlorobenzene	ug/m3	ND	1.2	0.50	05/08/19 10:13	
1,2-Dichloroethane	ug/m3	ND	0.41	0.15	05/08/19 10:13	
1,2-Dichloropropane	ug/m3	ND	0.94	0.23	05/08/19 10:13	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	0.40	05/08/19 10:13	
1,3-Butadiene	ug/m3	ND	0.45	0.13	05/08/19 10:13	
1,3-Dichlorobenzene	ug/m3	ND	1.2	0.58	05/08/19 10:13	
1,4-Dichlorobenzene	ug/m3	ND	3.1	1.0	05/08/19 10:13	
2-Butanone (MEK)	ug/m3	ND	3.0	0.37	05/08/19 10:13	
2-Hexanone	ug/m3	ND	4.2	0.74	05/08/19 10:13	
2-Propanol	ug/m3	ND	2.5	0.70	05/08/19 10:13	
4-Ethyltoluene	ug/m3	ND	2.5	0.57	05/08/19 10:13	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	4.2	0.52	05/08/19 10:13	
Acetone	ug/m3	ND	2.4	1.2	05/08/19 10:13	
Benzene	ug/m3	ND	0.32	0.15	05/08/19 10:13	
Benzyl chloride	ug/m3	ND	2.6	1.2	05/08/19 10:13	
Bromodichloromethane	ug/m3	ND	1.4	0.37	05/08/19 10:13	
Bromoform	ug/m3	ND	5.2	1.4	05/08/19 10:13	
Bromomethane	ug/m3	ND	0.79	0.23	05/08/19 10:13	
Carbon disulfide	ug/m3	ND	0.63	0.22	05/08/19 10:13	
Carbon tetrachloride	ug/m3	ND	1.3	0.43	05/08/19 10:13	
Chlorobenzene	ug/m3	ND	0.94	0.28	05/08/19 10:13	
Chloroethane	ug/m3	ND	0.54	0.26	05/08/19 10:13	
Chloroform	ug/m3	ND	0.50	0.20	05/08/19 10:13	
Chloromethane	ug/m3	ND	0.42	0.16	05/08/19 10:13	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	0.22	05/08/19 10:13	
cis-1,3-Dichloropropene	ug/m3	ND	0.92	0.30	05/08/19 10:13	
Cyclohexane	ug/m3	ND	1.8	0.35	05/08/19 10:13	
Dibromochloromethane	ug/m3	ND	1.7	0.72	05/08/19 10:13	
Dichlorodifluoromethane	ug/m3	ND	1.0	0.29	05/08/19 10:13	
Dichlorotetrafluoroethane	ug/m3	ND	1.4	0.44	05/08/19 10:13	
Ethanol	ug/m3	ND	1.9	0.81	05/08/19 10:13	
Ethyl acetate	ug/m3	ND	0.73	0.19	05/08/19 10:13	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

METHOD BLANK: 3267991 Matrix: Air
Associated Lab Samples: 10473491003, 10473491004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethylbenzene	ug/m3	ND	0.88	0.30	05/08/19 10:13	
Hexachloro-1,3-butadiene	ug/m3	ND	5.4	2.0	05/08/19 10:13	
m&p-Xylene	ug/m3	ND	1.8	0.70	05/08/19 10:13	
Methyl-tert-butyl ether	ug/m3	ND	3.7	0.66	05/08/19 10:13	
Methylene Chloride	ug/m3	ND	3.5	0.94	05/08/19 10:13	
n-Heptane	ug/m3	ND	0.83	0.38	05/08/19 10:13	
n-Hexane	ug/m3	ND	0.72	0.31	05/08/19 10:13	
Naphthalene	ug/m3	ND	2.7	1.3	05/08/19 10:13	
o-Xylene	ug/m3	ND	0.88	0.34	05/08/19 10:13	
Propylene	ug/m3	ND	0.35	0.14	05/08/19 10:13	
Styrene	ug/m3	ND	0.87	0.34	05/08/19 10:13	
Tetrachloroethene	ug/m3	ND	0.69	0.31	05/08/19 10:13	
Tetrahydrofuran	ug/m3	ND	0.60	0.26	05/08/19 10:13	
Toluene	ug/m3	ND	0.77	0.35	05/08/19 10:13	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	0.28	05/08/19 10:13	
trans-1,3-Dichloropropene	ug/m3	ND	0.92	0.44	05/08/19 10:13	
Trichloroethene	ug/m3	ND	1.1	0.26	05/08/19 10:13	MN
Trichlorofluoromethane	ug/m3	ND	1.1	0.37	05/08/19 10:13	
Vinyl acetate	ug/m3	ND	0.72	0.27	05/08/19 10:13	
Vinyl chloride	ug/m3	ND	0.26	0.13	05/08/19 10:13	

LABORATORY CONTROL SAMPLE: 3267992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	52.0	94	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	68.8	99	70-132	
1,1,2-Trichloroethane	ug/m3	55.5	53.3	96	70-130	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	73.1	94	70-130	
1,1-Dichloroethane	ug/m3	41.1	37.7	92	70-130	
1,1-Dichloroethene	ug/m3	40.3	37.9	94	70-130	
1,2,4-Trichlorobenzene	ug/m3	75.4	78.5	104	56-130	
1,2,4-Trimethylbenzene	ug/m3	50	50.5	101	70-134	
1,2-Dibromoethane (EDB)	ug/m3	78.1	75.3	96	70-130	
1,2-Dichlorobenzene	ug/m3	61.1	66.2	108	70-132	
1,2-Dichloroethane	ug/m3	41.1	38.8	94	70-130	
1,2-Dichloropropane	ug/m3	47	44.7	95	70-130	
1,3,5-Trimethylbenzene	ug/m3	50	49.2	98	70-132	
1,3-Butadiene	ug/m3	22.5	22.0	98	65-130	
1,3-Dichlorobenzene	ug/m3	61.1	66.1	108	70-137	
1,4-Dichlorobenzene	ug/m3	61.1	62.2	102	70-134	
2-Butanone (MEK)	ug/m3	30	29.9	100	70-130	
2-Hexanone	ug/m3	41.6	41.4	100	70-135	
2-Propanol	ug/m3	125	117	93	68-130	
4-Ethyltoluene	ug/m3	50	51.6	103	70-138	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

LABORATORY CONTROL SAMPLE: 3267992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Methyl-2-pentanone (MIBK)	ug/m3	41.6	39.9	96	70-131	
Acetone	ug/m3	121	108	89	67-130	
Benzene	ug/m3	32.5	30.0	92	70-130	
Benzyl chloride	ug/m3	52.6	53.5	102	70-130	
Bromodichloromethane	ug/m3	68.1	66.2	97	70-130	
Bromoform	ug/m3	105	101	96	70-132	
Bromomethane	ug/m3	39.5	37.5	95	69-130	
Carbon disulfide	ug/m3	31.6	29.0	91	56-137	
Carbon tetrachloride	ug/m3	64	65.4	102	66-131	
Chlorobenzene	ug/m3	46.8	44.4	95	70-130	
Chloroethane	ug/m3	26.8	25.2	94	70-130	
Chloroform	ug/m3	49.6	46.7	94	70-130	
Chloromethane	ug/m3	21	19.7	94	66-130	
cis-1,2-Dichloroethene	ug/m3	40.3	37.4	93	70-130	
cis-1,3-Dichloropropene	ug/m3	46.1	43.7	95	70-133	
Cyclohexane	ug/m3	35	33.5	96	68-132	
Dibromochloromethane	ug/m3	86.6	83.6	97	70-130	
Dichlorodifluoromethane	ug/m3	50.3	48.0	96	70-130	
Dichlorotetrafluoroethane	ug/m3	71	65.7	92	70-130	
Ethanol	ug/m3	95.8	91.7	96	68-133	
Ethyl acetate	ug/m3	36.6	34.8	95	69-130	
Ethylbenzene	ug/m3	44.1	42.3	96	67-131	
Hexachloro-1,3-butadiene	ug/m3	108	111	102	66-137	
m&p-Xylene	ug/m3	88.3	84.3	96	70-132	
Methyl-tert-butyl ether	ug/m3	36.6	33.8	92	70-130	
Methylene Chloride	ug/m3	177	157	89	65-130	
n-Heptane	ug/m3	41.7	37.1	89	65-130	
n-Hexane	ug/m3	35.8	32.2	90	66-130	
Naphthalene	ug/m3	53.3	53.6	101	56-130	
o-Xylene	ug/m3	44.1	42.1	95	70-130	
Propylene	ug/m3	17.5	16.1	92	67-130	
Styrene	ug/m3	43.3	43.3	100	69-136	
Tetrachloroethene	ug/m3	68.9	63.0	91	70-130	
Tetrahydrofuran	ug/m3	30	28.8	96	68-131	
Toluene	ug/m3	38.3	35.4	93	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	37.9	94	70-130	
trans-1,3-Dichloropropene	ug/m3	46.1	45.4	98	70-134	
Trichloroethene	ug/m3	54.6	50.6	93	70-130	
Trichlorofluoromethane	ug/m3	57.1	53.7	94	65-130	
Vinyl acetate	ug/m3	35.8	35.2	98	61-133	
Vinyl chloride	ug/m3	26	24.1	93	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

SAMPLE DUPLICATE: 3269353

Parameter	Units	10473320008 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2,2-Tetrachloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,2-Dibromoethane (EDB)	ug/m3	ND	ND		25	
1,2-Dichlorobenzene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,2-Dichloropropane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
1,3-Butadiene	ug/m3	ND	ND		25	
1,3-Dichlorobenzene	ug/m3	ND	2.6		25	
1,4-Dichlorobenzene	ug/m3	ND	ND		25	
2-Butanone (MEK)	ug/m3	8.3	8.4	1	25	
2-Hexanone	ug/m3	ND	ND		25	
2-Propanol	ug/m3	5.9	6.1	2	25	
4-Ethyltoluene	ug/m3	ND	ND		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	3.3J		25	
Acetone	ug/m3	37.9	38.8	2	25	
Benzene	ug/m3	ND	ND		25	
Benzyl chloride	ug/m3	ND	ND		25	
Bromodichloromethane	ug/m3	ND	ND		25	
Bromoform	ug/m3	ND	ND		25	
Bromomethane	ug/m3	ND	ND		25	
Carbon disulfide	ug/m3	1.4	1.4	4	25	
Carbon tetrachloride	ug/m3	ND	ND		25	
Chlorobenzene	ug/m3	ND	ND		25	
Chloroethane	ug/m3	ND	ND		25	
Chloroform	ug/m3	ND	ND		25	
Chloromethane	ug/m3	ND	.47J		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
cis-1,3-Dichloropropene	ug/m3	ND	ND		25	
Cyclohexane	ug/m3	ND	ND		25	
Dibromochloromethane	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	ND	1.8J		25	
Dichlorotetrafluoroethane	ug/m3	ND	ND		25	
Ethanol	ug/m3	89.4	89.1	0	25	
Ethyl acetate	ug/m3	ND	ND		25	
Ethylbenzene	ug/m3	ND	ND		25	
Hexachloro-1,3-butadiene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	1.6J		25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	9.6	9.6	0	25	
n-Heptane	ug/m3	ND	1.7		25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

SAMPLE DUPLICATE: 3269353

Parameter	Units	10473320008 Result	Dup Result	RPD	Max RPD	Qualifiers
n-Hexane	ug/m3	2.4	2.4	1	25	
Naphthalene	ug/m3	ND	ND		25	
o-Xylene	ug/m3	ND	ND		25	
Propylene	ug/m3	2.9	ND		25	
Styrene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	14.8	15.8	6	25	
Tetrahydrofuran	ug/m3	ND	ND		25	
Toluene	ug/m3	1.8	1.7	6	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
trans-1,3-Dichloropropene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Trichlorofluoromethane	ug/m3	ND	ND		25	
Vinyl acetate	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

SAMPLE DUPLICATE: 3269874

Parameter	Units	10473114009 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2,2-Tetrachloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,2-Dibromoethane (EDB)	ug/m3	ND	ND		25	
1,2-Dichlorobenzene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,2-Dichloropropane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
1,3-Butadiene	ug/m3	ND	ND		25	
1,3-Dichlorobenzene	ug/m3	ND	ND		25	
1,4-Dichlorobenzene	ug/m3	ND	ND		25	
2-Butanone (MEK)	ug/m3	ND	ND		25	
2-Hexanone	ug/m3	ND	ND		25	
2-Propanol	ug/m3	ND	ND		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	ND		25	
Acetone	ug/m3	ND	ND		25	
Benzene	ug/m3	ND	ND		25	
Benzyl chloride	ug/m3	ND	ND		25	
Bromodichloromethane	ug/m3	ND	ND		25	
Bromoform	ug/m3	ND	ND		25	
Bromomethane	ug/m3	ND	ND		25	

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REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

SAMPLE DUPLICATE: 3269874

Parameter	Units	10473114009 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon disulfide	ug/m3	ND	ND		25	
Carbon tetrachloride	ug/m3	ND	ND		25	
Chlorobenzene	ug/m3	ND	ND		25	
Chloroethane	ug/m3	ND	ND		25	
Chloroform	ug/m3	ND	ND		25	
Chloromethane	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
cis-1,3-Dichloropropene	ug/m3	ND	ND		25	
Cyclohexane	ug/m3	ND	ND		25	
Dibromochloromethane	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	ND	ND		25	
Dichlorotetrafluoroethane	ug/m3	ND	ND		25	
Ethanol	ug/m3	ND	ND		25	
Ethyl acetate	ug/m3	ND	ND		25	
Ethylbenzene	ug/m3	ND	ND		25	
Hexachloro-1,3-butadiene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	ND		25	
n-Heptane	ug/m3	ND	ND		25	
n-Hexane	ug/m3	ND	ND		25	
Naphthalene	ug/m3	ND	ND		25	
o-Xylene	ug/m3	ND	ND		25	
Propylene	ug/m3	ND	ND		25	
Styrene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	4030	3690	9	25	
Tetrahydrofuran	ug/m3	ND	ND		25	
Toluene	ug/m3	ND	ND		25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
trans-1,3-Dichloropropene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	154	142	8	25	
Trichlorofluoromethane	ug/m3	ND	ND		25	
Vinyl acetate	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

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 adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

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.

SAMPLE QUALIFIERS

Sample: 10473491001
[1] The Total Hydrocarbon (THC) pattern is evenly distributed throughout the chromatogram (before and after toluene).

Sample: 10473491002
[1] The Total Hydrocarbon (THC) pattern occured in the first half of the chromatogram (before toluene).

Sample: 10473491003
[1] The Total Hydrocarbon (THC) pattern occured in the first half of the chromatogram (before toluene).

Sample: 10473491004
[1] The Total Hydrocarbon (THC) pattern occured in the first half of the chromatogram (before toluene).

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60596530.3 Enbridge Ft Atkinso
Pace Project No.: 10473491

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10473491001	**14A**	TO-15	604244		
10473491002	**13A**	TO-15	604244		
10473491003	**13D**	TO-15	604497		
10473491004	**16C**	TO-15	604497		

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-C

The Chain-of-Custody is a LEGAL DOC

WO# : 10473491

10473491

35825

Page: 1 of 1

Section A Required Client Information:

Company: AECOM
Address: 1555 N Rivercenter Dr, Milwaukee, WI, 53212 Suite 214
Email To: darin.albrecht@aecom.com
Phone: 218 625 8768 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To:
Copy To: SAM
Purchase Order No.:
Project Name: Enbridge Ft Atkinson
Project Number: 605 96530.3

Section C Invoice Information:

Attention: USAPIMAGING@AECOM.com
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 35332

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: WI

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	14A	1LC	0.4	05.03	1142	05.03	1149	28	3	2457						X					001
2	13A	1LC	4.0	05.03	1152	05.03	1200	28	3	2851						X					002
3	13D	1LC	130.2	05.03	1155	05.03	1201	28	0	3291						X					003
4	16C	1LC	98.0	05.03	1202	05.03	1207	28	3	3826						X					004
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

TAS 5/3/19

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Keith Nielsen	05.03.19	1500		5/4/19	9:40

SAMPLE CONDITIONS

MB	Y/N	Y/N	Y/N	Temp in °C
	Y/N	Y/N	Y/N	Received on Ice
	Y/N	Y/N	Y/N	Custody Sealed Cooler
	Y/N	Y/N	Y/N	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Keith Nielsen / Tory Scholtz (TAS)

SIGNATURE of SAMPLER:

DATE Signed (MM / DD / YY): 05.03.2019

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 31Jan2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.18	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt **Client Name:** Aecom **Project #:** WO#: 10473491

PM: TS1 Due Date: 05/13/19

CLIENT: AECOM

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exception** ☐

Tracking Number: 7810 3933 9638

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Tin Can ☐ Other: _____ **Temp Blank rec:** ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): _____ **Corrected Temp (°C):** _____ **Thermometer Used:** ☐ G87A9170600254 ☐ G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** — **Date & Initials of Person Examining Contents:** 5/4/19

Type of Ice Received ☐ Blue ☐ Wet ☑ None

		Comments:
Chain of Custody Present?	☑ Yes ☐ No	1.
Chain of Custody Filled Out?	☑ Yes ☐ No	2.
Chain of Custody Relinquished?	☑ Yes ☐ No	3.
Sampler Name and/or Signature on COC?	☑ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☑ No	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No	7.
Sufficient Volume?	☑ Yes ☐ No	8.
Correct Containers Used?	☑ Yes ☐ No	9.
-Pace Containers Used?	☑ Yes ☐ No	
Containers Intact?	☑ Yes ☐ No	10.
Media: Air Can Airbag Filter TDT Passive		11. Individually Certified Cans Y ☒ (list which samples)
Is sufficient information available to reconcile samples to the COC?	☑ Yes ☐ No	12.
Do cans need to be pressurized (3C and ASTM 1946 DO NOT PRESSURIZE)?	☑ Yes ☐ No	13.

Samples Received: Pressure Gauge # ☐ 10AIR34 ☑ 10AIR35

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
14A	2457	1182	-2	+10					
13A	2851	1565	-3	+10					
13B	3291	0628	0	+10					
16C	3826	0684	-2	+10					

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Darin Albrecht Date/Time: 5/7/19

Comments/Resolution: Client requested rush

Project Manager Review: Jina Soltani **Date:** 5/7/19

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Data File: \\192.168.10.12\chem\10air0.i\050719.b\12726.D
Report Date: 08-May-2019 11:29

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10air0.i\050719.b\12726.D
Lab Smp Id: 10473491001
Inj Date : 07-MAY-2019 19:30
Operator : CH1 Inst ID: 10air0.i
Smp Info :
Misc Info : 33692
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10air0.i\050719.b\TO15_126-19.m
Meth Date : 07-May-2019 16:52 ecrouser Quant Type: ISTD
Cal Date : 06-MAY-2019 11:14 Cal File: 12609.D
Als bottle: 24
Dil Factor: 1.80000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: RC10A

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	1.800	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

ISTD	RT	AREA	AMOUNT
* 45 1,4-Difluorobenzene	5.281	324584	10.000
* 64 Chlorobenzene - d5	8.342	366715	10.000

	CONCENTRATIONS				QUANT		
RT	AREA	ON-COL(ppbv)	FINAL(ppbv)	QUAL	LIBRARY	LIB ENTRY	CPND #
Pentane, 2-methyl-				CAS #: 107-83-5			
3.837	216962	6.68430128	12.0	64	NBS75K.l	62865	45
Benzoic acid, 2-[(trimethylsilyl)oxy]-,				CAS #: 3789-85-3			
12.756	154994	4.22655611	7.61	64	NBS75K.l	72300	64

Data File: \\192.168.10.12\chem\10air0.i\050719.b\12726.D
Report Date: 08-May-2019 11:29

Pace Analytical Services, Inc.

TENTATIVELY IDENTIFIED COMPOUNDS

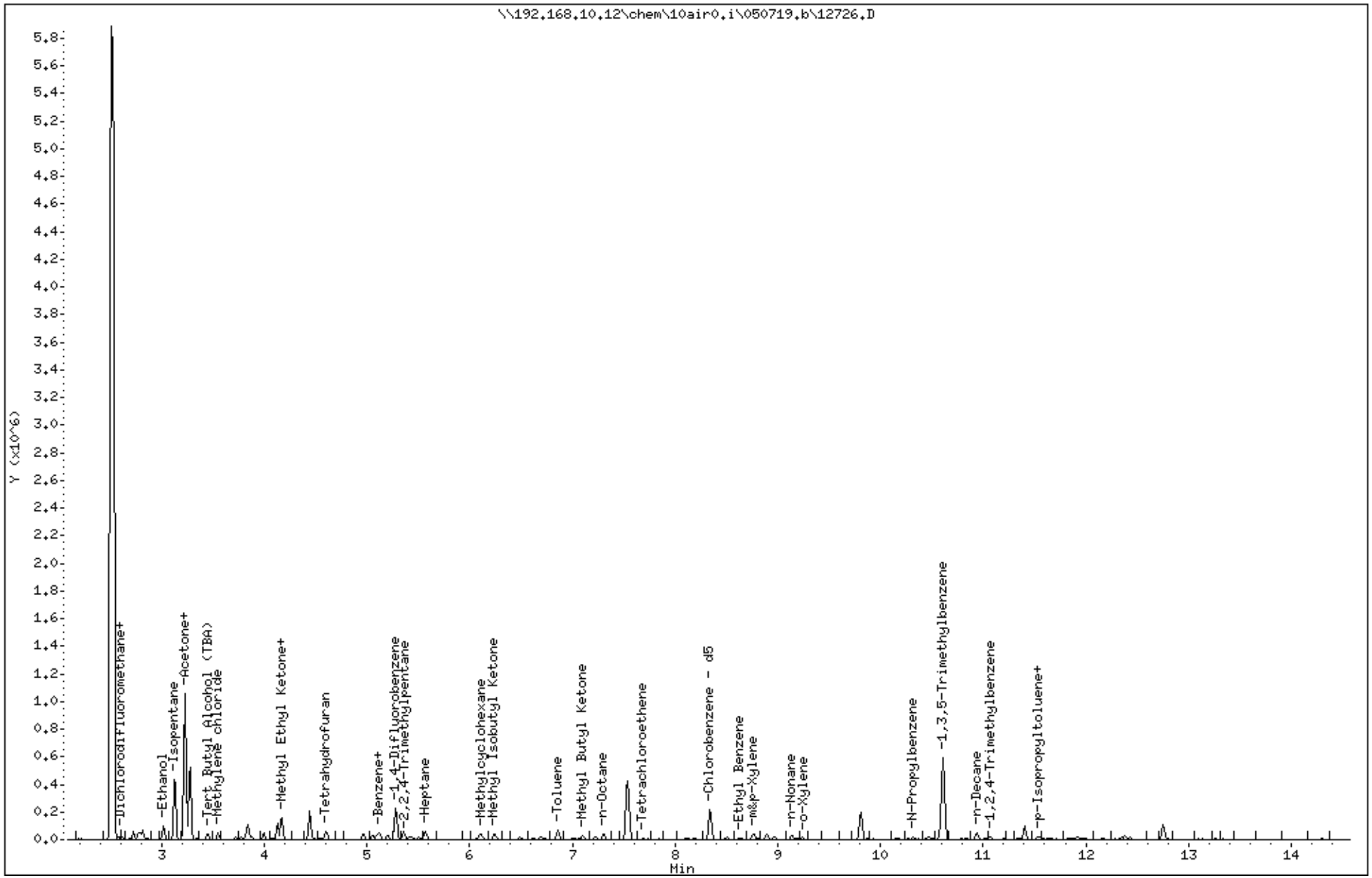
Client Name: Client SDG: 050719.b
Lab Smp Id: 10473491001
Operator : CH1 Sample Date:
Sample Location: Sample Point:
Sample Matrix: AIR Date Received:
Analysis Type: VOA Level: LOW
Inj Date: 07-MAY-2019 19:30

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/KG) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 107-83-5	Pentane, 2-methyl-	3.837	12.0	NJ__
2. 3789-85-3	Benzoic acid, 2-[(trimethyl	12.756	7.61	NJ__

Data File: \\192.168.10.12\chem\10air0.i\050719.b\12726.D
Date : 07-MAY-2019 19:30
Client ID:
Sample Info:

Instrument: 10air0.i
Operator: CH1
Column phase: DB-5 SN:USF279727H
Column diameter: 0.32



Data File: \\192.168.10.12\chem\10air0.i\050719.b\12727.D
Report Date: 08-May-2019 11:29

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10air0.i\050719.b\12727.D
Lab Smp Id: 10473491002
Inj Date : 07-MAY-2019 19:58
Operator : CH1 Inst ID: 10air0.i
Smp Info :
Misc Info : 33692
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10air0.i\050719.b\TO15_126-19.m
Meth Date : 07-May-2019 16:52 ecrouser Quant Type: ISTD
Cal Date : 06-MAY-2019 11:14 Cal File: 12609.D
Als bottle: 25
Dil Factor: 1.87000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: RC10A

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	1.870	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

ISTD	RT	AREA	AMOUNT
* 64 Chlorobenzene - d5	8.342	404655	10.000

		CONCENTRATIONS			QUANT		
RT	AREA	ON-COL(ppbv)	FINAL(ppbv)	QUAL	LIBRARY	LIB ENTRY	CPND #
Ethane, hexachloro-					CAS #: 67-72-1		
12.384	256633	6.34201840	11.9	91	NBS75K.1	30533	64

Data File: \\192.168.10.12\chem\10air0.i\050719.b\12727.D
Report Date: 08-May-2019 11:29

Pace Analytical Services, Inc.

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: Client SDG: 050719.b
Lab Smp Id: 10473491002
Operator : CH1 Sample Date:
Sample Location: Sample Point:
Sample Matrix: AIR Date Received:
Analysis Type: VOA Level: LOW
Inj Date: 07-MAY-2019 19:58

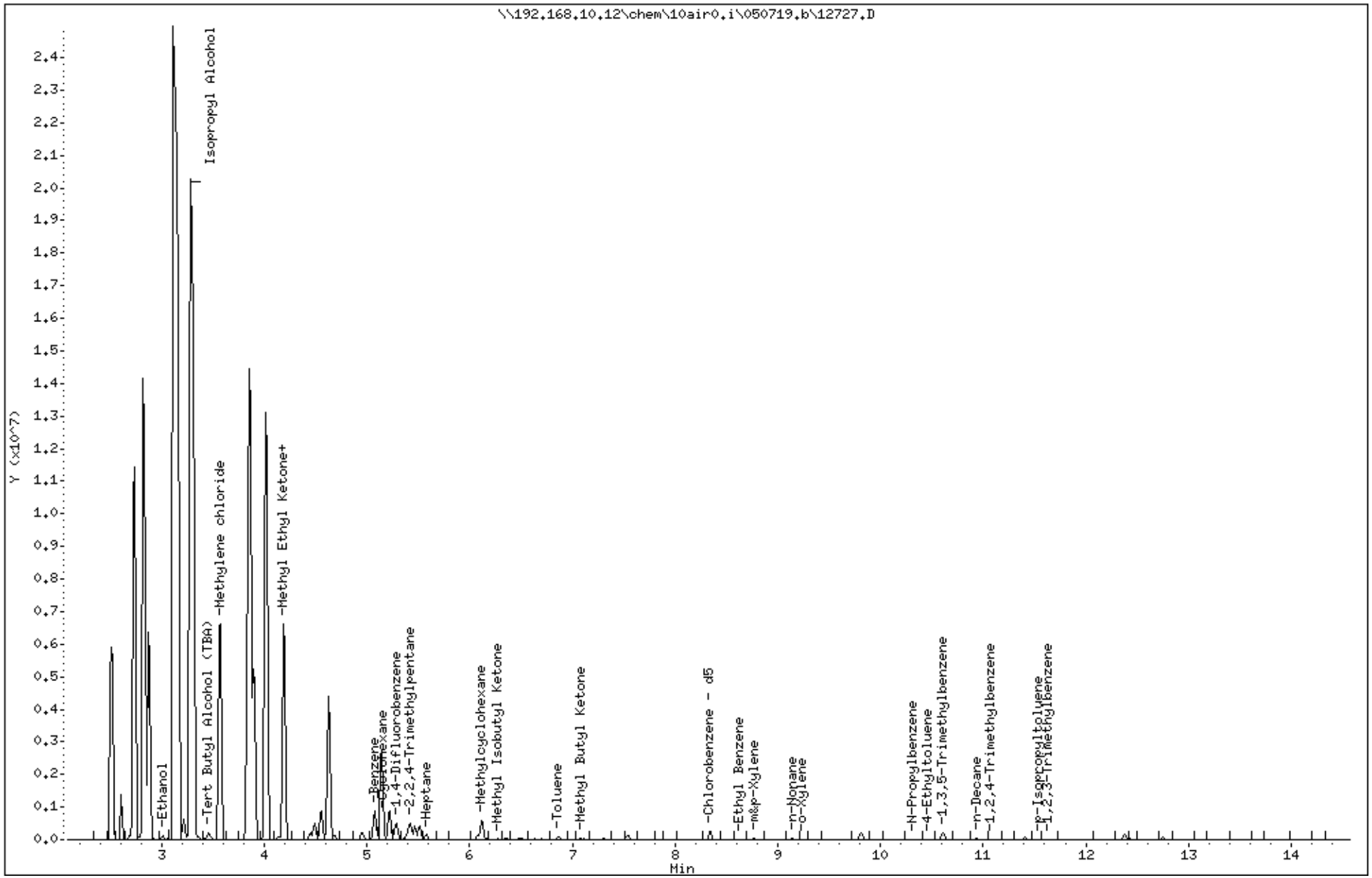
Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/KG) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 67-72-1	Ethane, hexachloro-	12.384	11.9	NJ__

Data File: \\192.168.10.12\chem\10air0.i\050719.b\12727.D
Date : 07-MAY-2019 19:58
Client ID:
Sample Info:

Instrument: 10air0.i
Operator: CH1
Column diameter: 0.32

Column phase: DB-5 SN:USF279727H



Data File: \\192.168.10.12\chem\10airH.i\050819.b\12818.D
Report Date: 09-May-2019 13:52

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10airH.i\050819.b\12818.D
Lab Smp Id: 10473491003
Inj Date : 08-MAY-2019 15:47
Operator : MG2 Inst ID: 10airH.i
Smp Info :
Misc Info : 33700
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10airH.i\050819.b\TO15_127-19.m
Meth Date : 09-May-2019 07:36 mgrinstein Quant Type: ISTD
Cal Date : 08-MAY-2019 07:41 Cal File: 12740.D
Als bottle: 18
Dil Factor: 1612.80000
Integrator: HP RTE Compound Sublist: all_SAMPLE.sub
Target Version: 4.14
Processing Host: 10MNAIRWKS09

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	1612.800	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

	COMPOUND	RT	AREA	AMOUNT
33	n-Hexane	4.376	9043114	107.610
41	Benzene	5.247	5026369	0.195
53	Methylcyclohexane	6.264	1713878	16.203
* 64	Chlorobenzene - d5	8.450	931604	10.000

	CONCENTRATIONS		QUANT		
RT	AREA	ON-COL(ppbv)	FINAL(ppbv)	QUAL	LIBRARY	LIB ENTRY	CPND #
Cyclopentane, methyl-				CAS #: 96-37-7			
4.794	8073467	96.0718141	155000	91	NBS75K.1	594	33
Pentane, 3,3-dimethyl-				CAS #: 562-49-2			
5.116	206178	0.00800857	12.9	90	NBS75K.1	63427	41(L)
Hexane, 2-methyl-				CAS #: 591-76-4			
5.196	815906	0.03169225	51.1	94	NBS75K.1	1598	41
Hexane, 3-methyl-				CAS #: 589-34-4			
5.338	1417180	0.05504756	88.8	86	NBS75K.1	63423	41

Data File: \\192.168.10.12\chem\10airH.i\050819.b\12818.D
Report Date: 09-May-2019 13:52

		CONCENTRATIONS			QUANT		
RT	AREA	ON-COL(ppbv)	FINAL(ppbv)	QUAL	LIBRARY	LIB ENTRY	CPND #
1-Hexanol, 3-methyl-				CAS #: 13231-81-7			
6.206	252875	2.39064180	3860	59	NBS75K.l	64372	53
1-Butanol, 2-ethyl-				CAS #: 97-95-0			
6.778	130636	1.23501414	1990	38	NBS75K.l	1780	53
Undecane, 5-methyl-				CAS #: 1632-70-8			
9.501	164553	1.76633728	2850	64	NBS75K.l	15363	64
7-Oxabicyclo[4.1.0]heptane, 3-methyl-				CAS #: 36099-51-1			
10.077	155154	1.66545330	2690	43	NBS75K.l	2615	64

QC Flag Legend

L - Operator selected an alternate library search match.

Data File: \\192.168.10.12\chem\10airH.i\050819.b\12818.D
Report Date: 09-May-2019 13:52

Pace Analytical Services, Inc.

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: Client SDG: 050819.b
Lab Smp Id: 10473491003
Operator : MG2 Sample Date:
Sample Location: Sample Point:
Sample Matrix: AIR Date Received:
Analysis Type: VOA Level: LOW
Inj Date: 08-MAY-2019 15:47

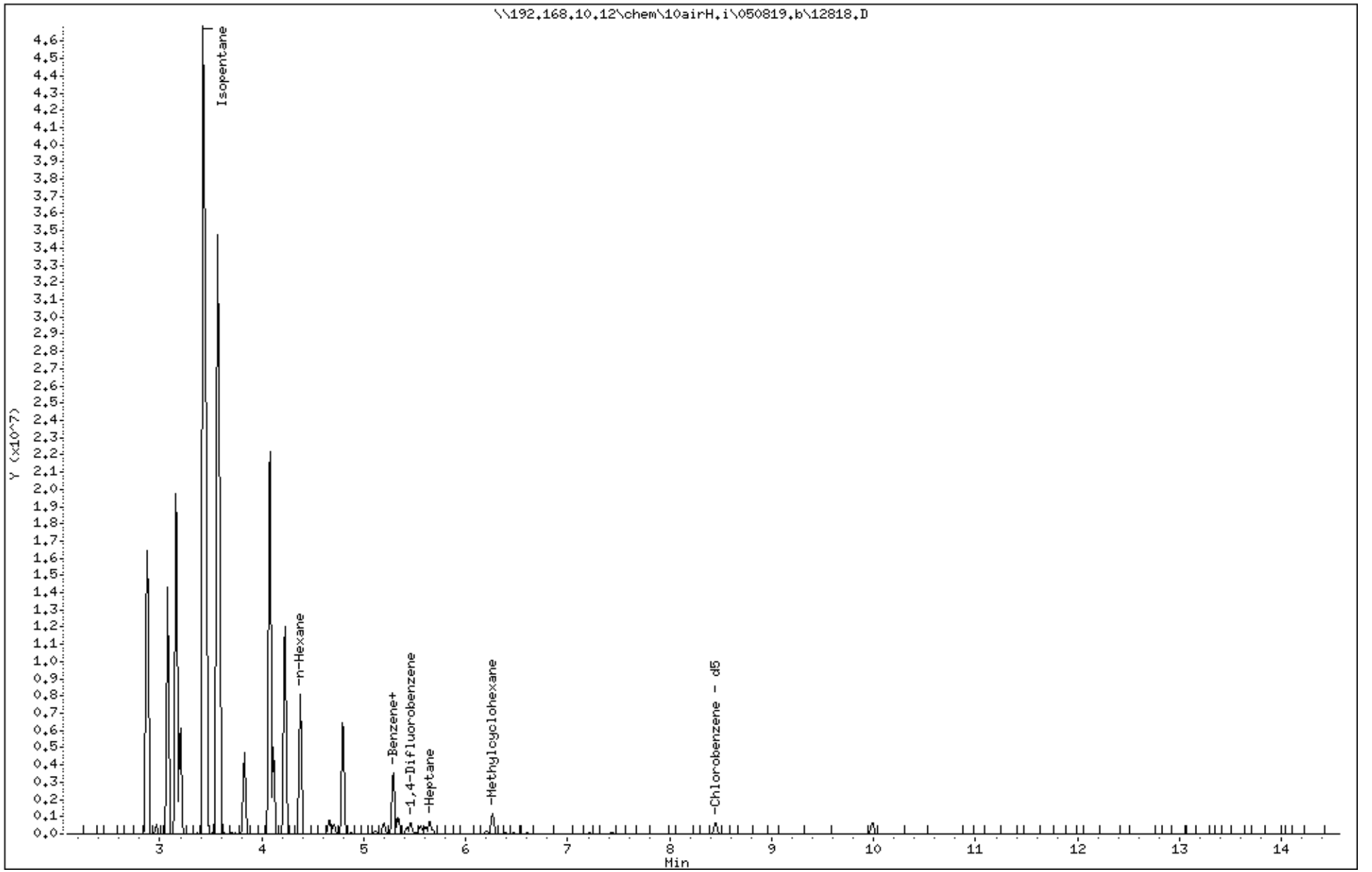
Number TICs found: 8 CONCENTRATION UNITS: (ug/L or ug/KG) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 96-37-7	Cyclopentane, methyl-	4.794	155000	NJ__
2. 562-49-2	Pentane, 3,3-dimethyl-	5.116	12.9	NJ__
3. 591-76-4	Hexane, 2-methyl-	5.196	51.1	NJ__
4. 589-34-4	Hexane, 3-methyl-	5.338	88.8	NJ__
5. 13231-81-7	1-Hexanol, 3-methyl-	6.206	3860	NJ__
6. 97-95-0	1-Butanol, 2-ethyl-	6.778	1990	NJ__
7. 1632-70-8	Undecane, 5-methyl-	9.501	2850	NJ__
8. 36099-51-1	7-Oxabicyclo[4.1.0]heptane,	10.077	2690	NJ__

Data File: \\192.168.10.12\chem\10airH.i\050819.b\12818.D
Date : 08-MAY-2019 15:47
Client ID:
Sample Info:

Instrument: 10airH.i
Operator: MG2
Column diameter: 0.32

Column phase: ZB-5MSplus SN338857



Data File: \\192.168.10.12\chem\10airH.i\050819.b\12819.D
Report Date: 09-May-2019 13:52

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10airH.i\050819.b\12819.D
Lab Smp Id: 10473491004
Inj Date : 08-MAY-2019 16:12
Operator : MG2 Inst ID: 10airH.i
Smp Info :
Misc Info : 33700
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10airH.i\050819.b\TO15_127-19.m
Meth Date : 09-May-2019 07:36 mgrinstein Quant Type: ISTD
Cal Date : 08-MAY-2019 07:41 Cal File: 12740.D
Als bottle: 19
Dil Factor: 93.96000
Integrator: HP RTE Compound Sublist: all_SAMPLE.sub
Target Version: 4.14
Processing Host: 10MNAIRWKS09

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	93.960	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

COMPOUND	RT	AREA	AMOUNT
33 n-Hexane	4.328	335638265	4526.877
41 Benzene	5.241	213937982	1003.412
53 Methylcyclohexane	6.296	176612225	2156.988

	CONCENTRATIONS			QUANT			
RT	AREA	ON-COL(ppbv)	FINAL(ppbv)	QUAL	LIBRARY	LIB ENTRY	CPND #
Butane, 2-methyl-				CAS #: 78-78-4			
3.280	54361853	733.198432	68900	64	NBS75K.l	62517	33
2-Pentene, (Z)-				CAS #: 627-20-3			
3.598	7621166	102.789484	9660	72	NBS75K.l	62456	33
Butane, 2,2-dimethyl-				CAS #: 75-83-2			
3.817	2.422e+008	3266.20189	307000	83	NBS75K.l	62862	33
1-Hexene, 4,5-dimethyl-				CAS #: 16106-59-5			
4.000	2.746e+008	3703.29536	348000	50	NBS75K.l	2679	33

Data File: \\192.168.10.12\chem\10airH.i\050819.b\12819.D
Report Date: 09-May-2019 13:52

		CONCENTRATIONS			QUANT		
RT	AREA	ON-COL(ppbv)	FINAL(ppbv)	QUAL	LIBRARY	LIB ENTRY	CPND #
Cyclobutane, ethyl-				CAS #: 4806-61-5			
4.219	3.021e+008	4075.19373	383000	56	NBS75K.l	62775	33
Butane, 2,2,3-trimethyl-				CAS #: 464-06-2			
4.875	8772017	41.1425196	3870	90	NBS75K.l	1599	41
Cyclopentane, 1,2,4-trimethyl-, (1.alpha				CAS #: 4850-28-6			
6.466	11034783	134.769210	12700	90	NBS75K.l	2684	53
Cyclopentane, 1,2,3-trimethyl-, (1.alpha				CAS #: 2613-69-6			
6.592	13612884	166.255893	15600	83	NBS75K.l	2714	53

Data File: \\192.168.10.12\chem\10airH.i\050819.b\12819.D
Report Date: 09-May-2019 13:52

Pace Analytical Services, Inc.

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name:
Client SDG: 050819.b
Lab Smp Id: 10473491004
Operator : MG2
Sample Date:
Sample Location:
Sample Point:
Sample Matrix: AIR
Date Received:
Analysis Type: VOA
Level: LOW
Inj Date: 08-MAY-2019 16:12

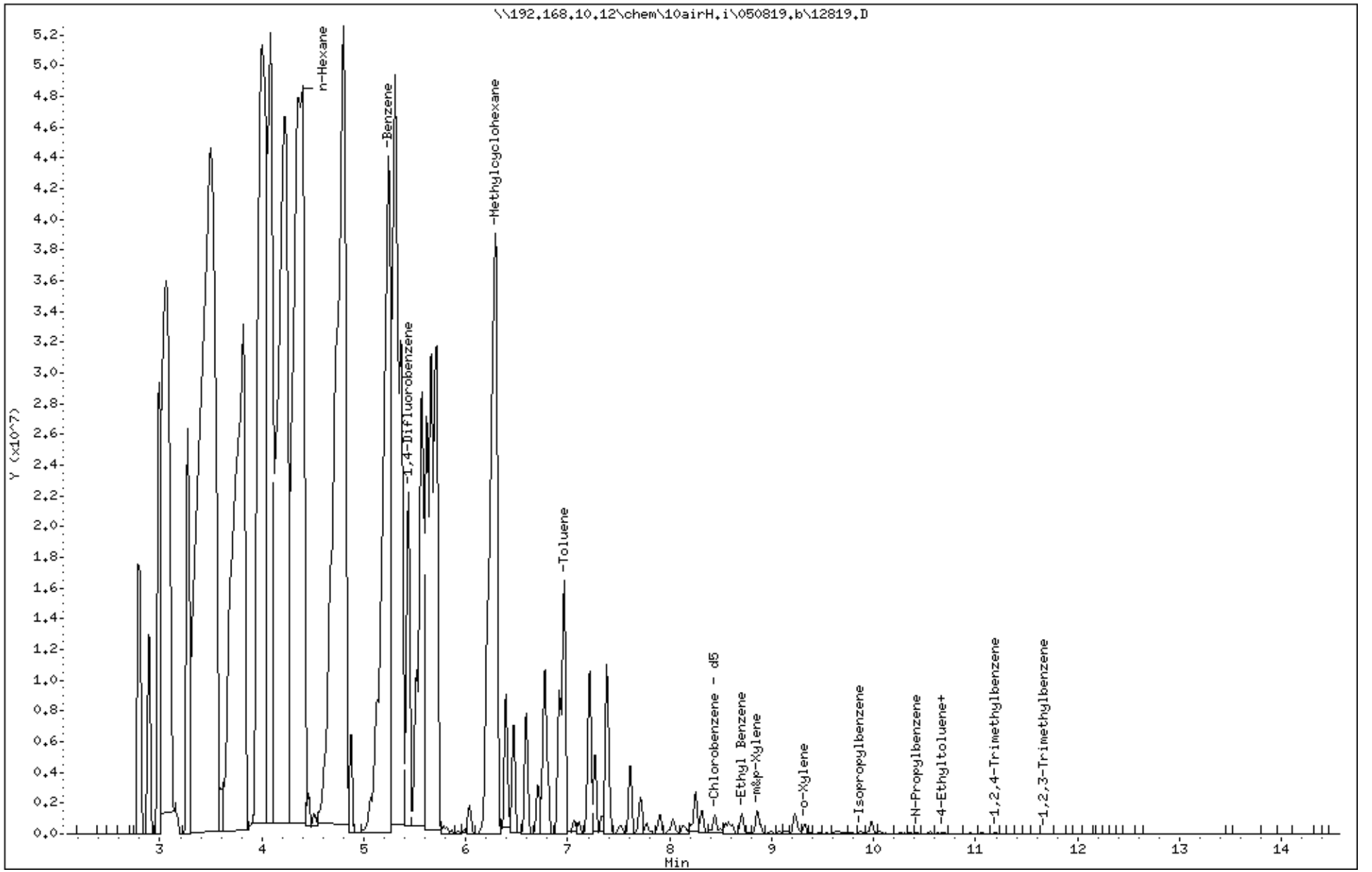
Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/KG) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 78-78-4	Butane, 2-methyl-	3.280	68900	NJ__
2. 627-20-3	2-Pentene, (Z)-	3.598	9660	NJ__
3. 75-83-2	Butane, 2,2-dimethyl-	3.817	307000	NJ__
4. 16106-59-5	1-Hexene, 4,5-dimethyl-	4.000	348000	NJ__
5. 4806-61-5	Cyclobutane, ethyl-	4.219	383000	NJ__
6. 464-06-2	Butane, 2,2,3-trimethyl-	4.875	3870	NJ__
7. 4850-28-6	Cyclopentane, 1,2,4-trimeth	6.466	12700	NJ__
8. 2613-69-6	Cyclopentane, 1,2,3-trimeth	6.592	15600	NJ__

Data File: \\192.168.10.12\chem\10airH.i\050819.b\12819.D
Date : 08-MAY-2019 16:12
Client ID:
Sample Info:

Instrument: 10airH.i
Operator: MG2
Column phase: ZB-5MSplus SN338857
Column diameter: 0.32



eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-163630-1
Client Project/Site: Enbridge Blackhawk - 60596530.3

For:
AECOM Technical Services Inc.
Duluth Technology Village
11 East Superior Street
Suite 150
Duluth, Minnesota 55802

Attn: Daniel Cervin

Therese Hargraves

Authorized for release by:
5/23/2019 5:07:28 PM
Therese Hargraves, Project Manager I
(708)534-5200
therese.hargraves@testamericainc.com

Designee for

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Job ID: 500-163630-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-163630-1

Comments
No additional comments.

Receipt
The samples were received on 5/18/2019 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -0.8º C.

GC/MS VOA
The following samples were diluted to bring the concentration of target analytes within the calibration range: 13V-E(6) (500-163630-2) and 13V-S(6) (500-163630-3). Elevated reporting limits (RLs) are provided.

The following sample was diluted due to the abundance of non-target analytes: 13V-N(6) (500-163630-4). Elevated reporting limits (RLs) are provided.

Methylene chloride was detected in the following sample: 13V-N(6) (500-163630-4). The method blank associated with this sample was non-detect for Methylene chloride. Methylene chloride is known lab contaminant; therefore all low level detects for this compound should be suspected as lab contamination.

The extraction LCS associated with preparation batch 486034 had several analytes recoveries above control limits. The instrument LCS associated with analytical batch 486667 had all analytes within control limits; therefore re-analysis was not performed. The data have been reported and qualified. 13V-W(6) (500-163630-1), 13V-E(6) (500-163630-2), 13V-S(6) (500-163630-3), 13V-N(6) (500-163630-4), 13V-B(10) (500-163630-5) and Trip Blank (500-163630-6)

Surrogate (Toluene-d8) recovery for the following samples were outside control limits: 13V-E(6) (500-163630-2) and 13V-S(6) (500-163630-3). The samples were reanlyzed for a dilution of 1:2000 and the Internal and surrogate standards were all within limits. Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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

GC Semi VOA
Method(s) WI-DRO: Surrogate recovery for the following sample was outside control limits: 13V-E(6) (500-163630-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

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

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

Client Sample ID: 13V-W(6) — Lab Sample ID: 500-163630-1

No Detections.

Client Sample ID: 13V-E(6) — Lab Sample ID: 500-163630-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
sec-Butylbenzene	1100		260	100	ug/Kg	200	☼	8260B	Total/NA
Ethylbenzene	15000	*	64	47	ug/Kg	200	☼	8260B	Total/NA
Isopropylbenzene	2200		260	99	ug/Kg	200	☼	8260B	Total/NA
p-Isopropyltoluene	960		260	93	ug/Kg	200	☼	8260B	Total/NA
Naphthalene	1100		260	86	ug/Kg	200	☼	8260B	Total/NA
N-Propylbenzene	4600		260	110	ug/Kg	200	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	23000		260	92	ug/Kg	200	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	9100		260	98	ug/Kg	200	☼	8260B	Total/NA
Benzene - DL	63000	*	640	380	ug/Kg	2000	☼	8260B	Total/NA
Toluene - DL	120000		640	380	ug/Kg	2000	☼	8260B	Total/NA
Xylenes, Total - DL	83000	*	1300	570	ug/Kg	2000	☼	8260B	Total/NA
1-Methylnaphthalene	29	J	74	8.9	ug/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	52	J	74	6.7	ug/Kg	1	☼	8270D	Total/NA
Naphthalene	33	J	36	5.6	ug/Kg	1	☼	8270D	Total/NA
WI Gasoline Range Organics (C5-C10)	5300000		190000	64000	ug/Kg	5000	☼	WI-GRO	Total/NA
WI Diesel Range Organics (C10-C28)	10		4.5	1.8	mg/Kg	1	☼	WI-DRO	Total/NA

Client Sample ID: 13V-S(6) — Lab Sample ID: 500-163630-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
n-Butylbenzene	920		250	98	ug/Kg	200	☼	8260B	Total/NA
sec-Butylbenzene	500		250	100	ug/Kg	200	☼	8260B	Total/NA
Ethylbenzene	11000	*	63	46	ug/Kg	200	☼	8260B	Total/NA
Isopropylbenzene	1300		250	97	ug/Kg	200	☼	8260B	Total/NA
p-Isopropyltoluene	430		250	91	ug/Kg	200	☼	8260B	Total/NA
Naphthalene	810		250	84	ug/Kg	200	☼	8260B	Total/NA
N-Propylbenzene	2600		250	100	ug/Kg	200	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	13000		250	90	ug/Kg	200	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	5300		250	96	ug/Kg	200	☼	8260B	Total/NA
Benzene - DL	94000	*	630	370	ug/Kg	2000	☼	8260B	Total/NA
Toluene - DL	150000		630	370	ug/Kg	2000	☼	8260B	Total/NA
Xylenes, Total - DL	68000	*	1300	550	ug/Kg	2000	☼	8260B	Total/NA
1-Methylnaphthalene	42	J	68	8.3	ug/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	78		68	6.2	ug/Kg	1	☼	8270D	Total/NA
Naphthalene	39		34	5.2	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	6.3	J	34	4.7	ug/Kg	1	☼	8270D	Total/NA
Pyrene	6.9	J	34	6.7	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: 13V-N(6) — Lab Sample ID: 500-163630-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2900	*	33	19	ug/Kg	100	☼	8260B	Total/NA
Ethylbenzene	330	*	33	24	ug/Kg	100	☼	8260B	Total/NA
Methylene Chloride	270	J *	660	220	ug/Kg	100	☼	8260B	Total/NA
N-Propylbenzene	81	J	130	55	ug/Kg	100	☼	8260B	Total/NA
Toluene	2900		33	19	ug/Kg	100	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	390		130	47	ug/Kg	100	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	150		130	50	ug/Kg	100	☼	8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

Client Sample ID: 13V-N(6) (Continued) — Lab Sample ID: 500-163630-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	1700	*	66	29	ug/Kg	100	☼	8260B	Total/NA

Client Sample ID: 13V-B(10) — Lab Sample ID: 500-163630-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1600	*	17	9.7	ug/Kg	50	☼	8260B	Total/NA
Ethylbenzene	19	*	17	12	ug/Kg	50	☼	8260B	Total/NA
Toluene	74		17	9.7	ug/Kg	50	☼	8260B	Total/NA
Xylenes, Total	19	J *	33	15	ug/Kg	50	☼	8260B	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 500-163630-6

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
WI-GRO	Wisconsin - Gasoline Range Organics (GC)	WI-GRO	TAL CHI
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CHI
6010D	Metals (ICP)	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
1311	TCLP Extraction	SW846	TAL CHI
3010A	Preparation, Total Metals	SW846	TAL CHI
3541	Automated Soxhlet Extraction	SW846	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI
5035	Closed System Purge and Trap	SW846	TAL CHI
WI DRO PREP	Wisconsin Extraction (Diesel Range Organics)	WI-DRO	TAL CHI
WI GRO	Closed System Purge and Trap	WI-GRO	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

WI-GRO = "Modified GRO: Method For Determining Gasoline Range Organics", Wisconsin DNR, Publ-SW-140, September, 1995.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-163630-1	13V-W(6)	Solid	05/17/19 10:00	05/18/19 09:40	
500-163630-2	13V-E(6)	Solid	05/17/19 10:05	05/18/19 09:40	
500-163630-3	13V-S(6)	Solid	05/17/19 10:10	05/18/19 09:40	
500-163630-4	13V-N(6)	Solid	05/17/19 10:15	05/18/19 09:40	
500-163630-5	13V-B(10)	Solid	05/17/19 10:45	05/18/19 09:40	
500-163630-6	Trip Blank	Solid	05/17/19 09:00	05/18/19 09:40	

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

Client Sample ID: 13V-W(6)
Date Collected: 05/17/19 10:00
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-1
Matrix: Solid
Percent Solids: 87.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<9.6	*	16	9.6	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Bromobenzene	<23	*	66	23	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Bromochloromethane	<28	*	66	28	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Bromodichloromethane	<24		66	24	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Bromoform	<32		66	32	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Bromomethane	<52		200	52	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
n-Butylbenzene	<25		66	25	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
sec-Butylbenzene	<26		66	26	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
tert-Butylbenzene	<26	*	66	26	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Carbon tetrachloride	<25		66	25	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Chlorobenzene	<25	*	66	25	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Dibromochloromethane	<32		66	32	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Chloroethane	<33		66	33	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Chloroform	<24		130	24	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Chloromethane	<21		66	21	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
2-Chlorotoluene	<21		66	21	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
4-Chlorotoluene	<23		66	23	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,2-Dibromo-3-Chloropropane	<130		330	130	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,2-Dibromoethane	<25	*	66	25	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Dibromomethane	<18	*	66	18	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,2-Dichlorobenzene	<22		66	22	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,3-Dichlorobenzene	<26		66	26	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,4-Dichlorobenzene	<24		66	24	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Dichlorodifluoromethane	<44		200	44	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,1-Dichloroethane	<27	*	66	27	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,2-Dichloroethane	<26		66	26	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,1-Dichloroethene	<26		66	26	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
cis-1,2-Dichloroethene	<27	*	66	27	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
trans-1,2-Dichloroethene	<23		66	23	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,2-Dichloropropane	<28	*	66	28	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,3-Dichloropropane	<24		66	24	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
2,2-Dichloropropane	<29		66	29	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,1-Dichloropropene	<20		66	20	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
cis-1,3-Dichloropropene	<27		66	27	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
trans-1,3-Dichloropropene	<24		66	24	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Isopropyl ether	<18		66	18	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Ethylbenzene	<12	*	16	12	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Hexachlorobutadiene	<29		66	29	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Isopropylbenzene	<25		66	25	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
p-Isopropyltoluene	<24		66	24	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Methylene Chloride	<110	*	330	110	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Methyl tert-butyl ether	<26		66	26	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Naphthalene	<22		66	22	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
N-Propylbenzene	<27		66	27	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Styrene	<25	*	66	25	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,1,1,2-Tetrachloroethane	<30		66	30	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,1,2,2-Tetrachloroethane	<26		66	26	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Tetrachloroethene	<24		66	24	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Toluene	<9.7		16	9.7	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

Client Sample ID: 13V-W(6)
Date Collected: 05/17/19 10:00
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-1
Matrix: Solid
Percent Solids: 87.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<30		66	30	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,2,4-Trichlorobenzene	<22		66	22	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,1,1-Trichloroethane	<25		66	25	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,1,2-Trichloroethane	<23	*	66	23	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Trichloroethene	<11	*	33	11	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Trichlorofluoromethane	<28		66	28	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,2,3-Trichloropropane	<27		130	27	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,2,4-Trimethylbenzene	<24		66	24	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
1,3,5-Trimethylbenzene	<25		66	25	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Vinyl chloride	<17		66	17	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50
Xylenes, Total	<14	*	33	14	ug/Kg	☼	05/17/19 10:00	05/23/19 02:43	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 126*	*05/17/19 10:00*	*05/23/19 02:43*	*50*
Toluene-d8 (Surr)	*104*		*75 - 120*	*05/17/19 10:00*	*05/23/19 02:43*	*50*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*	*05/17/19 10:00*	*05/23/19 02:43*	*50*
Dibromofluoromethane (Surr)	*90*		*75 - 120*	*05/17/19 10:00*	*05/23/19 02:43*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<8.8		73	8.8	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
2-Methylnaphthalene	<6.6		73	6.6	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Acenaphthene	<6.5		36	6.5	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Acenaphthylene	<4.8		36	4.8	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Anthracene	<6.0		36	6.0	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Benzo[a]anthracene	<4.9		36	4.9	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Benzo[a]pyrene	<7.0		36	7.0	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Benzo[b]fluoranthene	<7.8		36	7.8	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Benzo[g,h,i]perylene	<12		36	12	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Benzo[k]fluoranthene	<11		36	11	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Chrysene	<9.9		36	9.9	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Dibenz(a,h)anthracene	<7.0		36	7.0	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Fluoranthene	<6.7		36	6.7	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Fluorene	<5.1		36	5.1	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Indeno[1,2,3-cd]pyrene	<9.4		36	9.4	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Naphthalene	<5.6		36	5.6	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Phenanthrene	<5.0		36	5.0	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1
Pyrene	<7.2		36	7.2	ug/Kg	☼	05/20/19 16:43	05/21/19 15:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*86*		*43 - 145*	*05/20/19 16:43*	*05/21/19 15:04*	*1*
Nitrobenzene-d5 (Surr)	*92*		*37 - 147*	*05/20/19 16:43*	*05/21/19 15:04*	*1*
Terphenyl-d14 (Surr)	*91*		*42 - 157*	*05/20/19 16:43*	*05/21/19 15:04*	*1*

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

Client Sample ID: 13V-E(6)
Date Collected: 05/17/19 10:05
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-2
Matrix: Solid
Percent Solids: 89.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	<92	*	260	92	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Bromochloromethane	<110	*	260	110	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Bromodichloromethane	<96		260	96	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Bromoform	<120		260	120	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Bromomethane	<210		770	210	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
n-Butylbenzene	<100		260	100	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
sec-Butylbenzene	**1100**		260	100	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
tert-Butylbenzene	<100	*	260	100	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Carbon tetrachloride	<99		260	99	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Chlorobenzene	<100	*	260	100	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Dibromochloromethane	<130		260	130	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Chloroethane	<130		260	130	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Chloroform	<95		520	95	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Chloromethane	<82		260	82	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
2-Chlorotoluene	<81		260	81	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
4-Chlorotoluene	<90		260	90	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,2-Dibromo-3-Chloropropane	<510		1300	510	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,2-Dibromoethane	<100	*	260	100	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Dibromomethane	<70	*	260	70	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,2-Dichlorobenzene	<86		260	86	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,3-Dichlorobenzene	<100		260	100	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,4-Dichlorobenzene	<94		260	94	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Dichlorodifluoromethane	<170		770	170	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,1-Dichloroethane	<110	*	260	110	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,2-Dichloroethane	<100		260	100	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,1-Dichloroethene	<100		260	100	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
cis-1,2-Dichloroethene	<110	*	260	110	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
trans-1,2-Dichloroethene	<90		260	90	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,2-Dichloropropane	<110	*	260	110	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,3-Dichloropropane	<93		260	93	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
2,2-Dichloropropane	<110		260	110	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,1-Dichloropropene	<77		260	77	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
cis-1,3-Dichloropropene	<110		260	110	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
trans-1,3-Dichloropropene	<93		260	93	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Isopropyl ether	<71		260	71	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Ethylbenzene	**15000**	*	64	47	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Hexachlorobutadiene	<110		260	110	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Isopropylbenzene	**2200**		260	99	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
p-Isopropyltoluene	**960**		260	93	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Methylene Chloride	<420	*	1300	420	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Methyl tert-butyl ether	<100		260	100	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Naphthalene	**1100**		260	86	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
N-Propylbenzene	**4600**		260	110	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Styrene	<100	*	260	100	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,1,1,2-Tetrachloroethane	<120		260	120	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,1,2,2-Tetrachloroethane	<100		260	100	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Tetrachloroethene	<95		260	95	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,2,3-Trichlorobenzene	<120		260	120	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,2,4-Trichlorobenzene	<88		260	88	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200

Client Sample ID: 13V-E(6) **Lab Sample ID: 500-163630-2**
Date Collected: 05/17/19 10:05 **Matrix: Solid**
Date Received: 05/18/19 09:40 **Percent Solids: 89.6**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<98		260	98	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,1,2-Trichloroethane	<91	*	260	91	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Trichloroethene	<42	*	130	42	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Trichlorofluoromethane	<110		260	110	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,2,3-Trichloropropane	<110		520	110	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,2,4-Trimethylbenzene	**23000**		260	92	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
1,3,5-Trimethylbenzene	**9100**		260	98	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200
Vinyl chloride	<68		260	68	ug/Kg	☼	05/17/19 10:05	05/23/19 13:35	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 126*	*05/17/19 10:05*	*05/23/19 13:35*	*200*
Toluene-d8 (Surr)	*131*	*X*	*75 - 120*	*05/17/19 10:05*	*05/23/19 13:35*	*200*
4-Bromofluorobenzene (Surr)	*101*		*72 - 124*	*05/17/19 10:05*	*05/23/19 13:35*	*200*
Dibromofluoromethane (Surr)	*94*		*75 - 120*	*05/17/19 10:05*	*05/23/19 13:35*	*200*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**63000**	*	640	380	ug/Kg	☼	05/17/19 10:05	05/23/19 14:00	2000
Toluene	**120000**		640	380	ug/Kg	☼	05/17/19 10:05	05/23/19 14:00	2000
Xylenes, Total	**83000**	*	1300	570	ug/Kg	☼	05/17/19 10:05	05/23/19 14:00	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 126*	*05/17/19 10:05*	*05/23/19 14:00*	*2000*
Toluene-d8 (Surr)	*92*		*75 - 120*	*05/17/19 10:05*	*05/23/19 14:00*	*2000*
4-Bromofluorobenzene (Surr)	*101*		*72 - 124*	*05/17/19 10:05*	*05/23/19 14:00*	*2000*
Dibromofluoromethane (Surr)	*89*		*75 - 120*	*05/17/19 10:05*	*05/23/19 14:00*	*2000*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<10		20	10	ug/L			05/23/19 12:44	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 126*		*05/23/19 12:44*	*20*
Toluene-d8 (Surr)	*88*		*75 - 120*		*05/23/19 12:44*	*20*
4-Bromofluorobenzene (Surr)	*102*		*72 - 124*		*05/23/19 12:44*	*20*
Dibromofluoromethane (Surr)	*91*		*75 - 120*		*05/23/19 12:44*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**29**	**J**	74	8.9	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
2-Methylnaphthalene	**52**	**J**	74	6.7	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Acenaphthene	<6.6		36	6.6	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Acenaphthylene	<4.8		36	4.8	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Anthracene	<6.1		36	6.1	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Benzo[a]anthracene	<4.9		36	4.9	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Benzo[a]pyrene	<7.1		36	7.1	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Benzo[b]fluoranthene	<7.9		36	7.9	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Benzo[g,h,i]perylene	<12	F1	36	12	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Benzo[k]fluoranthene	<11		36	11	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Chrysene	<10		36	10	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Dibenz(a,h)anthracene	<7.1	F1	36	7.1	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1

Client Sample ID: 13V-E(6) **Lab Sample ID: 500-163630-2**
Date Collected: 05/17/19 10:05 **Matrix: Solid**
Date Received: 05/18/19 09:40 **Percent Solids: 89.6**

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<6.8		36	6.8	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Fluorene	<5.1		36	5.1	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Indeno[1,2,3-cd]pyrene	<9.5	F1	36	9.5	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Naphthalene	**33**	**J**	36	5.6	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Phenanthrene	<5.1		36	5.1	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1
Pyrene	<7.3		36	7.3	ug/Kg	☼	05/20/19 16:43	05/21/19 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*80*		*43 - 145*	*05/20/19 16:43*	*05/21/19 15:31*	*1*
Nitrobenzene-d5 (Surr)	*85*		*37 - 147*	*05/20/19 16:43*	*05/21/19 15:31*	*1*
Terphenyl-d14 (Surr)	*89*		*42 - 157*	*05/20/19 16:43*	*05/21/19 15:31*	*1*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C5-C10)	**5300000**		190000	64000	ug/Kg	☼	05/17/19 10:05	05/23/19 08:08	5000

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	**10**		4.5	1.8	mg/Kg	☼	05/21/19 09:25	05/21/19 18:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*174*	*X*	*44 - 148*	*05/21/19 09:25*	*05/21/19 18:12*	*1*

Method: 6010D - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.050	0.0075	mg/L		05/21/19 14:47	05/22/19 12:27	1

Client Sample ID: 13V-S(6)
Date Collected: 05/17/19 10:10
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-3
Matrix: Solid
Percent Solids: 95.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	<89	*	250	89	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Bromochloromethane	<110	*	250	110	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Bromodichloromethane	<94		250	94	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Bromoform	<120		250	120	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Bromomethane	<200		750	200	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
n-Butylbenzene	**920**		250	98	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
sec-Butylbenzene	**500**		250	100	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
tert-Butylbenzene	<100	*	250	100	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Carbon tetrachloride	<97		250	97	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Chlorobenzene	<97	*	250	97	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Dibromochloromethane	<120		250	120	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Chloroethane	<130		250	130	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Chloroform	<93		500	93	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Chloromethane	<80		250	80	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
2-Chlorotoluene	<79		250	79	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
4-Chlorotoluene	<88		250	88	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,2-Dibromo-3-Chloropropane	<500		1300	500	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,2-Dibromoethane	<97	*	250	97	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Dibromomethane	<68	*	250	68	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,2-Dichlorobenzene	<84		250	84	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,3-Dichlorobenzene	<100		250	100	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,4-Dichlorobenzene	<91		250	91	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Dichlorodifluoromethane	<170		750	170	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,1-Dichloroethane	<100	*	250	100	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,2-Dichloroethane	<99		250	99	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,1-Dichloroethene	<98		250	98	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
cis-1,2-Dichloroethene	<100	*	250	100	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
trans-1,2-Dichloroethene	<88		250	88	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,2-Dichloropropane	<110	*	250	110	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,3-Dichloropropane	<91		250	91	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
2,2-Dichloropropane	<110		250	110	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,1-Dichloropropene	<75		250	75	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
cis-1,3-Dichloropropene	<100		250	100	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
trans-1,3-Dichloropropene	<91		250	91	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Isopropyl ether	<69		250	69	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Ethylbenzene	**11000**	*	63	46	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Hexachlorobutadiene	<110		250	110	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Isopropylbenzene	**1300**		250	97	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
p-Isopropyltoluene	**430**		250	91	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Methylene Chloride	<410	*	1300	410	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Methyl tert-butyl ether	<99		250	99	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Naphthalene	**810**		250	84	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
N-Propylbenzene	**2600**		250	100	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Styrene	<97	*	250	97	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,1,1,2-Tetrachloroethane	<120		250	120	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,1,2,2-Tetrachloroethane	<100		250	100	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Tetrachloroethene	<93		250	93	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,2,3-Trichlorobenzene	<120		250	120	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,2,4-Trichlorobenzene	<86		250	86	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200

Client Sample ID: 13V-S(6)
Date Collected: 05/17/19 10:10
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-3
Matrix: Solid
Percent Solids: 95.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<96		250	96	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,1,2-Trichloroethane	<88	*	250	88	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Trichloroethene	<41	*	130	41	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Trichlorofluoromethane	<110		250	110	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,2,3-Trichloropropane	<100		500	100	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,2,4-Trimethylbenzene	**13000**		250	90	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
1,3,5-Trimethylbenzene	**5300**		250	96	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200
Vinyl chloride	<66		250	66	ug/Kg	☼	05/17/19 10:10	05/23/19 14:25	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*75 - 126*	*05/17/19 10:10*	*05/23/19 14:25*	*200*
Toluene-d8 (Surr)	*135*	*X*	*75 - 120*	*05/17/19 10:10*	*05/23/19 14:25*	*200*
4-Bromofluorobenzene (Surr)	*98*		*72 - 124*	*05/17/19 10:10*	*05/23/19 14:25*	*200*
Dibromofluoromethane (Surr)	*96*		*75 - 120*	*05/17/19 10:10*	*05/23/19 14:25*	*200*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**94000**	*	630	370	ug/Kg	☼	05/17/19 10:10	05/23/19 14:51	2000
Toluene	**150000**		630	370	ug/Kg	☼	05/17/19 10:10	05/23/19 14:51	2000
Xylenes, Total	**68000**	*	1300	550	ug/Kg	☼	05/17/19 10:10	05/23/19 14:51	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 126*	*05/17/19 10:10*	*05/23/19 14:51*	*2000*
Toluene-d8 (Surr)	*93*		*75 - 120*	*05/17/19 10:10*	*05/23/19 14:51*	*2000*
4-Bromofluorobenzene (Surr)	*102*		*72 - 124*	*05/17/19 10:10*	*05/23/19 14:51*	*2000*
Dibromofluoromethane (Surr)	*91*		*75 - 120*	*05/17/19 10:10*	*05/23/19 14:51*	*2000*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**42**	**J**	68	8.3	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
2-Methylnaphthalene	**78**		68	6.2	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Acenaphthene	<6.1		34	6.1	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Acenaphthylene	<4.5		34	4.5	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Anthracene	<5.7		34	5.7	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Benzo[a]anthracene	<4.6		34	4.6	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Benzo[a]pyrene	<6.6		34	6.6	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Benzo[b]fluoranthene	<7.3		34	7.3	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Benzo[g,h,i]perylene	<11		34	11	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Benzo[k]fluoranthene	<10		34	10	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Chrysene	<9.3		34	9.3	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Dibenz(a,h)anthracene	<6.6		34	6.6	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Fluoranthene	<6.3		34	6.3	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Fluorene	<4.8		34	4.8	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Indeno[1,2,3-cd]pyrene	<8.8		34	8.8	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Naphthalene	**39**		34	5.2	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Phenanthrene	**6.3**	**J**	34	4.7	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1
Pyrene	**6.9**	**J**	34	6.7	ug/Kg	☼	05/20/19 16:43	05/21/19 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*86*		*43 - 145*	*05/20/19 16:43*	*05/21/19 15:57*	*1*
Nitrobenzene-d5 (Surr)	*91*		*37 - 147*	*05/20/19 16:43*	*05/21/19 15:57*	*1*

Client: AECOM Technical Services Inc.
Job ID: 500-163630-1
Project/Site: Enbridge Blackhawk - 60596530.3

Client Sample ID: 13V-S(6)
Lab Sample ID: 500-163630-3
Date Collected: 05/17/19 10:10
Matrix: Solid
Date Received: 05/18/19 09:40
Percent Solids: 95.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	90		42 - 157	05/20/19 16:43	05/21/19 15:57	1

Client Sample ID: 13V-N(6)
Date Collected: 05/17/19 10:15
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-4
Matrix: Solid
Percent Solids: 86.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2900**	*	33	19	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Bromobenzene	<47	*	130	47	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Bromochloromethane	<57	*	130	57	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Bromodichloromethane	<49		130	49	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Bromoform	<64		130	64	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Bromomethane	<110		400	110	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
n-Butylbenzene	<51		130	51	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
sec-Butylbenzene	<53		130	53	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
tert-Butylbenzene	<53	*	130	53	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Carbon tetrachloride	<51		130	51	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Chlorobenzene	<51	*	130	51	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Dibromochloromethane	<65		130	65	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Chloroethane	<67		130	67	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Chloroform	<49		270	49	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Chloromethane	<42		130	42	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
2-Chlorotoluene	<42		130	42	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
4-Chlorotoluene	<46		130	46	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,2-Dibromo-3-Chloropropane	<260		660	260	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,2-Dibromoethane	<51	*	130	51	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Dibromomethane	<36	*	130	36	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,2-Dichlorobenzene	<44		130	44	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,3-Dichlorobenzene	<53		130	53	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,4-Dichlorobenzene	<48		130	48	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Dichlorodifluoromethane	<89		400	89	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,1-Dichloroethane	<54	*	130	54	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,2-Dichloroethane	<52		130	52	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,1-Dichloroethene	<52		130	52	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
cis-1,2-Dichloroethene	<54	*	130	54	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
trans-1,2-Dichloroethene	<46		130	46	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,2-Dichloropropane	<57	*	130	57	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,3-Dichloropropane	<48		130	48	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
2,2-Dichloropropane	<59		130	59	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,1-Dichloropropene	<40		130	40	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
cis-1,3-Dichloropropene	<55		130	55	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
trans-1,3-Dichloropropene	<48		130	48	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Isopropyl ether	<37		130	37	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Ethylbenzene	**330**	*	33	24	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Hexachlorobutadiene	<59		130	59	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Isopropylbenzene	<51		130	51	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
p-Isopropyltoluene	<48		130	48	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Methylene Chloride	**270**	J *	660	220	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Methyl tert-butyl ether	<52		130	52	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Naphthalene	<44		130	44	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
N-Propylbenzene	**81**	J	130	55	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Styrene	<51	*	130	51	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,1,1,2-Tetrachloroethane	<61		130	61	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,1,2,2-Tetrachloroethane	<53		130	53	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Tetrachloroethene	<49		130	49	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Toluene	**2900**		33	19	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100

Client Sample ID: 13V-N(6) **Lab Sample ID: 500-163630-4**
Date Collected: 05/17/19 10:15 **Matrix: Solid**
Date Received: 05/18/19 09:40 **Percent Solids: 86.6**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<61		130	61	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,2,4-Trichlorobenzene	<45		130	45	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,1,1-Trichloroethane	<50		130	50	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,1,2-Trichloroethane	<47	*	130	47	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Trichloroethene	<22	*	66	22	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Trichlorofluoromethane	<57		130	57	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,2,3-Trichloropropane	<55		270	55	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,2,4-Trimethylbenzene	**390**		130	47	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
1,3,5-Trimethylbenzene	**150**		130	50	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Vinyl chloride	<35		130	35	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100
Xylenes, Total	**1700**	*	66	29	ug/Kg	☼	05/17/19 10:15	05/23/19 15:16	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 126*	*05/17/19 10:15*	*05/23/19 15:16*	*100*
Toluene-d8 (Surr)	*90*		*75 - 120*	*05/17/19 10:15*	*05/23/19 15:16*	*100*
4-Bromofluorobenzene (Surr)	*104*		*72 - 124*	*05/17/19 10:15*	*05/23/19 15:16*	*100*
Dibromofluoromethane (Surr)	*91*		*75 - 120*	*05/17/19 10:15*	*05/23/19 15:16*	*100*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<8.9		74	8.9	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
2-Methylnaphthalene	<6.7		74	6.7	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Acenaphthene	<6.6		36	6.6	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Acenaphthylene	<4.8		36	4.8	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Anthracene	<6.1		36	6.1	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Benzo[a]anthracene	<4.9		36	4.9	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Benzo[a]pyrene	<7.1		36	7.1	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Benzo[b]fluoranthene	<7.9		36	7.9	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Benzo[g,h,i]perylene	<12		36	12	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Benzo[k]fluoranthene	<11		36	11	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Chrysene	<10		36	10	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Dibenz(a,h)anthracene	<7.1		36	7.1	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Fluoranthene	<6.8		36	6.8	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Fluorene	<5.1		36	5.1	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Indeno[1,2,3-cd]pyrene	<9.5		36	9.5	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Naphthalene	<5.6		36	5.6	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Phenanthrene	<5.1		36	5.1	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1
Pyrene	<7.3		36	7.3	ug/Kg	☼	05/20/19 16:43	05/22/19 10:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*82*		*43 - 145*	*05/20/19 16:43*	*05/22/19 10:53*	*1*
Nitrobenzene-d5 (Surr)	*61*		*37 - 147*	*05/20/19 16:43*	*05/22/19 10:53*	*1*
Terphenyl-d14 (Surr)	*94*		*42 - 157*	*05/20/19 16:43*	*05/22/19 10:53*	*1*

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

Client Sample ID: 13V-B(10)
Date Collected: 05/17/19 10:45
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-5
Matrix: Solid
Percent Solids: 86.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1600**	*	17	9.7	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Bromobenzene	<24	*	66	24	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Bromochloromethane	<28	*	66	28	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Bromodichloromethane	<25		66	25	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Bromoform	<32		66	32	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Bromomethane	<53		200	53	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
n-Butylbenzene	<26		66	26	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
sec-Butylbenzene	<26		66	26	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
tert-Butylbenzene	<26	*	66	26	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Carbon tetrachloride	<25		66	25	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Chlorobenzene	<26	*	66	26	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Dibromochloromethane	<32		66	32	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Chloroethane	<33		66	33	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Chloroform	<25		130	25	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Chloromethane	<21		66	21	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
2-Chlorotoluene	<21		66	21	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
4-Chlorotoluene	<23		66	23	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,2-Dibromo-3-Chloropropane	<130		330	130	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,2-Dibromoethane	<26	*	66	26	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Dibromomethane	<18	*	66	18	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,2-Dichlorobenzene	<22		66	22	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,3-Dichlorobenzene	<27		66	27	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,4-Dichlorobenzene	<24		66	24	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Dichlorodifluoromethane	<45		200	45	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,1-Dichloroethane	<27	*	66	27	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,2-Dichloroethane	<26		66	26	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,1-Dichloroethene	<26		66	26	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
cis-1,2-Dichloroethene	<27	*	66	27	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
trans-1,2-Dichloroethene	<23		66	23	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,2-Dichloropropane	<28	*	66	28	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,3-Dichloropropane	<24		66	24	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
2,2-Dichloropropane	<29		66	29	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,1-Dichloropropene	<20		66	20	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
cis-1,3-Dichloropropene	<28		66	28	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
trans-1,3-Dichloropropene	<24		66	24	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Isopropyl ether	<18		66	18	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Ethylbenzene	**19**	*	17	12	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Hexachlorobutadiene	<30		66	30	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Isopropylbenzene	<25		66	25	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
p-Isopropyltoluene	<24		66	24	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Methylene Chloride	<110	*	330	110	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Methyl tert-butyl ether	<26		66	26	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Naphthalene	<22		66	22	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
N-Propylbenzene	<27		66	27	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Styrene	<26	*	66	26	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,1,1,2-Tetrachloroethane	<31		66	31	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,1,2,2-Tetrachloroethane	<26		66	26	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Tetrachloroethene	<25		66	25	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Toluene	**74**		17	9.7	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50

Client Sample ID: 13V-B(10) **Lab Sample ID: 500-163630-5**
Date Collected: 05/17/19 10:45 **Matrix: Solid**
Date Received: 05/18/19 09:40 **Percent Solids: 86.6**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<30		66	30	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,2,4-Trichlorobenzene	<23		66	23	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,1,1-Trichloroethane	<25		66	25	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,1,2-Trichloroethane	<23	*	66	23	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Trichloroethene	<11	*	33	11	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Trichlorofluoromethane	<28		66	28	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,2,3-Trichloropropane	<27		130	27	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,2,4-Trimethylbenzene	<24		66	24	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
1,3,5-Trimethylbenzene	<25		66	25	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Vinyl chloride	<17		66	17	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50
Xylenes, Total	**19**	**J ***	33	15	ug/Kg	☼	05/17/19 10:45	05/23/19 04:25	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*75 - 126*	*05/17/19 10:45*	*05/23/19 04:25*	*50*
Toluene-d8 (Surr)	*104*		*75 - 120*	*05/17/19 10:45*	*05/23/19 04:25*	*50*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*	*05/17/19 10:45*	*05/23/19 04:25*	*50*
Dibromofluoromethane (Surr)	*94*		*75 - 120*	*05/17/19 10:45*	*05/23/19 04:25*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<9.1		75	9.1	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
2-Methylnaphthalene	<6.8		75	6.8	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Acenaphthene	<6.7		37	6.7	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Acenaphthylene	<4.9		37	4.9	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Anthracene	<6.2		37	6.2	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Benzo[a]anthracene	<5.0		37	5.0	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Benzo[a]pyrene	<7.2		37	7.2	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Benzo[b]fluoranthene	<8.0		37	8.0	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Benzo[g,h,i]perylene	<12		37	12	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Benzo[k]fluoranthene	<11		37	11	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Chrysene	<10		37	10	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Dibenz(a,h)anthracene	<7.2		37	7.2	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Fluoranthene	<6.9		37	6.9	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Fluorene	<5.2		37	5.2	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Indeno[1,2,3-cd]pyrene	<9.6		37	9.6	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Naphthalene	<5.7		37	5.7	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Phenanthrene	<5.2		37	5.2	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1
Pyrene	<7.4		37	7.4	ug/Kg	☼	05/20/19 16:43	05/22/19 11:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*79*		*43 - 145*	*05/20/19 16:43*	*05/22/19 11:22*	*1*
Nitrobenzene-d5 (Surr)	*61*		*37 - 147*	*05/20/19 16:43*	*05/22/19 11:22*	*1*
Terphenyl-d14 (Surr)	*92*		*42 - 157*	*05/20/19 16:43*	*05/22/19 11:22*	*1*

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

Client Sample ID: Trip Blank
Date Collected: 05/17/19 09:00
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-6
Matrix: Solid
Percent Solids: 100.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<7.3	*	13	7.3	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Bromobenzene	<18	*	50	18	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Bromochloromethane	<21	*	50	21	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Bromodichloromethane	<19		50	19	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Bromoform	<24		50	24	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Bromomethane	<40		150	40	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
n-Butylbenzene	<19		50	19	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
sec-Butylbenzene	<20		50	20	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
tert-Butylbenzene	<20	*	50	20	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Carbon tetrachloride	<19		50	19	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Chlorobenzene	<19	*	50	19	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Dibromochloromethane	<24		50	24	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Chloroethane	<25		50	25	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Chloroform	<19		100	19	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Chloromethane	<16		50	16	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
2-Chlorotoluene	<16		50	16	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
4-Chlorotoluene	<18		50	18	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,2-Dibromo-3-Chloropropane	<100		250	100	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,2-Dibromoethane	<19	*	50	19	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Dibromomethane	<14	*	50	14	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,2-Dichlorobenzene	<17		50	17	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,3-Dichlorobenzene	<20		50	20	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,4-Dichlorobenzene	<18		50	18	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Dichlorodifluoromethane	<34		150	34	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,1-Dichloroethane	<21	*	50	21	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,2-Dichloroethane	<20		50	20	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,1-Dichloroethene	<20		50	20	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
cis-1,2-Dichloroethene	<20	*	50	20	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
trans-1,2-Dichloroethene	<18		50	18	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,2-Dichloropropane	<21	*	50	21	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,3-Dichloropropane	<18		50	18	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
2,2-Dichloropropane	<22		50	22	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,1-Dichloropropene	<15		50	15	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
cis-1,3-Dichloropropene	<21		50	21	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
trans-1,3-Dichloropropene	<18		50	18	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Isopropyl ether	<14		50	14	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Ethylbenzene	<9.2	*	13	9.2	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Hexachlorobutadiene	<22		50	22	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Isopropylbenzene	<19		50	19	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
p-Isopropyltoluene	<18		50	18	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Methylene Chloride	<82	*	250	82	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Methyl tert-butyl ether	<20		50	20	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Naphthalene	<17		50	17	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
N-Propylbenzene	<21		50	21	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Styrene	<19	*	50	19	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,1,1,2-Tetrachloroethane	<23		50	23	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,1,2,2-Tetrachloroethane	<20		50	20	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Tetrachloroethene	<19		50	19	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Toluene	<7.4		13	7.4	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50

Client: AECOM Technical Services Inc.
Job ID: 500-163630-1
Project/Site: Enbridge Blackhawk - 60596530.3

Client Sample ID: Trip Blank
Lab Sample ID: 500-163630-6
Date Collected: 05/17/19 09:00
Matrix: Solid
Date Received: 05/18/19 09:40
Percent Solids: 100.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<23		50	23	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,2,4-Trichlorobenzene	<17		50	17	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,1,1-Trichloroethane	<19		50	19	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,1,2-Trichloroethane	<18	*	50	18	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Trichloroethene	<8.2	*	25	8.2	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Trichlorofluoromethane	<21		50	21	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,2,3-Trichloropropane	<21		100	21	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,2,4-Trimethylbenzene	<18		50	18	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
1,3,5-Trimethylbenzene	<19		50	19	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Vinyl chloride	<13		50	13	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50
Xylenes, Total	<11	*	25	11	ug/Kg	☼	05/17/19 09:00	05/23/19 02:18	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*75 - 126*	*05/17/19 09:00*	*05/23/19 02:18*	*50*
Toluene-d8 (Surr)	*104*		*75 - 120*	*05/17/19 09:00*	*05/23/19 02:18*	*50*
4-Bromofluorobenzene (Surr)	*89*		*72 - 124*	*05/17/19 09:00*	*05/23/19 02:18*	*50*
Dibromofluoromethane (Surr)	*90*		*75 - 120*	*05/17/19 09:00*	*05/23/19 02:18*	*50*

Client: AECOM Technical Services Inc. Job ID: 500-163630-1
Project/Site: Enbridge Blackhawk - 60596530.3

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Prep Batch: 486034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-1	13V-W(6)	Total/NA	Solid	5035	
500-163630-2 - DL	13V-E(6)	Total/NA	Solid	WI GRO	
500-163630-2	13V-E(6)	Total/NA	Solid	WI GRO	
500-163630-3 - DL	13V-S(6)	Total/NA	Solid	5035	
500-163630-3	13V-S(6)	Total/NA	Solid	5035	
500-163630-4	13V-N(6)	Total/NA	Solid	5035	
500-163630-5	13V-B(10)	Total/NA	Solid	5035	
500-163630-6	Trip Blank	Total/NA	Solid	5035	
LB3 500-486034/21-A	Method Blank	Total/NA	Solid	5035	
LCS 500-486034/22-A	Lab Control Sample	Total/NA	Solid	5035	

Leach Batch: 486625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-2	13V-E(6)	TCLP	Solid	1311	
LB 500-486625/1-A	Method Blank	TCLP	Solid	1311	

Analysis Batch: 486667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-1	13V-W(6)	Total/NA	Solid	8260B	486034
500-163630-5	13V-B(10)	Total/NA	Solid	8260B	486034
500-163630-6	Trip Blank	Total/NA	Solid	8260B	486034
LB3 500-486034/21-A	Method Blank	Total/NA	Solid	8260B	486034
MB 500-486667/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-486034/22-A	Lab Control Sample	Total/NA	Solid	8260B	486034
LCS 500-486667/4	Lab Control Sample	Total/NA	Solid	8260B	

Analysis Batch: 486731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-2	13V-E(6)	TCLP	Solid	8260B	486625
LB 500-486625/1-A	Method Blank	TCLP	Solid	8260B	486625
MB 500-486731/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-486731/4	Lab Control Sample	Total/NA	Solid	8260B	

Analysis Batch: 486732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-2	13V-E(6)	Total/NA	Solid	8260B	486034
500-163630-2 - DL	13V-E(6)	Total/NA	Solid	8260B	486034
500-163630-3	13V-S(6)	Total/NA	Solid	8260B	486034
500-163630-3 - DL	13V-S(6)	Total/NA	Solid	8260B	486034
500-163630-4	13V-N(6)	Total/NA	Solid	8260B	486034
MB 500-486732/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-486732/4	Lab Control Sample	Total/NA	Solid	8260B	

GC/MS Semi VOA

Prep Batch: 486207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-1	13V-W(6)	Total/NA	Solid	3541	
500-163630-2	13V-E(6)	Total/NA	Solid	3541	
500-163630-3	13V-S(6)	Total/NA	Solid	3541	
500-163630-4	13V-N(6)	Total/NA	Solid	3541	

GC/MS Semi VOA (Continued)

Prep Batch: 486207 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-5	13V-B(10)	Total/NA	Solid	3541	
MB 500-486207/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-486207/2-A	Lab Control Sample	Total/NA	Solid	3541	
500-163630-2 MS	13V-E(6)	Total/NA	Solid	3541	
500-163630-2 MSD	13V-E(6)	Total/NA	Solid	3541	

Analysis Batch: 486295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-1	13V-W(6)	Total/NA	Solid	8270D	486207
500-163630-2	13V-E(6)	Total/NA	Solid	8270D	486207
500-163630-3	13V-S(6)	Total/NA	Solid	8270D	486207
MB 500-486207/1-A	Method Blank	Total/NA	Solid	8270D	486207
LCS 500-486207/2-A	Lab Control Sample	Total/NA	Solid	8270D	486207

Analysis Batch: 486488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-4	13V-N(6)	Total/NA	Solid	8270D	486207
500-163630-5	13V-B(10)	Total/NA	Solid	8270D	486207
500-163630-2 MS	13V-E(6)	Total/NA	Solid	8270D	486207
500-163630-2 MSD	13V-E(6)	Total/NA	Solid	8270D	486207

GC VOA

Prep Batch: 486034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-2	13V-E(6)	Total/NA	Solid	WI GRO	
LB3 500-486034/21-A	Method Blank	Total/NA	Solid	5035	
LCS 500-486034/23-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 500-486034/24-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 486674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-2	13V-E(6)	Total/NA	Solid	WI-GRO	486034
LB3 500-486034/21-A	Method Blank	Total/NA	Solid	WI-GRO	486034
LCS 500-486034/23-A	Lab Control Sample	Total/NA	Solid	WI-GRO	486034
LCSD 500-486034/24-A	Lab Control Sample Dup	Total/NA	Solid	WI-GRO	486034

GC Semi VOA

Prep Batch: 486302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-2	13V-E(6)	Total/NA	Solid	WI DRO PREP	
MB 500-486302/1-A	Method Blank	Total/NA	Solid	WI DRO PREP	
LCS 500-486302/2-A	Lab Control Sample	Total/NA	Solid	WI DRO PREP	
LCSD 500-486302/3-A	Lab Control Sample Dup	Total/NA	Solid	WI DRO PREP	

Analysis Batch: 486356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-2	13V-E(6)	Total/NA	Solid	WI-DRO	486302
MB 500-486302/1-A	Method Blank	Total/NA	Solid	WI-DRO	486302
LCS 500-486302/2-A	Lab Control Sample	Total/NA	Solid	WI-DRO	486302
LCSD 500-486302/3-A	Lab Control Sample Dup	Total/NA	Solid	WI-DRO	486302

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

Metals

Leach Batch: 486171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-2	13V-E(6)	TCLP	Solid	1311	
LB 500-486171/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 486383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-2	13V-E(6)	TCLP	Solid	3010A	486171
LB 500-486171/1-C	Method Blank	TCLP	Solid	3010A	486171
LCS 500-486383/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Analysis Batch: 486614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-2	13V-E(6)	TCLP	Solid	6010D	486383
LB 500-486171/1-C	Method Blank	TCLP	Solid	6010D	486383
LCS 500-486383/2-A	Lab Control Sample	Total/NA	Solid	6010D	486383

General Chemistry

Analysis Batch: 486594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-163630-1	13V-W(6)	Total/NA	Solid	Moisture	
500-163630-2	13V-E(6)	Total/NA	Solid	Moisture	
500-163630-3	13V-S(6)	Total/NA	Solid	Moisture	
500-163630-4	13V-N(6)	Total/NA	Solid	Moisture	
500-163630-5	13V-B(10)	Total/NA	Solid	Moisture	
500-163630-6	Trip Blank	Total/NA	Solid	Moisture	
500-163630-1 DU	13V-W(6)	Total/NA	Solid	Moisture	

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

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

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA (75-126)	TOL (75-120)	BFB (72-124)	DBFM (75-120)
500-163630-1	13V-W(6)	92	104	93	90
500-163630-2	13V-E(6)	108	131 X	101	94
500-163630-2 - DL	13V-E(6)	93	92	101	89
500-163630-3	13V-S(6)	113	135 X	98	96
500-163630-3 - DL	13V-S(6)	95	93	102	91
500-163630-4	13V-N(6)	94	90	104	91
500-163630-5	13V-B(10)	90	104	91	94
500-163630-6	Trip Blank	91	104	89	90
LB3 500-486034/21-A	Method Blank	85	105	91	88
LCS 500-486034/22-A	Lab Control Sample	93	102	98	99
LCS 500-486667/4	Lab Control Sample	85	106	94	95
LCS 500-486731/4	Lab Control Sample	91	91	99	97
LCS 500-486732/4	Lab Control Sample	91	91	99	97
MB 500-486667/6	Method Blank	89	104	91	96
MB 500-486731/6	Method Blank	94	88	105	93
MB 500-486732/6	Method Blank	94	88	105	93

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

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

Matrix: Solid — **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA (75-126)	TOL (75-120)	BFB (72-124)	DBFM (75-120)
500-163630-2	13V-E(6)	93	88	102	91
LB 500-486625/1-A	Method Blank	91	88	103	90

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (43-145)	NBZ (37-147)	TPHL (42-157)
500-163630-1	13V-W(6)	86	92	91
500-163630-2	13V-E(6)	80	85	89
500-163630-2 MS	13V-E(6)	89	63	93
500-163630-2 MSD	13V-E(6)	78	57	83
500-163630-3	13V-S(6)	86	91	90
500-163630-4	13V-N(6)	82	61	94
500-163630-5	13V-B(10)	79	61	92

Surrogate Summary

Client: AECOM Technical Services Inc. Job ID: 500-163630-1
Project/Site: Enbridge Blackhawk - 60596530.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(43-145)	(37-147)	(42-157)
LCS 500-486207/2-A	Lab Control Sample	82	89	79
MB 500-486207/1-A	Method Blank	74	79	74

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		C9
Lab Sample ID	Client Sample ID	(44-148)
500-163630-2	13V-E(6)	174 X
LCS 500-486302/2-A	Lab Control Sample	102
LCSD 500-486302/3-A	Lab Control Sample Dup	91
MB 500-486302/1-A	Method Blank	81

Surrogate Legend

C9 = n-Nonane

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

Lab Sample ID: LB3 500-486034/21-A
Matrix: Solid
Analysis Batch: 486667

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 486034

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<7.3		13	7.3	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Bromobenzene	<18		50	18	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Bromochloromethane	<21		50	21	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Bromodichloromethane	<19		50	19	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Bromoform	<24		50	24	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Bromomethane	<40		150	40	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
n-Butylbenzene	<19		50	19	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
sec-Butylbenzene	<20		50	20	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
tert-Butylbenzene	<20		50	20	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Carbon tetrachloride	<19		50	19	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Chlorobenzene	<19		50	19	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Dibromochloromethane	<24		50	24	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Chloroethane	<25		50	25	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Chloroform	<19		100	19	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Chloromethane	<16		50	16	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
2-Chlorotoluene	<16		50	16	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
4-Chlorotoluene	<18		50	18	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,2-Dibromo-3-Chloropropane	<100		250	100	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,2-Dibromoethane	<19		50	19	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Dibromomethane	<14		50	14	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,2-Dichlorobenzene	<17		50	17	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,3-Dichlorobenzene	<20		50	20	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,4-Dichlorobenzene	<18		50	18	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Dichlorodifluoromethane	<34		150	34	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,1-Dichloroethane	<21		50	21	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,2-Dichloroethane	<20		50	20	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,1-Dichloroethene	<20		50	20	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
cis-1,2-Dichloroethene	<20		50	20	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
trans-1,2-Dichloroethene	<18		50	18	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,2-Dichloropropane	<21		50	21	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,3-Dichloropropane	<18		50	18	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
2,2-Dichloropropane	<22		50	22	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,1-Dichloropropene	<15		50	15	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
cis-1,3-Dichloropropene	<21		50	21	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
trans-1,3-Dichloropropene	<18		50	18	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Isopropyl ether	<14		50	14	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Ethylbenzene	<9.2		13	9.2	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Hexachlorobutadiene	<22		50	22	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Isopropylbenzene	<19		50	19	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
p-Isopropyltoluene	<18		50	18	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Methylene Chloride	<82		250	82	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Methyl tert-butyl ether	<20		50	20	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Naphthalene	<17		50	17	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
N-Propylbenzene	<21		50	21	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Styrene	<19		50	19	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,1,1,2-Tetrachloroethane	<23		50	23	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,1,2,2-Tetrachloroethane	<20		50	20	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Tetrachloroethene	<19		50	19	ug/Kg		05/19/19 16:05	05/22/19 23:46	50

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

Lab Sample ID: LB3 500-486034/21-A
Matrix: Solid
Analysis Batch: 486667

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 486034

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<7.4		13	7.4	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,2,3-Trichlorobenzene	<23		50	23	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,2,4-Trichlorobenzene	<17		50	17	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,1,1-Trichloroethane	<19		50	19	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,1,2-Trichloroethane	<18		50	18	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Trichloroethene	<8.2		25	8.2	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Trichlorofluoromethane	<21		50	21	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,2,3-Trichloropropane	<21		100	21	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,2,4-Trimethylbenzene	<18		50	18	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
1,3,5-Trimethylbenzene	<19		50	19	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Vinyl chloride	<13		50	13	ug/Kg		05/19/19 16:05	05/22/19 23:46	50
Xylenes, Total	<11		25	11	ug/Kg		05/19/19 16:05	05/22/19 23:46	50

Surrogate	*LB3 %Recovery*	*LB3 Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*75 - 126*	*05/19/19 16:05*	*05/22/19 23:46*	*50*
Toluene-d8 (Surr)	*105*		*75 - 120*	*05/19/19 16:05*	*05/22/19 23:46*	*50*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*	*05/19/19 16:05*	*05/22/19 23:46*	*50*
Dibromofluoromethane (Surr)	*88*		*75 - 120*	*05/19/19 16:05*	*05/22/19 23:46*	*50*

Lab Sample ID: LCS 500-486034/22-A
Matrix: Solid
Analysis Batch: 486667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 486034

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	2500	3190	*	ug/Kg		128	70 - 120
Bromobenzene	2500	3250	*	ug/Kg		130	70 - 122
Bromochloromethane	2500	3340	*	ug/Kg		134	65 - 122
Bromodichloromethane	2500	2990		ug/Kg		120	69 - 120
Bromoform	2500	2800		ug/Kg		112	56 - 132
Bromomethane	2500	2780		ug/Kg		111	40 - 152
n-Butylbenzene	2500	2800		ug/Kg		112	68 - 125
sec-Butylbenzene	2500	3010		ug/Kg		121	70 - 123
tert-Butylbenzene	2500	3050	*	ug/Kg		122	70 - 121
Carbon tetrachloride	2500	2590		ug/Kg		103	59 - 133
Chlorobenzene	2500	3180	*	ug/Kg		127	70 - 120
Dibromochloromethane	2500	3100		ug/Kg		124	68 - 125
Chloroethane	2500	1790		ug/Kg		72	48 - 136
Chloroform	2500	2940		ug/Kg		118	70 - 120
Chloromethane	2500	3150		ug/Kg		126	56 - 152
2-Chlorotoluene	2500	2940		ug/Kg		118	70 - 125
4-Chlorotoluene	2500	2850		ug/Kg		114	68 - 124
1,2-Dibromo-3-Chloropropane	2500	2570		ug/Kg		103	56 - 123
1,2-Dibromoethane	2500	3290	*	ug/Kg		131	70 - 125
Dibromomethane	2500	3110	*	ug/Kg		125	70 - 120
1,2-Dichlorobenzene	2500	3080		ug/Kg		123	70 - 125
1,3-Dichlorobenzene	2500	3040		ug/Kg		122	70 - 125
1,4-Dichlorobenzene	2500	2990		ug/Kg		120	70 - 120
Dichlorodifluoromethane	2500	1440		ug/Kg		58	40 - 159

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

Lab Sample ID: LCS 500-486034/22-A
Matrix: Solid
Analysis Batch: 486667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 486034

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	2500	3400	*	ug/Kg		136	70 - 125
1,2-Dichloroethane	2500	3020		ug/Kg		121	68 - 127
1,1-Dichloroethene	2500	2950		ug/Kg		118	67 - 122
cis-1,2-Dichloroethene	2500	3280	*	ug/Kg		131	70 - 125
trans-1,2-Dichloroethene	2500	3120		ug/Kg		125	70 - 125
1,2-Dichloropropane	2500	3890	*	ug/Kg		156	67 - 130
1,3-Dichloropropane	2500	3310		ug/Kg		132	62 - 136
2,2-Dichloropropane	2500	2590		ug/Kg		103	58 - 139
1,1-Dichloropropene	2500	2900		ug/Kg		116	70 - 121
cis-1,3-Dichloropropene	2500	3110		ug/Kg		124	64 - 127
trans-1,3-Dichloropropene	2500	3100		ug/Kg		124	62 - 128
Ethylbenzene	2500	3270	*	ug/Kg		131	70 - 123
Hexachlorobutadiene	2500	3420		ug/Kg		137	51 - 150
Isopropylbenzene	2500	3050		ug/Kg		122	70 - 126
p-Isopropyltoluene	2500	2980		ug/Kg		119	70 - 125
Methylene Chloride	2500	3310	*	ug/Kg		132	69 - 125
Methyl tert-butyl ether	2500	2890		ug/Kg		116	55 - 123
Naphthalene	2500	3030		ug/Kg		121	53 - 144
N-Propylbenzene	2500	2990		ug/Kg		120	69 - 127
Styrene	2500	3290	*	ug/Kg		132	70 - 120
1,1,1,2-Tetrachloroethane	2500	3100		ug/Kg		124	70 - 125
1,1,2,2-Tetrachloroethane	2500	3130		ug/Kg		125	62 - 140
Tetrachloroethene	2500	3120		ug/Kg		125	70 - 128
Toluene	2500	3030		ug/Kg		121	70 - 125
1,2,3-Trichlorobenzene	2500	3270		ug/Kg		131	51 - 145
1,2,4-Trichlorobenzene	2500	3080		ug/Kg		123	57 - 137
1,1,1-Trichloroethane	2500	2740		ug/Kg		110	70 - 125
1,1,2-Trichloroethane	2500	3380	*	ug/Kg		135	71 - 130
Trichloroethene	2500	3180	*	ug/Kg		127	70 - 125
Trichlorofluoromethane	2500	2410		ug/Kg		96	55 - 128
1,2,3-Trichloropropane	2500	3210		ug/Kg		128	50 - 133
1,2,4-Trimethylbenzene	2500	3040		ug/Kg		122	70 - 123
1,3,5-Trimethylbenzene	2500	3030		ug/Kg		121	70 - 123
Vinyl chloride	2500	2860		ug/Kg		114	64 - 126
Xylenes, Total	5000	6320	*	ug/Kg		126	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 126*
Toluene-d8 (Surr)	*102*		*75 - 120*
4-Bromofluorobenzene (Surr)	*98*		*72 - 124*
Dibromofluoromethane (Surr)	*99*		*75 - 120*

Lab Sample ID: MB 500-486667/6
Matrix: Solid
Analysis Batch: 486667

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.25	0.15	ug/Kg			05/22/19 23:20	1

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

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

Lab Sample ID: MB 500-486667/6
Matrix: Solid
Analysis Batch: 486667

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	<0.36		1.0	0.36	ug/Kg			05/22/19 23:20	1
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			05/22/19 23:20	1
Bromodichloromethane	<0.37		1.0	0.37	ug/Kg			05/22/19 23:20	1
Bromoform	<0.48		1.0	0.48	ug/Kg			05/22/19 23:20	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			05/22/19 23:20	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			05/22/19 23:20	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			05/22/19 23:20	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			05/22/19 23:20	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			05/22/19 23:20	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			05/22/19 23:20	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			05/22/19 23:20	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			05/22/19 23:20	1
Chloroform	<0.37		2.0	0.37	ug/Kg			05/22/19 23:20	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			05/22/19 23:20	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			05/22/19 23:20	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			05/22/19 23:20	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			05/22/19 23:20	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/Kg			05/22/19 23:20	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			05/22/19 23:20	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			05/22/19 23:20	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			05/22/19 23:20	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			05/22/19 23:20	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			05/22/19 23:20	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			05/22/19 23:20	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			05/22/19 23:20	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			05/22/19 23:20	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			05/22/19 23:20	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			05/22/19 23:20	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			05/22/19 23:20	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			05/22/19 23:20	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			05/22/19 23:20	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			05/22/19 23:20	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			05/22/19 23:20	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			05/22/19 23:20	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			05/22/19 23:20	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			05/22/19 23:20	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			05/22/19 23:20	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			05/22/19 23:20	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			05/22/19 23:20	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			05/22/19 23:20	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			05/22/19 23:20	1
Naphthalene	<0.33		1.0	0.33	ug/Kg			05/22/19 23:20	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			05/22/19 23:20	1
Styrene	<0.39		1.0	0.39	ug/Kg			05/22/19 23:20	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			05/22/19 23:20	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			05/22/19 23:20	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			05/22/19 23:20	1
Toluene	<0.15		0.25	0.15	ug/Kg			05/22/19 23:20	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			05/22/19 23:20	1

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

Lab Sample ID: MB 500-486667/6
Matrix: Solid
Analysis Batch: 486667

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			05/22/19 23:20	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			05/22/19 23:20	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			05/22/19 23:20	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			05/22/19 23:20	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			05/22/19 23:20	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			05/22/19 23:20	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			05/22/19 23:20	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			05/22/19 23:20	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			05/22/19 23:20	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			05/22/19 23:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*75 - 126*		*05/22/19 23:20*	*1*
Toluene-d8 (Surr)	*104*		*75 - 120*		*05/22/19 23:20*	*1*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*		*05/22/19 23:20*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 120*		*05/22/19 23:20*	*1*

Lab Sample ID: LCS 500-486667/4
Matrix: Solid
Analysis Batch: 486667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.9		ug/Kg		104	70 - 120
Bromobenzene	50.0	54.6		ug/Kg		109	70 - 122
Bromochloromethane	50.0	53.8		ug/Kg		108	65 - 122
Bromodichloromethane	50.0	46.1		ug/Kg		92	69 - 120
Bromoform	50.0	44.5		ug/Kg		89	56 - 132
Bromomethane	50.0	43.8		ug/Kg		88	40 - 152
n-Butylbenzene	50.0	52.8		ug/Kg		106	68 - 125
sec-Butylbenzene	50.0	53.9		ug/Kg		108	70 - 123
tert-Butylbenzene	50.0	53.3		ug/Kg		107	70 - 121
Carbon tetrachloride	50.0	44.7		ug/Kg		89	59 - 133
Chlorobenzene	50.0	54.5		ug/Kg		109	70 - 120
Dibromochloromethane	50.0	50.1		ug/Kg		100	68 - 125
Chloroethane	50.0	40.8		ug/Kg		82	48 - 136
Chloroform	50.0	46.8		ug/Kg		94	70 - 120
Chloromethane	50.0	44.8		ug/Kg		90	56 - 152
2-Chlorotoluene	50.0	50.2		ug/Kg		100	70 - 125
4-Chlorotoluene	50.0	48.9		ug/Kg		98	68 - 124
1,2-Dibromo-3-Chloropropane	50.0	39.8		ug/Kg		80	56 - 123
1,2-Dibromoethane	50.0	53.8		ug/Kg		108	70 - 125
Dibromomethane	50.0	48.4		ug/Kg		97	70 - 120
1,2-Dichlorobenzene	50.0	52.5		ug/Kg		105	70 - 125
1,3-Dichlorobenzene	50.0	53.0		ug/Kg		106	70 - 125
1,4-Dichlorobenzene	50.0	52.4		ug/Kg		105	70 - 120
Dichlorodifluoromethane	50.0	40.8		ug/Kg		82	40 - 159
1,1-Dichloroethane	50.0	55.6		ug/Kg		111	70 - 125
1,2-Dichloroethane	50.0	45.8		ug/Kg		92	68 - 127

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

Lab Sample ID: LCS 500-486667/4
Matrix: Solid
Analysis Batch: 486667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	50.0	53.0		ug/Kg		106	67 - 122
cis-1,2-Dichloroethene	50.0	53.8		ug/Kg		108	70 - 125
trans-1,2-Dichloroethene	50.0	52.8		ug/Kg		106	70 - 125
1,2-Dichloropropane	50.0	62.1		ug/Kg		124	67 - 130
1,3-Dichloropropane	50.0	54.0		ug/Kg		108	62 - 136
2,2-Dichloropropane	50.0	42.4		ug/Kg		85	58 - 139
1,1-Dichloropropene	50.0	49.3		ug/Kg		99	70 - 121
cis-1,3-Dichloropropene	50.0	51.0		ug/Kg		102	64 - 127
trans-1,3-Dichloropropene	50.0	49.3		ug/Kg		99	62 - 128
Ethylbenzene	50.0	56.9		ug/Kg		114	70 - 123
Hexachlorobutadiene	50.0	64.3		ug/Kg		129	51 - 150
Isopropylbenzene	50.0	53.4		ug/Kg		107	70 - 126
p-Isopropyltoluene	50.0	54.4		ug/Kg		109	70 - 125
Methylene Chloride	50.0	53.5		ug/Kg		107	69 - 125
Methyl tert-butyl ether	50.0	44.1		ug/Kg		88	55 - 123
Naphthalene	50.0	51.9		ug/Kg		104	53 - 144
N-Propylbenzene	50.0	53.3		ug/Kg		107	69 - 127
Styrene	50.0	56.4		ug/Kg		113	70 - 120
1,1,1,2-Tetrachloroethane	50.0	52.6		ug/Kg		105	70 - 125
1,1,2,2-Tetrachloroethane	50.0	53.0		ug/Kg		106	62 - 140
Tetrachloroethene	50.0	57.1		ug/Kg		114	70 - 128
Toluene	50.0	52.0		ug/Kg		104	70 - 125
1,2,3-Trichlorobenzene	50.0	60.4		ug/Kg		121	51 - 145
1,2,4-Trichlorobenzene	50.0	59.4		ug/Kg		119	57 - 137
1,1,1-Trichloroethane	50.0	44.9		ug/Kg		90	70 - 125
1,1,2-Trichloroethane	50.0	55.3		ug/Kg		111	71 - 130
Trichloroethene	50.0	51.5		ug/Kg		103	70 - 125
Trichlorofluoromethane	50.0	41.0		ug/Kg		82	55 - 128
1,2,3-Trichloropropane	50.0	51.0		ug/Kg		102	50 - 133
1,2,4-Trimethylbenzene	50.0	53.1		ug/Kg		106	70 - 123
1,3,5-Trimethylbenzene	50.0	53.2		ug/Kg		106	70 - 123
Vinyl chloride	50.0	38.9		ug/Kg		78	64 - 126
Xylenes, Total	100	110		ug/Kg		110	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*85*		*75 - 126*
Toluene-d8 (Surr)	*106*		*75 - 120*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*
Dibromofluoromethane (Surr)	*95*		*75 - 120*

Lab Sample ID: MB 500-486731/6
Matrix: Solid
Analysis Batch: 486731

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		1.0	0.50	ug/L			05/23/19 11:28	1

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

Lab Sample ID: MB 500-486731/6
Matrix: Solid
Analysis Batch: 486731

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 126		05/23/19 11:28	1
Toluene-d8 (Surr)	88		75 - 120		05/23/19 11:28	1
4-Bromofluorobenzene (Surr)	105		72 - 124		05/23/19 11:28	1
Dibromofluoromethane (Surr)	93		75 - 120		05/23/19 11:28	1

Lab Sample ID: LCS 500-486731/4
Matrix: Solid
Analysis Batch: 486731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	47.4		ug/L		95	70 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		75 - 126
Toluene-d8 (Surr)	91		75 - 120
4-Bromofluorobenzene (Surr)	99		72 - 124
Dibromofluoromethane (Surr)	97		75 - 120

Lab Sample ID: MB 500-486732/6
Matrix: Solid
Analysis Batch: 486732

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.25	0.15	ug/Kg			05/23/19 11:28	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			05/23/19 11:28	1
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			05/23/19 11:28	1
Bromodichloromethane	<0.37		1.0	0.37	ug/Kg			05/23/19 11:28	1
Bromoform	<0.48		1.0	0.48	ug/Kg			05/23/19 11:28	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			05/23/19 11:28	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			05/23/19 11:28	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			05/23/19 11:28	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			05/23/19 11:28	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			05/23/19 11:28	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			05/23/19 11:28	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			05/23/19 11:28	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			05/23/19 11:28	1
Chloroform	<0.37		2.0	0.37	ug/Kg			05/23/19 11:28	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			05/23/19 11:28	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			05/23/19 11:28	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			05/23/19 11:28	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			05/23/19 11:28	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/Kg			05/23/19 11:28	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			05/23/19 11:28	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			05/23/19 11:28	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			05/23/19 11:28	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			05/23/19 11:28	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			05/23/19 11:28	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			05/23/19 11:28	1

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

Lab Sample ID: MB 500-486732/6
Matrix: Solid
Analysis Batch: 486732

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			05/23/19 11:28	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			05/23/19 11:28	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			05/23/19 11:28	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			05/23/19 11:28	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			05/23/19 11:28	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			05/23/19 11:28	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			05/23/19 11:28	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			05/23/19 11:28	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			05/23/19 11:28	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			05/23/19 11:28	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			05/23/19 11:28	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			05/23/19 11:28	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			05/23/19 11:28	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			05/23/19 11:28	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			05/23/19 11:28	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			05/23/19 11:28	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			05/23/19 11:28	1
Naphthalene	<0.33		1.0	0.33	ug/Kg			05/23/19 11:28	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			05/23/19 11:28	1
Styrene	<0.39		1.0	0.39	ug/Kg			05/23/19 11:28	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			05/23/19 11:28	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			05/23/19 11:28	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			05/23/19 11:28	1
Toluene	<0.15		0.25	0.15	ug/Kg			05/23/19 11:28	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			05/23/19 11:28	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			05/23/19 11:28	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			05/23/19 11:28	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			05/23/19 11:28	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			05/23/19 11:28	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			05/23/19 11:28	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			05/23/19 11:28	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			05/23/19 11:28	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			05/23/19 11:28	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			05/23/19 11:28	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			05/23/19 11:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 126*		*05/23/19 11:28*	*1*
Toluene-d8 (Surr)	*88*		*75 - 120*		*05/23/19 11:28*	*1*
4-Bromofluorobenzene (Surr)	*105*		*72 - 124*		*05/23/19 11:28*	*1*
Dibromofluoromethane (Surr)	*93*		*75 - 120*		*05/23/19 11:28*	*1*

Lab Sample ID: LCS 500-486732/4
Matrix: Solid
Analysis Batch: 486732

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	47.4		ug/Kg		95	70 - 120

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

Lab Sample ID: LCS 500-486732/4
Matrix: Solid
Analysis Batch: 486732

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromobenzene	50.0	51.4		ug/Kg		103	70 - 122
Bromochloromethane	50.0	52.2		ug/Kg		104	65 - 122
Bromodichloromethane	50.0	45.5		ug/Kg		91	69 - 120
Bromoform	50.0	41.3		ug/Kg		83	56 - 132
Bromomethane	50.0	33.0		ug/Kg		66	40 - 152
n-Butylbenzene	50.0	46.2		ug/Kg		92	68 - 125
sec-Butylbenzene	50.0	48.1		ug/Kg		96	70 - 123
tert-Butylbenzene	50.0	50.4		ug/Kg		101	70 - 121
Carbon tetrachloride	50.0	46.2		ug/Kg		92	59 - 133
Chlorobenzene	50.0	49.6		ug/Kg		99	70 - 120
Dibromochloromethane	50.0	45.0		ug/Kg		90	68 - 125
Chloroethane	50.0	32.5		ug/Kg		65	48 - 136
Chloroform	50.0	45.7		ug/Kg		91	70 - 120
Chloromethane	50.0	54.7		ug/Kg		109	56 - 152
2-Chlorotoluene	50.0	47.7		ug/Kg		95	70 - 125
4-Chlorotoluene	50.0	47.9		ug/Kg		96	68 - 124
1,2-Dibromo-3-Chloropropane	50.0	41.1		ug/Kg		82	56 - 123
1,2-Dibromoethane	50.0	49.8		ug/Kg		100	70 - 125
Dibromomethane	50.0	47.8		ug/Kg		96	70 - 120
1,2-Dichlorobenzene	50.0	50.0		ug/Kg		100	70 - 125
1,3-Dichlorobenzene	50.0	49.5		ug/Kg		99	70 - 125
1,4-Dichlorobenzene	50.0	50.4		ug/Kg		101	70 - 120
Dichlorodifluoromethane	50.0	42.0		ug/Kg		84	40 - 159
1,1-Dichloroethane	50.0	50.1		ug/Kg		100	70 - 125
1,2-Dichloroethane	50.0	45.5		ug/Kg		91	68 - 127
1,1-Dichloroethene	50.0	46.7		ug/Kg		93	67 - 122
cis-1,2-Dichloroethene	50.0	49.0		ug/Kg		98	70 - 125
trans-1,2-Dichloroethene	50.0	49.3		ug/Kg		99	70 - 125
1,2-Dichloropropane	50.0	53.9		ug/Kg		108	67 - 130
1,3-Dichloropropane	50.0	48.4		ug/Kg		97	62 - 136
2,2-Dichloropropane	50.0	48.0		ug/Kg		96	58 - 139
1,1-Dichloropropene	50.0	47.6		ug/Kg		95	70 - 121
cis-1,3-Dichloropropene	50.0	45.4		ug/Kg		91	64 - 127
trans-1,3-Dichloropropene	50.0	45.2		ug/Kg		90	62 - 128
Ethylbenzene	50.0	49.0		ug/Kg		98	70 - 123
Hexachlorobutadiene	50.0	46.2		ug/Kg		92	51 - 150
Isopropylbenzene	50.0	50.2		ug/Kg		100	70 - 126
p-Isopropyltoluene	50.0	49.8		ug/Kg		100	70 - 125
Methylene Chloride	50.0	48.0		ug/Kg		96	69 - 125
Methyl tert-butyl ether	50.0	45.2		ug/Kg		90	55 - 123
Naphthalene	50.0	52.7		ug/Kg		105	53 - 144
N-Propylbenzene	50.0	48.8		ug/Kg		98	69 - 127
Styrene	50.0	51.2		ug/Kg		102	70 - 120
1,1,1,2-Tetrachloroethane	50.0	46.9		ug/Kg		94	70 - 125
1,1,2,2-Tetrachloroethane	50.0	45.3		ug/Kg		91	62 - 140
Tetrachloroethene	50.0	51.9		ug/Kg		104	70 - 128
Toluene	50.0	48.5		ug/Kg		97	70 - 125
1,2,3-Trichlorobenzene	50.0	57.1		ug/Kg		114	51 - 145
1,2,4-Trichlorobenzene	50.0	53.8		ug/Kg		108	57 - 137

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

Lab Sample ID: LCS 500-486732/4
Matrix: Solid
Analysis Batch: 486732

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	48.7		ug/Kg		97	70 - 125
1,1,2-Trichloroethane	50.0	47.8		ug/Kg		96	71 - 130
Trichloroethene	50.0	53.1		ug/Kg		106	70 - 125
Trichlorofluoromethane	50.0	42.8		ug/Kg		86	55 - 128
1,2,3-Trichloropropane	50.0	49.3		ug/Kg		99	50 - 133
1,2,4-Trimethylbenzene	50.0	49.0		ug/Kg		98	70 - 123
1,3,5-Trimethylbenzene	50.0	48.9		ug/Kg		98	70 - 123
Vinyl chloride	50.0	45.5		ug/Kg		91	64 - 126
Xylenes, Total	100	96.6		ug/Kg		97	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*75 - 126*
Toluene-d8 (Surr)	*91*		*75 - 120*
4-Bromofluorobenzene (Surr)	*99*		*72 - 124*
Dibromofluoromethane (Surr)	*97*		*75 - 120*

Lab Sample ID: LB 500-486625/1-A
Matrix: Solid
Analysis Batch: 486731

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<10		20	10	ug/L			05/23/19 11:54	20

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*75 - 126*		*05/23/19 11:54*	*20*
Toluene-d8 (Surr)	*88*		*75 - 120*		*05/23/19 11:54*	*20*
4-Bromofluorobenzene (Surr)	*103*		*72 - 124*		*05/23/19 11:54*	*20*
Dibromofluoromethane (Surr)	*90*		*75 - 120*		*05/23/19 11:54*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-486207/1-A
Matrix: Solid
Analysis Batch: 486295

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 486207

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<8.1		67	8.1	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
2-Methylnaphthalene	<6.1		67	6.1	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Acenaphthene	<6.0		33	6.0	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Acenaphthylene	<4.4		33	4.4	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Anthracene	<5.6		33	5.6	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Benzo[a]anthracene	<4.5		33	4.5	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Benzo[a]pyrene	<6.4		33	6.4	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Benzo[b]fluoranthene	<7.2		33	7.2	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Benzo[g,h,i]perylene	<11		33	11	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Benzo[k]fluoranthene	<9.8		33	9.8	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Chrysene	<9.1		33	9.1	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Dibenz(a,h)anthracene	<6.4		33	6.4	ug/Kg		05/20/19 16:43	05/21/19 11:29	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-486207/1-A
Matrix: Solid
Analysis Batch: 486295

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 486207

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<6.2		33	6.2	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Fluorene	<4.7		33	4.7	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Indeno[1,2,3-cd]pyrene	<8.6		33	8.6	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Naphthalene	<5.1		33	5.1	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Phenanthrene	<4.6		33	4.6	ug/Kg		05/20/19 16:43	05/21/19 11:29	1
Pyrene	<6.6		33	6.6	ug/Kg		05/20/19 16:43	05/21/19 11:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*74*		*43 - 145*	*05/20/19 16:43*	*05/21/19 11:29*	*1*
Nitrobenzene-d5 (Surr)	*79*		*37 - 147*	*05/20/19 16:43*	*05/21/19 11:29*	*1*
Terphenyl-d14 (Surr)	*74*		*42 - 157*	*05/20/19 16:43*	*05/21/19 11:29*	*1*

Lab Sample ID: LCS 500-486207/2-A
Matrix: Solid
Analysis Batch: 486295

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 486207

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	1330	1270		ug/Kg		95	68 - 111
2-Methylnaphthalene	1330	1320		ug/Kg		99	69 - 112
Acenaphthene	1330	1090		ug/Kg		82	65 - 124
Acenaphthylene	1330	1100		ug/Kg		83	68 - 120
Anthracene	1330	1190		ug/Kg		89	70 - 114
Benzo[a]anthracene	1330	1090		ug/Kg		82	67 - 122
Benzo[a]pyrene	1330	1240		ug/Kg		93	65 - 133
Benzo[b]fluoranthene	1330	1350		ug/Kg		102	69 - 129
Benzo[g,h,i]perylene	1330	1390		ug/Kg		104	72 - 131
Benzo[k]fluoranthene	1330	1290		ug/Kg		97	68 - 127
Chrysene	1330	1140		ug/Kg		86	63 - 120
Dibenz(a,h)anthracene	1330	1220		ug/Kg		92	64 - 131
Fluoranthene	1330	1250		ug/Kg		94	62 - 120
Fluorene	1330	1160		ug/Kg		87	62 - 120
Indeno[1,2,3-cd]pyrene	1330	1260		ug/Kg		95	68 - 130
Naphthalene	1330	1230		ug/Kg		92	63 - 110
Phenanthrene	1330	1170		ug/Kg		88	62 - 120
Pyrene	1330	1040		ug/Kg		78	61 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*82*		*43 - 145*
Nitrobenzene-d5 (Surr)	*89*		*37 - 147*
Terphenyl-d14 (Surr)	*79*		*42 - 157*

Lab Sample ID: 500-163630-2 MS
Matrix: Solid
Analysis Batch: 486488

Client Sample ID: 13V-E(6)
Prep Type: Total/NA
Prep Batch: 486207

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	29	J	1470	1290		ug/Kg	☼	86	68 - 111
2-Methylnaphthalene	52	J	1470	1260		ug/Kg	☼	82	69 - 112

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-163630-2 MS
Matrix: Solid
Analysis Batch: 486488

Client Sample ID: 13V-E(6)
Prep Type: Total/NA
Prep Batch: 486207

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	<6.6		1470	1310		ug/Kg	☼	89	65 - 124
Acenaphthylene	<4.8		1470	1180		ug/Kg	☼	80	68 - 120
Anthracene	<6.1		1470	1280		ug/Kg	☼	87	70 - 114
Benzo[a]anthracene	<4.9		1470	1180		ug/Kg	☼	81	67 - 122
Benzo[a]pyrene	<7.1		1470	1430		ug/Kg	☼	98	65 - 133
Benzo[b]fluoranthene	<7.9		1470	1550		ug/Kg	☼	105	69 - 129
Benzo[g,h,i]perylene	<12	F1	1470	756	F1	ug/Kg	☼	51	72 - 131
Benzo[k]fluoranthene	<11		1470	1580		ug/Kg	☼	108	68 - 127
Chrysene	<10		1470	1180		ug/Kg	☼	80	63 - 120
Dibenz(a,h)anthracene	<7.1	F1	1470	935		ug/Kg	☼	64	64 - 131
Fluoranthene	<6.8		1470	1240		ug/Kg	☼	84	62 - 120
Fluorene	<5.1		1470	1290		ug/Kg	☼	88	62 - 120
Indeno[1,2,3-cd]pyrene	<9.5	F1	1470	918	F1	ug/Kg	☼	62	68 - 130
Naphthalene	33	J	1470	1210		ug/Kg	☼	80	63 - 110
Phenanthrene	<5.1		1470	1270		ug/Kg	☼	86	62 - 120
Pyrene	<7.3		1470	1330		ug/Kg	☼	90	61 - 128

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*89*		*43 - 145*
Nitrobenzene-d5 (Surr)	*63*		*37 - 147*
Terphenyl-d14 (Surr)	*93*		*42 - 157*

Lab Sample ID: 500-163630-2 MSD
Matrix: Solid
Analysis Batch: 486488

Client Sample ID: 13V-E(6)
Prep Type: Total/NA
Prep Batch: 486207

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	29	J	1470	1200		ug/Kg	☼	79	68 - 111	7	30
2-Methylnaphthalene	52	J	1470	1160		ug/Kg	☼	75	69 - 112	9	30
Acenaphthene	<6.6		1470	1170		ug/Kg	☼	79	65 - 124	11	30
Acenaphthylene	<4.8		1470	1040		ug/Kg	☼	70	68 - 120	13	30
Anthracene	<6.1		1470	1090		ug/Kg	☼	74	70 - 114	16	30
Benzo[a]anthracene	<4.9		1470	1080		ug/Kg	☼	73	67 - 122	9	30
Benzo[a]pyrene	<7.1		1470	1320		ug/Kg	☼	89	65 - 133	9	30
Benzo[b]fluoranthene	<7.9		1470	1380		ug/Kg	☼	94	69 - 129	11	30
Benzo[g,h,i]perylene	<12	F1	1470	656	F1	ug/Kg	☼	45	72 - 131	14	30
Benzo[k]fluoranthene	<11		1470	1370		ug/Kg	☼	93	68 - 127	14	30
Chrysene	<10		1470	1040		ug/Kg	☼	70	63 - 120	12	30
Dibenz(a,h)anthracene	<7.1	F1	1470	853	F1	ug/Kg	☼	58	64 - 131	9	30
Fluoranthene	<6.8		1470	1110		ug/Kg	☼	76	62 - 120	11	30
Fluorene	<5.1		1470	1130		ug/Kg	☼	77	62 - 120	13	30
Indeno[1,2,3-cd]pyrene	<9.5	F1	1470	784	F1	ug/Kg	☼	53	68 - 130	16	30
Naphthalene	33	J	1470	1120		ug/Kg	☼	74	63 - 110	7	30
Phenanthrene	<5.1		1470	1130		ug/Kg	☼	77	62 - 120	11	30
Pyrene	<7.3		1470	1180		ug/Kg	☼	80	61 - 128	12	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*78*		*43 - 145*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-163630-2 MSD
Matrix: Solid
Analysis Batch: 486488

Client Sample ID: 13V-E(6)
Prep Type: Total/NA
Prep Batch: 486207

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Nitrobenzene-d5 (Surr)	*57*		*37 - 147*
Terphenyl-d14 (Surr)	*83*		*42 - 157*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Lab Sample ID: LB3 500-486034/21-A
Matrix: Solid
Analysis Batch: 486674

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 486034

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C5-C10)	<500		1500	500	ug/Kg		05/19/19 16:05	05/23/19 06:58	50

Lab Sample ID: LCS 500-486034/23-A
Matrix: Solid
Analysis Batch: 486674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 486034

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
WI Gasoline Range Organics (C5-C10)	20000	20100		ug/Kg		100	80 - 120

Lab Sample ID: LCSD 500-486034/24-A
Matrix: Solid
Analysis Batch: 486674

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 486034

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Gasoline Range Organics (C5-C10)	20000	20700		ug/Kg		103	80 - 120	3	20

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 500-486302/1-A
Matrix: Solid
Analysis Batch: 486356

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 486302

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<1.6		4.0	1.6	mg/Kg		05/21/19 09:25	05/21/19 15:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*81*		*44 - 148*	*05/21/19 09:25*	*05/21/19 15:14*	*1*

Lab Sample ID: LCS 500-486302/2-A
Matrix: Solid
Analysis Batch: 486356

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 486302

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
WI Diesel Range Organics (C10-C28)	20.0	23.4		mg/Kg		117	70 - 120

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC) (Continued)

Lab Sample ID: LCS 500-486302/2-A
Matrix: Solid
Analysis Batch: 486356

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 486302

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Nonane	*102*		*44 - 148*

Lab Sample ID: LCSD 500-486302/3-A
Matrix: Solid
Analysis Batch: 486356

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 486302

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Diesel Range Organics (C10-C28)			20.0	22.1		mg/Kg		111	70 - 120	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Nonane	*91*		*44 - 148*

Method: 6010D - Metals (ICP)

Lab Sample ID: LCS 500-486383/2-A
Matrix: Solid
Analysis Batch: 486614

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 486383

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead			0.100	0.109		mg/L		109	80 - 120

Lab Sample ID: LB 500-486171/1-C
Matrix: Solid
Analysis Batch: 486614

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 486383

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.050	0.0075	mg/L		05/21/19 14:47	05/22/19 09:23	1

Client Sample ID: 13V-W(6)
Lab Sample ID: 500-163630-1
Date Collected: 05/17/19 10:00
Matrix: Solid
Date Received: 05/18/19 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	486594	05/22/19 13:52	LWN	TAL CHI

Client Sample ID: 13V-W(6)
Lab Sample ID: 500-163630-1
Date Collected: 05/17/19 10:00
Matrix: Solid
Date Received: 05/18/19 09:40
Percent Solids: 87.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			486034	05/17/19 10:00	WRE	TAL CHI
Total/NA	Analysis	8260B		50	486667	05/23/19 02:43	JDD	TAL CHI
Total/NA	Prep	3541			486207	05/20/19 16:43	NRJ	TAL CHI
Total/NA	Analysis	8270D		1	486295	05/21/19 15:04	STW	TAL CHI

Client Sample ID: 13V-E(6)
Lab Sample ID: 500-163630-2
Date Collected: 05/17/19 10:05
Matrix: Solid
Date Received: 05/18/19 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			486625	05/22/19 15:00	GCA	TAL CHI
TCLP	Analysis	8260B		20	486731	05/23/19 12:44	EMA	TAL CHI
TCLP	Leach	1311			486171	05/20/19 13:30	GCA	TAL CHI
TCLP	Prep	3010A			486383	05/21/19 14:47	BDE	TAL CHI
TCLP	Analysis	6010D		1	486614	05/22/19 12:27	JEF	TAL CHI
Total/NA	Analysis	Moisture		1	486594	05/22/19 13:52	LWN	TAL CHI

Client Sample ID: 13V-E(6)
Lab Sample ID: 500-163630-2
Date Collected: 05/17/19 10:05
Matrix: Solid
Date Received: 05/18/19 09:40
Percent Solids: 89.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	WI GRO			486034	05/17/19 10:05	WRE	TAL CHI
Total/NA	Analysis	8260B		200	486732	05/23/19 13:35	EMA	TAL CHI
Total/NA	Prep	WI GRO	DL		486034	05/17/19 10:05	WRE	TAL CHI
Total/NA	Analysis	8260B	DL	2000	486732	05/23/19 14:00	EMA	TAL CHI
Total/NA	Prep	3541			486207	05/20/19 16:43	NRJ	TAL CHI
Total/NA	Analysis	8270D		1	486295	05/21/19 15:31	STW	TAL CHI
Total/NA	Prep	WI GRO			486034	05/17/19 10:05	WRE	TAL CHI
Total/NA	Analysis	WI-GRO		5000	486674	05/23/19 08:08	WRE	TAL CHI
Total/NA	Prep	WI DRO PREP			486302	05/21/19 09:25	BSO	TAL CHI
Total/NA	Analysis	WI-DRO		1	486356	05/21/19 18:12	BJH	TAL CHI

Client Sample ID: 13V-S(6)
Lab Sample ID: 500-163630-3
Date Collected: 05/17/19 10:10
Matrix: Solid
Date Received: 05/18/19 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	486594	05/22/19 13:52	LWN	TAL CHI

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

Client Sample ID: 13V-S(6)
Date Collected: 05/17/19 10:10
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-3
Matrix: Solid
Percent Solids: 95.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			486034	05/17/19 10:10	WRE	TAL CHI
Total/NA	Analysis	8260B		200	486732	05/23/19 14:25	EMA	TAL CHI
Total/NA	Prep	5035	DL		486034	05/17/19 10:10	WRE	TAL CHI
Total/NA	Analysis	8260B	DL	2000	486732	05/23/19 14:51	EMA	TAL CHI
Total/NA	Prep	3541			486207	05/20/19 16:43	NRJ	TAL CHI
Total/NA	Analysis	8270D		1	486295	05/21/19 15:57	STW	TAL CHI

Client Sample ID: 13V-N(6)
Date Collected: 05/17/19 10:15
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	486594	05/22/19 13:52	LWN	TAL CHI

Client Sample ID: 13V-N(6)
Date Collected: 05/17/19 10:15
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-4
Matrix: Solid
Percent Solids: 86.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			486034	05/17/19 10:15	WRE	TAL CHI
Total/NA	Analysis	8260B		100	486732	05/23/19 15:16	EMA	TAL CHI
Total/NA	Prep	3541			486207	05/20/19 16:43	NRJ	TAL CHI
Total/NA	Analysis	8270D		1	486488	05/22/19 10:53	AJD	TAL CHI

Client Sample ID: 13V-B(10)
Date Collected: 05/17/19 10:45
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	486594	05/22/19 13:52	LWN	TAL CHI

Client Sample ID: 13V-B(10)
Date Collected: 05/17/19 10:45
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-5
Matrix: Solid
Percent Solids: 86.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			486034	05/17/19 10:45	WRE	TAL CHI
Total/NA	Analysis	8260B		50	486667	05/23/19 04:25	JDD	TAL CHI
Total/NA	Prep	3541			486207	05/20/19 16:43	NRJ	TAL CHI
Total/NA	Analysis	8270D		1	486488	05/22/19 11:22	AJD	TAL CHI

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: Enbridge Blackhawk - 60596530.3

Job ID: 500-163630-1

Client Sample ID: Trip Blank
Date Collected: 05/17/19 09:00
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	486594	05/22/19 13:52	LWN	TAL CHI

Client Sample ID: Trip Blank
Date Collected: 05/17/19 09:00
Date Received: 05/18/19 09:40

Lab Sample ID: 500-163630-6
Matrix: Solid
Percent Solids: 100.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			486034	05/17/19 09:00	WRE	TAL CHI
Total/NA	Analysis	8260B		50	486667	05/23/19 02:18	JDD	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 500-163630-1
Project/Site: Enbridge Blackhawk - 60596530.3

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 604
Phone: 708.534.5200 Fax: 708.534.

500-163630 COC

Chain of Custody Record

Lab Job #: 500-163630

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: ~ 0.8

(optional)

Report To
Contact: Dan Cervin
Company: AECOM
Address: 230 W Superior Ste 411
Address: Duluth, MN 55802
Phone:
Fax:
E-Mail: daniel.cervin@AECOM.COM

(optional)

Bill To
Contact: USAPIMAGING@AECOM.com
Company:
Address:
Address: SAME
Phone:
Fax:
PO#/Reference#

Client: AECOM
Client Project #: 60596530.3
Project Name: Enbridge Blackhawk
Project Location/State: Ft. Atkinson, WI
Lab Project #:
Sampler: Tory Schlutz (TAS)
Lab PM: Sandie Fredrick

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other MeOH

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	VOC (9)	PAH (8)	GRO (9)	DRO (8)	TCLP Benzene (8)	TCLP Lead (8)				PID (ppm) Comments
1		13V-W(6)	5/17/19	1000	4	S		X	X								5.6
2		13V-E(6)		1005	4	S		X	X	X	X	X	X				209.7
3		13V-S(6)		1010	4	S		X	X								190.7
4		13V-N(6)		1015	4	S		X	X								19.5
5		13V-B(10)		1045	4	S		X	X								104.0
6		Trip Blank	5/17/19	0900	2	—		X									—

TAS 5/17/19

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date: 3 DAY TAT

Sample Disposal
[ ] Return to Client [X] Disposal by Lab [ ] Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Tory Schlutz	AECOM	5/17/19	1600	Shannon Scott	TA-CHI	5/18/19	0940
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier:
Shipped: Red X
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments: Seal #s 645997, 645998

Lab Comments:

TAL-5723 (0209)

5/23/2019

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc. Job Number: 500-163630-1

Login Number: 163630 **List Source: Eurofins TestAmerica, Chicago**
List Number: 1
Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	-0.8 Samples not frozen
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

15-Aug-2019

Dan Cervin
AECOM
11 East Superior Street
Suite 260
Duluth, MN 55802

Re: **Enbridge Blackhawk (60596530)** Work Order: **19080245**

Dear Dan,

ALS Environmental received 6 samples on 03-Aug-2019 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 30.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

ALS Group, USA

Date: 15-Aug-19

Client: AECOM
Project: Enbridge Blackhawk (60596530)
Work Order: **19080245**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
19080245-01	SW-1	Soil		8/2/2019 13:30	8/3/2019 09:30	☐
19080245-02	SW-2	Soil		8/2/2019 14:00	8/3/2019 09:30	☐
19080245-03	SW-3	Soil		8/2/2019 14:51	8/3/2019 09:30	☐
19080245-04	SW-4	Soil		8/2/2019 14:15	8/3/2019 09:30	☐
19080245-05	B-1	Soil		8/2/2019 14:30	8/3/2019 09:30	☐
19080245-06	Trip Blank	Soil		8/2/2019	8/3/2019 09:30	☐

Client:	AECOM
Project:	Enbridge Blackhawk (60596530)
Work Order:	19080245

Case Narrative

Samples for the above noted Work Order were received on 08/03/2019. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:

Batch 140341, Method VOC_8260_S, Samples 19080245-01A, -02A, -03A, -04A, -05A, and -06A: The Continuing Calibration Verification did not meet method acceptance criteria for the following analytes, results are to be considered estimated: Dichlorodifluoromethane, Chloromethane, Bromomethane.

Batch 140341, Method VOC_8260_S, Sample 19080245-04A MS/MSD: The MS/MSD recoveries were below the lower control limits for 1,1,2,2-Tetrachloroethane and Bromomethane. The corresponding results in the parent sample may be biased low for these analytes.

Batch 140341, Method VOC_8260_S, Sample 19080245-04A MS: The MS recoveries was outside of the control limits for multiple compounds per the QC report. However, the MSD recoveries and the RPDs between the MS and MSD were within control limits. No qualification is required.

Batch 140341, Method VOC_8260_S, Sample 19080245-04A MSD: The RPD between the MS and MSD was outside the control limit for Dichlorodifluoromethane. The corresponding result in the parent sample should be considered estimated.

Extractable Organics:
No other deviations or anomalies were noted.

Wet Chemistry:
No other deviations or anomalies were noted.

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group, USA

Date: *15-Aug-19*

Client: AECOM
Project: Enbridge Blackhawk (60596530)
Work Order: 19080245
Sample ID: SW-1
Lab ID: 19080245-01
Collection Date: 8/2/2019 01:30 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**PUBL-SW-141**	Prep: PUBL-SW-141 8/8/19 11:59		Analyst: **RM**
DRO (C10-C28)	U		5.4	mg/Kg-dry	1	8/9/2019 06:17 PM
GASOLINE RANGE ORGANICS BY GC-FID			**PUBL-SW-140**	Prep: SW5035 8/6/19 12:03		Analyst: **KB**
GRO (C6-C10)	U		2,300	µg/Kg-dry	1	8/7/2019 12:19 PM
Surr: a,a,a-Trifluorotoluene	*101*		*80-120*	*%REC*	1	8/7/2019 12:19 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 8/6/19 12:00		Analyst: **WH**
1,1,1-Trichloroethane	U		23	µg/Kg	1	8/12/2019 05:28 PM
1,1,2,2-Tetrachloroethane	U		23	µg/Kg	1	8/12/2019 05:28 PM
1,1,2-Trichloroethane	U		23	µg/Kg	1	8/12/2019 05:28 PM
1,1,2-Trichlorotrifluoroethane	U		23	µg/Kg	1	8/12/2019 05:28 PM
1,1-Dichloroethane	U		23	µg/Kg	1	8/12/2019 05:28 PM
1,1-Dichloroethene	U		23	µg/Kg	1	8/12/2019 05:28 PM
1,2,3-Trichlorobenzene	U		23	µg/Kg	1	8/12/2019 05:28 PM
1,2,4-Trichlorobenzene	U		76	µg/Kg	1	8/12/2019 05:28 PM
1,2-Dibromo-3-chloropropane	U		76	µg/Kg	1	8/12/2019 05:28 PM
1,2-Dibromoethane	U		23	µg/Kg	1	8/12/2019 05:28 PM
1,2-Dichlorobenzene	U		23	µg/Kg	1	8/12/2019 05:28 PM
1,2-Dichloroethane	U		76	µg/Kg	1	8/12/2019 05:28 PM
1,2-Dichloropropane	U		23	µg/Kg	1	8/12/2019 05:28 PM
1,3-Dichlorobenzene	U		23	µg/Kg	1	8/12/2019 05:28 PM
1,4-Dichlorobenzene	U		23	µg/Kg	1	8/12/2019 05:28 PM
2-Butanone	U		150	µg/Kg	1	8/12/2019 05:28 PM
2-Hexanone	U		23	µg/Kg	1	8/12/2019 05:28 PM
4-Methyl-2-pentanone	U		23	µg/Kg	1	8/12/2019 05:28 PM
Acetone	U		76	µg/Kg	1	8/12/2019 05:28 PM
Benzene	U		23	µg/Kg	1	8/12/2019 05:28 PM
Bromochloromethane	U		23	µg/Kg	1	8/12/2019 05:28 PM
Bromodichloromethane	U		23	µg/Kg	1	8/12/2019 05:28 PM
Bromoform	U		23	µg/Kg	1	8/12/2019 05:28 PM
Bromomethane	U		76	µg/Kg	1	8/12/2019 05:28 PM
Carbon disulfide	U		23	µg/Kg	1	8/12/2019 05:28 PM
Carbon tetrachloride	U		23	µg/Kg	1	8/12/2019 05:28 PM
Chlorobenzene	U		23	µg/Kg	1	8/12/2019 05:28 PM
Chloroethane	U		76	µg/Kg	1	8/12/2019 05:28 PM
Chloroform	U		23	µg/Kg	1	8/12/2019 05:28 PM
Chloromethane	U		76	µg/Kg	1	8/12/2019 05:28 PM
cis-1,2-Dichloroethene	U		23	µg/Kg	1	8/12/2019 05:28 PM
cis-1,3-Dichloropropene	U		23	µg/Kg	1	8/12/2019 05:28 PM
Cyclohexane	U		76	µg/Kg	1	8/12/2019 05:28 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk (60596530) **Work Order:** 19080245
Sample ID: SW-1 **Lab ID:** 19080245-01
Collection Date: 8/2/2019 01:30 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibromochloromethane	U		23	µg/Kg	1	8/12/2019 05:28 PM
Dichlorodifluoromethane	U		76	µg/Kg	1	8/12/2019 05:28 PM
Ethylbenzene	U		23	µg/Kg	1	8/12/2019 05:28 PM
Isopropylbenzene	U		23	µg/Kg	1	8/12/2019 05:28 PM
m,p-Xylene	U		46	µg/Kg	1	8/12/2019 05:28 PM
Methyl acetate	**680**		**190**	**µg/Kg**	1	8/12/2019 05:28 PM
Methyl tert-butyl ether	U		23	µg/Kg	1	8/12/2019 05:28 PM
Methylcyclohexane	U		23	µg/Kg	1	8/12/2019 05:28 PM
Methylene chloride	U		190	µg/Kg	1	8/12/2019 05:28 PM
o-Xylene	U		23	µg/Kg	1	8/12/2019 05:28 PM
Styrene	U		23	µg/Kg	1	8/12/2019 05:28 PM
Tetrachloroethene	U		23	µg/Kg	1	8/12/2019 05:28 PM
Toluene	U		23	µg/Kg	1	8/12/2019 05:28 PM
trans-1,2-Dichloroethene	U		23	µg/Kg	1	8/12/2019 05:28 PM
trans-1,3-Dichloropropene	U		23	µg/Kg	1	8/12/2019 05:28 PM
Trichloroethene	U		23	µg/Kg	1	8/12/2019 05:28 PM
Trichlorofluoromethane	U		23	µg/Kg	1	8/12/2019 05:28 PM
Vinyl chloride	U		23	µg/Kg	1	8/12/2019 05:28 PM
Xylenes, Total	U		68	µg/Kg	1	8/12/2019 05:28 PM
Surr: 1,2-Dichloroethane-d4	*111*		*70-130*	*%REC*	1	8/12/2019 05:28 PM
Surr: 4-Bromofluorobenzene	*96.8*		*70-130*	*%REC*	1	8/12/2019 05:28 PM
Surr: Dibromofluoromethane	*90.4*		*70-130*	*%REC*	1	8/12/2019 05:28 PM
Surr: Toluene-d8	*100*		*70-130*	*%REC*	1	8/12/2019 05:28 PM
MOISTURE			**SW3550C**			Analyst: **MMO**
Moisture	**8.8**		**0.10**	**% of sample**	1	8/5/2019 03:48 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk (60596530) **Work Order:** 19080245
Sample ID: SW-2 **Lab ID:** 19080245-02
Collection Date: 8/2/2019 02:00 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**PUBL-SW-141**	Prep: PUBL-SW-141 8/8/19 11:59		Analyst: **RM**
DRO (C10-C28)	U		5.7	mg/Kg-dry	1	8/9/2019 06:46 PM
GASOLINE RANGE ORGANICS BY GC-FID			**PUBL-SW-140**	Prep: SW5035 8/6/19 12:03		Analyst: **KB**
GRO (C6-C10)	U		2,500	µg/Kg-dry	1	8/7/2019 12:49 PM
Surr: a,a,a-Trifluorotoluene	*118*		*80-120*	*%REC*	1	8/7/2019 12:49 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 8/6/19 12:00		Analyst: **WH**
1,1,1-Trichloroethane	U		23	µg/Kg	1	8/12/2019 05:45 PM
1,1,2,2-Tetrachloroethane	U		23	µg/Kg	1	8/12/2019 05:45 PM
1,1,2-Trichloroethane	U		23	µg/Kg	1	8/12/2019 05:45 PM
1,1,2-Trichlorotrifluoroethane	U		23	µg/Kg	1	8/12/2019 05:45 PM
1,1-Dichloroethane	U		23	µg/Kg	1	8/12/2019 05:45 PM
1,1-Dichloroethene	U		23	µg/Kg	1	8/12/2019 05:45 PM
1,2,3-Trichlorobenzene	U		23	µg/Kg	1	8/12/2019 05:45 PM
1,2,4-Trichlorobenzene	U		77	µg/Kg	1	8/12/2019 05:45 PM
1,2-Dibromo-3-chloropropane	U		77	µg/Kg	1	8/12/2019 05:45 PM
1,2-Dibromoethane	U		23	µg/Kg	1	8/12/2019 05:45 PM
1,2-Dichlorobenzene	U		23	µg/Kg	1	8/12/2019 05:45 PM
1,2-Dichloroethane	U		77	µg/Kg	1	8/12/2019 05:45 PM
1,2-Dichloropropane	U		23	µg/Kg	1	8/12/2019 05:45 PM
1,3-Dichlorobenzene	U		23	µg/Kg	1	8/12/2019 05:45 PM
1,4-Dichlorobenzene	U		23	µg/Kg	1	8/12/2019 05:45 PM
2-Butanone	U		150	µg/Kg	1	8/12/2019 05:45 PM
2-Hexanone	U		23	µg/Kg	1	8/12/2019 05:45 PM
4-Methyl-2-pentanone	U		23	µg/Kg	1	8/12/2019 05:45 PM
Acetone	U		77	µg/Kg	1	8/12/2019 05:45 PM
Benzene	U		23	µg/Kg	1	8/12/2019 05:45 PM
Bromochloromethane	U		23	µg/Kg	1	8/12/2019 05:45 PM
Bromodichloromethane	U		23	µg/Kg	1	8/12/2019 05:45 PM
Bromoform	U		23	µg/Kg	1	8/12/2019 05:45 PM
Bromomethane	U		77	µg/Kg	1	8/12/2019 05:45 PM
Carbon disulfide	U		23	µg/Kg	1	8/12/2019 05:45 PM
Carbon tetrachloride	U		23	µg/Kg	1	8/12/2019 05:45 PM
Chlorobenzene	U		23	µg/Kg	1	8/12/2019 05:45 PM
Chloroethane	U		77	µg/Kg	1	8/12/2019 05:45 PM
Chloroform	U		23	µg/Kg	1	8/12/2019 05:45 PM
Chloromethane	U		77	µg/Kg	1	8/12/2019 05:45 PM
cis-1,2-Dichloroethene	U		23	µg/Kg	1	8/12/2019 05:45 PM
cis-1,3-Dichloropropene	U		23	µg/Kg	1	8/12/2019 05:45 PM
Cyclohexane	U		77	µg/Kg	1	8/12/2019 05:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk (60596530) **Work Order:** 19080245
Sample ID: SW-2 **Lab ID:** 19080245-02
Collection Date: 8/2/2019 02:00 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibromochloromethane	U		23	µg/Kg	1	8/12/2019 05:45 PM
Dichlorodifluoromethane	U		77	µg/Kg	1	8/12/2019 05:45 PM
Ethylbenzene	U		23	µg/Kg	1	8/12/2019 05:45 PM
Isopropylbenzene	U		23	µg/Kg	1	8/12/2019 05:45 PM
m,p-Xylene	U		46	µg/Kg	1	8/12/2019 05:45 PM
Methyl acetate	**490**		**190**	**µg/Kg**	1	8/12/2019 05:45 PM
Methyl tert-butyl ether	U		23	µg/Kg	1	8/12/2019 05:45 PM
Methylcyclohexane	U		23	µg/Kg	1	8/12/2019 05:45 PM
Methylene chloride	U		190	µg/Kg	1	8/12/2019 05:45 PM
o-Xylene	U		23	µg/Kg	1	8/12/2019 05:45 PM
Styrene	U		23	µg/Kg	1	8/12/2019 05:45 PM
Tetrachloroethene	U		23	µg/Kg	1	8/12/2019 05:45 PM
Toluene	U		23	µg/Kg	1	8/12/2019 05:45 PM
trans-1,2-Dichloroethene	U		23	µg/Kg	1	8/12/2019 05:45 PM
trans-1,3-Dichloropropene	U		23	µg/Kg	1	8/12/2019 05:45 PM
Trichloroethene	U		23	µg/Kg	1	8/12/2019 05:45 PM
Trichlorofluoromethane	U		23	µg/Kg	1	8/12/2019 05:45 PM
Vinyl chloride	U		23	µg/Kg	1	8/12/2019 05:45 PM
Xylenes, Total	U		69	µg/Kg	1	8/12/2019 05:45 PM
Surr: 1,2-Dichloroethane-d4	*105*		*70-130*	*%REC*	1	8/12/2019 05:45 PM
Surr: 4-Bromofluorobenzene	*96.6*		*70-130*	*%REC*	1	8/12/2019 05:45 PM
Surr: Dibromofluoromethane	*86.6*		*70-130*	*%REC*	1	8/12/2019 05:45 PM
Surr: Toluene-d8	*101*		*70-130*	*%REC*	1	8/12/2019 05:45 PM
MOISTURE			**SW3550C**			Analyst: **MMO**
Moisture	**12**		**0.10**	**% of sample**	1	8/5/2019 03:48 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk (60596530) **Work Order:** 19080245
Sample ID: SW-3 **Lab ID:** 19080245-03
Collection Date: 8/2/2019 02:51 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**PUBL-SW-141**	Prep: PUBL-SW-141 8/8/19 11:59		Analyst: **RM**
DRO (C10-C28)	U		5.8	mg/Kg-dry	1	8/9/2019 07:15 PM
GASOLINE RANGE ORGANICS BY GC-FID			**PUBL-SW-140**	Prep: SW5035 8/6/19 12:03		Analyst: **KB**
GRO (C6-C10)	U		3,600	µg/Kg-dry	1	8/7/2019 01:19 PM
Surr: a,a,a-Trifluorotoluene	*110*		*80-120*	*%REC*	1	8/7/2019 01:19 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 8/6/19 12:00		Analyst: **WH**
1,1,1-Trichloroethane	U		33	µg/Kg	1	8/7/2019 03:51 PM
1,1,2,2-Tetrachloroethane	U		33	µg/Kg	1	8/7/2019 03:51 PM
1,1,2-Trichloroethane	U		33	µg/Kg	1	8/7/2019 03:51 PM
1,1,2-Trichlorotrifluoroethane	U		33	µg/Kg	1	8/7/2019 03:51 PM
1,1-Dichloroethane	U		33	µg/Kg	1	8/7/2019 03:51 PM
1,1-Dichloroethene	U		33	µg/Kg	1	8/7/2019 03:51 PM
1,2,3-Trichlorobenzene	U		33	µg/Kg	1	8/7/2019 03:51 PM
1,2,4-Trichlorobenzene	U		110	µg/Kg	1	8/7/2019 03:51 PM
1,2-Dibromo-3-chloropropane	U		110	µg/Kg	1	8/7/2019 03:51 PM
1,2-Dibromoethane	U		33	µg/Kg	1	8/7/2019 03:51 PM
1,2-Dichlorobenzene	U		33	µg/Kg	1	8/7/2019 03:51 PM
1,2-Dichloroethane	U		110	µg/Kg	1	8/7/2019 03:51 PM
1,2-Dichloropropane	U		33	µg/Kg	1	8/7/2019 03:51 PM
1,3-Dichlorobenzene	U		33	µg/Kg	1	8/7/2019 03:51 PM
1,4-Dichlorobenzene	U		33	µg/Kg	1	8/7/2019 03:51 PM
2-Butanone	U		220	µg/Kg	1	8/7/2019 03:51 PM
2-Hexanone	U		33	µg/Kg	1	8/7/2019 03:51 PM
4-Methyl-2-pentanone	U		33	µg/Kg	1	8/7/2019 03:51 PM
Acetone	U		110	µg/Kg	1	8/7/2019 03:51 PM
Benzene	**170**		**33**	**µg/Kg**	1	8/7/2019 03:51 PM
Bromochloromethane	U		33	µg/Kg	1	8/7/2019 03:51 PM
Bromodichloromethane	U		33	µg/Kg	1	8/7/2019 03:51 PM
Bromoform	U		33	µg/Kg	1	8/7/2019 03:51 PM
Bromomethane	U		110	µg/Kg	1	8/7/2019 03:51 PM
Carbon disulfide	U		33	µg/Kg	1	8/7/2019 03:51 PM
Carbon tetrachloride	U		33	µg/Kg	1	8/7/2019 03:51 PM
Chlorobenzene	U		33	µg/Kg	1	8/7/2019 03:51 PM
Chloroethane	U		110	µg/Kg	1	8/7/2019 03:51 PM
Chloroform	U		33	µg/Kg	1	8/7/2019 03:51 PM
Chloromethane	U		110	µg/Kg	1	8/7/2019 03:51 PM
cis-1,2-Dichloroethene	U		33	µg/Kg	1	8/7/2019 03:51 PM
cis-1,3-Dichloropropene	U		33	µg/Kg	1	8/7/2019 03:51 PM
Cyclohexane	**140**		**110**	**µg/Kg**	1	8/7/2019 03:51 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk (60596530) **Work Order:** 19080245
Sample ID: SW-3 **Lab ID:** 19080245-03
Collection Date: 8/2/2019 02:51 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibromochloromethane	U		33	µg/Kg	1	8/7/2019 03:51 PM
Dichlorodifluoromethane	U		110	µg/Kg	1	8/7/2019 03:51 PM
Ethylbenzene	U		33	µg/Kg	1	8/7/2019 03:51 PM
Isopropylbenzene	U		33	µg/Kg	1	8/7/2019 03:51 PM
m,p-Xylene	**80**		**65**	**µg/Kg**	1	8/7/2019 03:51 PM
Methyl acetate	**1,000**		**270**	**µg/Kg**	1	8/7/2019 03:51 PM
Methyl tert-butyl ether	U		33	µg/Kg	1	8/7/2019 03:51 PM
Methylcyclohexane	**170**		**33**	**µg/Kg**	1	8/7/2019 03:51 PM
Methylene chloride	U		270	µg/Kg	1	8/7/2019 03:51 PM
o-Xylene	**37**		**33**	**µg/Kg**	1	8/7/2019 03:51 PM
Styrene	U		33	µg/Kg	1	8/7/2019 03:51 PM
Tetrachloroethene	U		33	µg/Kg	1	8/7/2019 03:51 PM
Toluene	**11**	J	**33**	**µg/Kg**	1	8/7/2019 03:51 PM
trans-1,2-Dichloroethene	U		33	µg/Kg	1	8/7/2019 03:51 PM
trans-1,3-Dichloropropene	U		33	µg/Kg	1	8/7/2019 03:51 PM
Trichloroethene	U		33	µg/Kg	1	8/7/2019 03:51 PM
Trichlorofluoromethane	U		33	µg/Kg	1	8/7/2019 03:51 PM
Vinyl chloride	U		33	µg/Kg	1	8/7/2019 03:51 PM
Xylenes, Total	**120**		**98**	**µg/Kg**	1	8/7/2019 03:51 PM
Surr: 1,2-Dichloroethane-d4	*103*		*70-130*	*%REC*	1	8/7/2019 03:51 PM
Surr: 4-Bromofluorobenzene	*103*		*70-130*	*%REC*	1	8/7/2019 03:51 PM
Surr: Dibromofluoromethane	*98.2*		*70-130*	*%REC*	1	8/7/2019 03:51 PM
Surr: Toluene-d8	*97.2*		*70-130*	*%REC*	1	8/7/2019 03:51 PM
MOISTURE			**SW3550C**			Analyst: **MMO**
Moisture	**14**		**0.10**	**% of sample**	1	8/5/2019 03:48 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk (60596530) **Work Order:** 19080245
Sample ID: SW-4 **Lab ID:** 19080245-04
Collection Date: 8/2/2019 02:15 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**PUBL-SW-141**	Prep: PUBL-SW-141 8/8/19 11:59		Analyst: **RM**
DRO (C10-C28)	**3.0**	J	**5.7**	**mg/Kg-dry**	1	8/9/2019 07:44 PM
GASOLINE RANGE ORGANICS BY GC-FID			**PUBL-SW-140**	Prep: SW5035 8/6/19 12:03		Analyst: **KB**
GRO (C6-C10)	U		3,000	µg/Kg-dry	1	8/7/2019 01:48 PM
Surr: a,a,a-Trifluorotoluene	*110*		*80-120*	*%REC*	1	8/7/2019 01:48 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 8/6/19 12:00		Analyst: **WH**
1,1,1-Trichloroethane	U		26	µg/Kg	1	8/7/2019 04:08 PM
1,1,2,2-Tetrachloroethane	U		26	µg/Kg	1	8/7/2019 04:08 PM
1,1,2-Trichloroethane	U		26	µg/Kg	1	8/7/2019 04:08 PM
1,1,2-Trichlorotrifluoroethane	U		26	µg/Kg	1	8/7/2019 04:08 PM
1,1-Dichloroethane	U		26	µg/Kg	1	8/7/2019 04:08 PM
1,1-Dichloroethene	U		26	µg/Kg	1	8/7/2019 04:08 PM
1,2,3-Trichlorobenzene	U		26	µg/Kg	1	8/7/2019 04:08 PM
1,2,4-Trichlorobenzene	U		86	µg/Kg	1	8/7/2019 04:08 PM
1,2-Dibromo-3-chloropropane	U		86	µg/Kg	1	8/7/2019 04:08 PM
1,2-Dibromoethane	U		26	µg/Kg	1	8/7/2019 04:08 PM
1,2-Dichlorobenzene	U		26	µg/Kg	1	8/7/2019 04:08 PM
1,2-Dichloroethane	U		86	µg/Kg	1	8/7/2019 04:08 PM
1,2-Dichloropropane	U		26	µg/Kg	1	8/7/2019 04:08 PM
1,3-Dichlorobenzene	U		26	µg/Kg	1	8/7/2019 04:08 PM
1,4-Dichlorobenzene	U		26	µg/Kg	1	8/7/2019 04:08 PM
2-Butanone	U		170	µg/Kg	1	8/7/2019 04:08 PM
2-Hexanone	U		26	µg/Kg	1	8/7/2019 04:08 PM
4-Methyl-2-pentanone	U		26	µg/Kg	1	8/7/2019 04:08 PM
Acetone	U		86	µg/Kg	1	8/7/2019 04:08 PM
Benzene	U		26	µg/Kg	1	8/7/2019 04:08 PM
Bromochloromethane	U		26	µg/Kg	1	8/7/2019 04:08 PM
Bromodichloromethane	U		26	µg/Kg	1	8/7/2019 04:08 PM
Bromoform	U		26	µg/Kg	1	8/7/2019 04:08 PM
Bromomethane	U		86	µg/Kg	1	8/7/2019 04:08 PM
Carbon disulfide	U		26	µg/Kg	1	8/7/2019 04:08 PM
Carbon tetrachloride	U		26	µg/Kg	1	8/7/2019 04:08 PM
Chlorobenzene	U		26	µg/Kg	1	8/7/2019 04:08 PM
Chloroethane	U		86	µg/Kg	1	8/7/2019 04:08 PM
Chloroform	U		26	µg/Kg	1	8/7/2019 04:08 PM
Chloromethane	U		86	µg/Kg	1	8/7/2019 04:08 PM
cis-1,2-Dichloroethene	U		26	µg/Kg	1	8/7/2019 04:08 PM
cis-1,3-Dichloropropene	U		26	µg/Kg	1	8/7/2019 04:08 PM
Cyclohexane	U		86	µg/Kg	1	8/7/2019 04:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk (60596530) **Work Order:** 19080245
Sample ID: SW-4 **Lab ID:** 19080245-04
Collection Date: 8/2/2019 02:15 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibromochloromethane	U		26	µg/Kg	1	8/7/2019 04:08 PM
Dichlorodifluoromethane	U		86	µg/Kg	1	8/7/2019 04:08 PM
Ethylbenzene	U		26	µg/Kg	1	8/7/2019 04:08 PM
Isopropylbenzene	U		26	µg/Kg	1	8/7/2019 04:08 PM
m,p-Xylene	U		52	µg/Kg	1	8/7/2019 04:08 PM
Methyl acetate	**570**		**220**	**µg/Kg**	1	8/7/2019 04:08 PM
Methyl tert-butyl ether	U		26	µg/Kg	1	8/7/2019 04:08 PM
Methylcyclohexane	U		26	µg/Kg	1	8/7/2019 04:08 PM
Methylene chloride	U		220	µg/Kg	1	8/7/2019 04:08 PM
o-Xylene	U		26	µg/Kg	1	8/7/2019 04:08 PM
Styrene	U		26	µg/Kg	1	8/7/2019 04:08 PM
Tetrachloroethene	U		26	µg/Kg	1	8/7/2019 04:08 PM
Toluene	U		26	µg/Kg	1	8/7/2019 04:08 PM
trans-1,2-Dichloroethene	U		26	µg/Kg	1	8/7/2019 04:08 PM
trans-1,3-Dichloropropene	U		26	µg/Kg	1	8/7/2019 04:08 PM
Trichloroethene	U		26	µg/Kg	1	8/7/2019 04:08 PM
Trichlorofluoromethane	U		26	µg/Kg	1	8/7/2019 04:08 PM
Vinyl chloride	U		26	µg/Kg	1	8/7/2019 04:08 PM
Xylenes, Total	U		78	µg/Kg	1	8/7/2019 04:08 PM
Surr: 1,2-Dichloroethane-d4	*102*		*70-130*	*%REC*	1	8/7/2019 04:08 PM
Surr: 4-Bromofluorobenzene	*102*		*70-130*	*%REC*	1	8/7/2019 04:08 PM
Surr: Dibromofluoromethane	*97.8*		*70-130*	*%REC*	1	8/7/2019 04:08 PM
Surr: Toluene-d8	*96.7*		*70-130*	*%REC*	1	8/7/2019 04:08 PM
MOISTURE			**SW3550C**			Analyst: **MMO**
Moisture	**15**		**0.10**	**% of sample**	1	8/5/2019 03:48 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk (60596530) **Work Order:** 19080245
Sample ID: B-1 **Lab ID:** 19080245-05
Collection Date: 8/2/2019 02:30 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**PUBL-SW-141**	Prep: PUBL-SW-141 8/8/19 11:59		Analyst: **RM**
DRO (C10-C28)	U		5.4	mg/Kg-dry	1	8/9/2019 08:14 PM
GASOLINE RANGE ORGANICS BY GC-FID			**PUBL-SW-140**	Prep: SW5035 8/6/19 12:03		Analyst: **KB**
GRO (C6-C10)	U		2,800	µg/Kg-dry	1	8/7/2019 02:18 PM
Surr: a,a,a-Trifluorotoluene	*111*		*80-120*	*%REC*	1	8/7/2019 02:18 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 8/6/19 12:00		Analyst: **PM**
1,1,1-Trichloroethane	U		27	µg/Kg	1	8/7/2019 05:35 PM
1,1,2,2-Tetrachloroethane	U		27	µg/Kg	1	8/7/2019 05:35 PM
1,1,2-Trichloroethane	U		27	µg/Kg	1	8/7/2019 05:35 PM
1,1,2-Trichlorotrifluoroethane	U		27	µg/Kg	1	8/7/2019 05:35 PM
1,1-Dichloroethane	U		27	µg/Kg	1	8/7/2019 05:35 PM
1,1-Dichloroethene	U		27	µg/Kg	1	8/7/2019 05:35 PM
1,2,3-Trichlorobenzene	U		27	µg/Kg	1	8/7/2019 05:35 PM
1,2,4-Trichlorobenzene	U		89	µg/Kg	1	8/7/2019 05:35 PM
1,2-Dibromo-3-chloropropane	U		89	µg/Kg	1	8/7/2019 05:35 PM
1,2-Dibromoethane	U		27	µg/Kg	1	8/7/2019 05:35 PM
1,2-Dichlorobenzene	U		27	µg/Kg	1	8/7/2019 05:35 PM
1,2-Dichloroethane	U		89	µg/Kg	1	8/7/2019 05:35 PM
1,2-Dichloropropane	U		27	µg/Kg	1	8/7/2019 05:35 PM
1,3-Dichlorobenzene	U		27	µg/Kg	1	8/7/2019 05:35 PM
1,4-Dichlorobenzene	U		27	µg/Kg	1	8/7/2019 05:35 PM
2-Butanone	U		180	µg/Kg	1	8/7/2019 05:35 PM
2-Hexanone	U		27	µg/Kg	1	8/7/2019 05:35 PM
4-Methyl-2-pentanone	U		27	µg/Kg	1	8/7/2019 05:35 PM
Acetone	U		89	µg/Kg	1	8/7/2019 05:35 PM
Benzene	U		27	µg/Kg	1	8/7/2019 05:35 PM
Bromochloromethane	U		27	µg/Kg	1	8/7/2019 05:35 PM
Bromodichloromethane	U		27	µg/Kg	1	8/7/2019 05:35 PM
Bromoform	U		27	µg/Kg	1	8/7/2019 05:35 PM
Bromomethane	U		89	µg/Kg	1	8/7/2019 05:35 PM
Carbon disulfide	U		27	µg/Kg	1	8/7/2019 05:35 PM
Carbon tetrachloride	U		27	µg/Kg	1	8/7/2019 05:35 PM
Chlorobenzene	U		27	µg/Kg	1	8/7/2019 05:35 PM
Chloroethane	U		89	µg/Kg	1	8/7/2019 05:35 PM
Chloroform	U		27	µg/Kg	1	8/7/2019 05:35 PM
Chloromethane	U		89	µg/Kg	1	8/7/2019 05:35 PM
cis-1,2-Dichloroethene	U		27	µg/Kg	1	8/7/2019 05:35 PM
cis-1,3-Dichloropropene	U		27	µg/Kg	1	8/7/2019 05:35 PM
Cyclohexane	U		89	µg/Kg	1	8/7/2019 05:35 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk (60596530) **Work Order:** 19080245
Sample ID: B-1 **Lab ID:** 19080245-05
Collection Date: 8/2/2019 02:30 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibromochloromethane	U		27	µg/Kg	1	8/7/2019 05:35 PM
Dichlorodifluoromethane	U		89	µg/Kg	1	8/7/2019 05:35 PM
Ethylbenzene	U		27	µg/Kg	1	8/7/2019 05:35 PM
Isopropylbenzene	U		27	µg/Kg	1	8/7/2019 05:35 PM
m,p-Xylene	U		54	µg/Kg	1	8/7/2019 05:35 PM
Methyl acetate	**1,200**		**220**	**µg/Kg**	1	8/7/2019 05:35 PM
Methyl tert-butyl ether	U		27	µg/Kg	1	8/7/2019 05:35 PM
Methylcyclohexane	U		27	µg/Kg	1	8/7/2019 05:35 PM
Methylene chloride	U		220	µg/Kg	1	8/7/2019 05:35 PM
o-Xylene	U		27	µg/Kg	1	8/7/2019 05:35 PM
Styrene	U		27	µg/Kg	1	8/7/2019 05:35 PM
Tetrachloroethene	U		27	µg/Kg	1	8/7/2019 05:35 PM
Toluene	U		27	µg/Kg	1	8/7/2019 05:35 PM
trans-1,2-Dichloroethene	U		27	µg/Kg	1	8/7/2019 05:35 PM
trans-1,3-Dichloropropene	U		27	µg/Kg	1	8/7/2019 05:35 PM
Trichloroethene	U		27	µg/Kg	1	8/7/2019 05:35 PM
Trichlorofluoromethane	U		27	µg/Kg	1	8/7/2019 05:35 PM
Vinyl chloride	U		27	µg/Kg	1	8/7/2019 05:35 PM
Xylenes, Total	U		81	µg/Kg	1	8/7/2019 05:35 PM
Surr: 1,2-Dichloroethane-d4	*107*		*70-130*	*%REC*	1	8/7/2019 05:35 PM
Surr: 4-Bromofluorobenzene	*105*		*70-130*	*%REC*	1	8/7/2019 05:35 PM
Surr: Dibromofluoromethane	*87.0*		*70-130*	*%REC*	1	8/7/2019 05:35 PM
Surr: Toluene-d8	*101*		*70-130*	*%REC*	1	8/7/2019 05:35 PM
MOISTURE			**SW3550C**			Analyst: **MMO**
Moisture	**11**		**0.10**	**% of sample**	1	8/5/2019 03:48 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *15-Aug-19*

Client: AECOM
Project: Enbridge Blackhawk (60596530)
Work Order: 19080245
Sample ID: Trip Blank
Lab ID: 19080245-06
Collection Date: 8/2/2019
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			**SW8260C**		Prep: SW5035 8/6/19 12:00	Analyst: **PM**
1,1,1-Trichloroethane	U		30	µg/Kg	1	8/7/2019 05:51 PM
1,1,2,2-Tetrachloroethane	U		30	µg/Kg	1	8/7/2019 05:51 PM
1,1,2-Trichloroethane	U		30	µg/Kg	1	8/7/2019 05:51 PM
1,1,2-Trichlorotrifluoroethane	U		30	µg/Kg	1	8/7/2019 05:51 PM
1,1-Dichloroethane	U		30	µg/Kg	1	8/7/2019 05:51 PM
1,1-Dichloroethene	U		30	µg/Kg	1	8/7/2019 05:51 PM
1,2,3-Trichlorobenzene	U		30	µg/Kg	1	8/7/2019 05:51 PM
1,2,4-Trichlorobenzene	U		100	µg/Kg	1	8/7/2019 05:51 PM
1,2-Dibromo-3-chloropropane	U		100	µg/Kg	1	8/7/2019 05:51 PM
1,2-Dibromoethane	U		30	µg/Kg	1	8/7/2019 05:51 PM
1,2-Dichlorobenzene	U		30	µg/Kg	1	8/7/2019 05:51 PM
1,2-Dichloroethane	U		100	µg/Kg	1	8/7/2019 05:51 PM
1,2-Dichloropropane	U		30	µg/Kg	1	8/7/2019 05:51 PM
1,3-Dichlorobenzene	U		30	µg/Kg	1	8/7/2019 05:51 PM
1,4-Dichlorobenzene	U		30	µg/Kg	1	8/7/2019 05:51 PM
2-Butanone	U		200	µg/Kg	1	8/7/2019 05:51 PM
2-Hexanone	U		30	µg/Kg	1	8/7/2019 05:51 PM
4-Methyl-2-pentanone	U		30	µg/Kg	1	8/7/2019 05:51 PM
Acetone	U		100	µg/Kg	1	8/7/2019 05:51 PM
Benzene	U		30	µg/Kg	1	8/7/2019 05:51 PM
Bromochloromethane	U		30	µg/Kg	1	8/7/2019 05:51 PM
Bromodichloromethane	U		30	µg/Kg	1	8/7/2019 05:51 PM
Bromoform	U		30	µg/Kg	1	8/7/2019 05:51 PM
Bromomethane	U		100	µg/Kg	1	8/7/2019 05:51 PM
Carbon disulfide	U		30	µg/Kg	1	8/7/2019 05:51 PM
Carbon tetrachloride	U		30	µg/Kg	1	8/7/2019 05:51 PM
Chlorobenzene	U		30	µg/Kg	1	8/7/2019 05:51 PM
Chloroethane	U		100	µg/Kg	1	8/7/2019 05:51 PM
Chloroform	U		30	µg/Kg	1	8/7/2019 05:51 PM
Chloromethane	U		100	µg/Kg	1	8/7/2019 05:51 PM
cis-1,2-Dichloroethene	U		30	µg/Kg	1	8/7/2019 05:51 PM
cis-1,3-Dichloropropene	U		30	µg/Kg	1	8/7/2019 05:51 PM
Cyclohexane	U		100	µg/Kg	1	8/7/2019 05:51 PM
Dibromochloromethane	U		30	µg/Kg	1	8/7/2019 05:51 PM
Dichlorodifluoromethane	U		100	µg/Kg	1	8/7/2019 05:51 PM
Ethylbenzene	U		30	µg/Kg	1	8/7/2019 05:51 PM
Isopropylbenzene	U		30	µg/Kg	1	8/7/2019 05:51 PM
m,p-Xylene	U		60	µg/Kg	1	8/7/2019 05:51 PM
Methyl acetate	**980**		**250**	**µg/Kg**	1	8/7/2019 05:51 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk (60596530) **Work Order:** 19080245
Sample ID: Trip Blank **Lab ID:** 19080245-06
Collection Date: 8/2/2019 **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	U		30	µg/Kg	1	8/7/2019 05:51 PM
Methylcyclohexane	U		30	µg/Kg	1	8/7/2019 05:51 PM
Methylene chloride	U		250	µg/Kg	1	8/7/2019 05:51 PM
o-Xylene	U		30	µg/Kg	1	8/7/2019 05:51 PM
Styrene	U		30	µg/Kg	1	8/7/2019 05:51 PM
Tetrachloroethene	U		30	µg/Kg	1	8/7/2019 05:51 PM
Toluene	U		30	µg/Kg	1	8/7/2019 05:51 PM
trans-1,2-Dichloroethene	U		30	µg/Kg	1	8/7/2019 05:51 PM
trans-1,3-Dichloropropene	U		30	µg/Kg	1	8/7/2019 05:51 PM
Trichloroethene	U		30	µg/Kg	1	8/7/2019 05:51 PM
Trichlorofluoromethane	U		30	µg/Kg	1	8/7/2019 05:51 PM
Vinyl chloride	U		30	µg/Kg	1	8/7/2019 05:51 PM
Xylenes, Total	U		90	µg/Kg	1	8/7/2019 05:51 PM
Surr: 1,2-Dichloroethane-d4	*107*		*70-130*	*%REC*	1	8/7/2019 05:51 PM
Surr: 4-Bromofluorobenzene	*106*		*70-130*	*%REC*	1	8/7/2019 05:51 PM
Surr: Dibromofluoromethane	*82.8*		*70-130*	*%REC*	1	8/7/2019 05:51 PM
Surr: Toluene-d8	*98.0*		*70-130*	*%REC*	1	8/7/2019 05:51 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 15-Aug-19

Client: AECOM

Work Order: 19080245

Project: Enbridge Blackhawk (60596530)

QC BATCH REPORT

Batch ID: **140485** Instrument ID **GC8** Method: **PUBL-SW-141**

MBLK	Sample ID: **DBLKS1-140485-140485**				Units: **mg/Kg**			Analysis Date: **8/9/2019 03:51 PM**			
Client ID:	Run ID: **GC8_190809B**				SeqNo: **5839045**			Prep Date: **8/8/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	5.0								

LCS	Sample ID: **DLCSS1-140485-140485**				Units: **mg/Kg**			Analysis Date: **8/9/2019 04:20 PM**			
Client ID:	Run ID: **GC8_190809B**				SeqNo: **5839046**			Prep Date: **8/8/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	8.322	5.0	10	0	83.2	70-120	0			

LCSD	Sample ID: **DLCSDS1-140485-140485**				Units: **mg/Kg**			Analysis Date: **8/9/2019 04:49 PM**			
Client ID:	Run ID: **GC8_190809B**				SeqNo: **5839047**			Prep Date: **8/8/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	8.305	5.0	10	0	83.1	70-120	8.322	0.202	20	

The following samples were analyzed in this batch:

19080245-01B	19080245-02B	19080245-03B
19080245-04B	19080245-05B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19080245
Project: Enbridge Blackhawk (60596530)

QC BATCH REPORT

Batch ID: **140342** Instrument ID **GC9** Method: **PUBL-SW-140**

MBLK Sample ID: **MBLK-140342-140342** Units: **µg/Kg-dry** Analysis Date: **8/7/2019 11:50 AM**
Client ID: Run ID: **GC9_190806B** SeqNo: **5829847** Prep Date: **8/6/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	2,500	0	0	0		0			
Surr: a,a,a-Trifluorotoluene	*1108*	0	*1000*	0	*111*	*80-120*	0			

LCS Sample ID: **LCS-140342-140342** Units: **µg/Kg-dry** Analysis Date: **8/7/2019 11:20 AM**
Client ID: Run ID: **GC9_190806B** SeqNo: **5829846** Prep Date: **8/6/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	10050	2,500	10000	0	100	80-120	0			
Surr: a,a,a-Trifluorotoluene	*1065*	0	*1000*	0	*107*	*80-120*	0			

LCSD Sample ID: **LCSD-140342-140342** Units: **µg/Kg-dry** Analysis Date: **8/7/2019 02:48 PM**
Client ID: Run ID: **GC9_190806B** SeqNo: **5829853** Prep Date: **8/6/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	10780	2,500	10000	0	108	80-120	10050	7.05	20	
Surr: a,a,a-Trifluorotoluene	*1129*	0	*1000*	0	*113*	*80-120*	1065	*5.78*	*20*	

The following samples were analyzed in this batch:

19080245-01A	19080245-02A	19080245-03A
19080245-04A	19080245-05A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19080245
Project: Enbridge Blackhawk (60596530)

QC BATCH REPORT

Batch ID: **140341** Instrument ID **VMS8** Method: **SW8260C**

MBLK Sample ID: **MBLK-140341-140341** Units: **µg/Kg-dry** Analysis Date: **8/7/2019 12:24 PM**
Client ID: Run ID: **VMS8_190807A** SeqNo: **5832051** Prep Date: **8/6/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	30								
1,1,2,2-Tetrachloroethane	U	30								
1,1,2-Trichloroethane	U	30								
1,1,2-Trichlorotrifluoroethane	U	30								
1,1-Dichloroethane	U	30								
1,1-Dichloroethene	U	30								
1,2,3-Trichlorobenzene	U	30								
1,2,4-Trichlorobenzene	U	100								
1,2-Dibromo-3-chloropropane	U	100								
1,2-Dibromoethane	U	30								
1,2-Dichlorobenzene	U	30								
1,2-Dichloroethane	U	100								
1,2-Dichloropropane	U	30								
1,3-Dichlorobenzene	U	30								
1,4-Dichlorobenzene	U	30								
2-Butanone	U	200								
2-Hexanone	U	30								
4-Methyl-2-pentanone	U	30								
Acetone	U	100								
Benzene	U	30								
Bromochloromethane	U	30								
Bromodichloromethane	U	30								
Bromoform	U	30								
Bromomethane	U	100								
Carbon disulfide	U	30								
Carbon tetrachloride	U	30								
Chlorobenzene	U	30								
Chloroethane	U	100								
Chloroform	U	30								
Chloromethane	U	100								
cis-1,2-Dichloroethene	U	30								
cis-1,3-Dichloropropene	U	30								
Cyclohexane	U	100								
Dibromochloromethane	U	30								
Dichlorodifluoromethane	U	100								
Ethylbenzene	U	30								
Isopropylbenzene	U	30								
m,p-Xylene	U	60								
Methyl acetate	U	250								
Methyl tert-butyl ether	U	30								
Methylcyclohexane	U	30								
Methylene chloride	U	250								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Batch ID: **140341** Instrument ID **VMS8** Method: **SW8260C**

o-Xylene	U	30					
Styrene	U	30					
Tetrachloroethene	U	30					
Toluene	U	30					
trans-1,2-Dichloroethene	U	30					
trans-1,3-Dichloropropene	U	30					
Trichloroethene	U	30					
Trichlorofluoromethane	U	30					
Vinyl chloride	U	30					
Xylenes, Total	U	90					
Surr: 1,2-Dichloroethane-d4	*984*	0	*1000*	0	*98.4*	*70-130*	0
Surr: 4-Bromofluorobenzene	*1035*	0	*1000*	0	*104*	*70-130*	0
Surr: Dibromofluoromethane	*938.5*	0	*1000*	0	*93.8*	*70-130*	0
Surr: Toluene-d8	*1004*	0	*1000*	0	*100*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19080245
Project: Enbridge Blackhawk (60596530)

QC BATCH REPORT

Batch ID: **140341** Instrument ID **VMS8** Method: **SW8260C**

LCS Sample ID: **LCS-140341-140341** Units: **µg/Kg-dry** Analysis Date: **8/7/2019 11:32 AM**
Client ID: Run ID: **VMS8_190807A** SeqNo: **5832050** Prep Date: **8/6/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	915	30	1000	0	91.5	70-135	0			
1,1,2,2-Tetrachloroethane	982	30	1000	0	98.2	55-130	0			
1,1,2-Trichloroethane	943.5	30	1000	0	94.4	60-125	0			
1,1-Dichloroethane	904	30	1000	0	90.4	75-125	0			
1,1-Dichloroethene	831	30	1000	0	83.1	76-148	0			
1,2,3-Trichlorobenzene	957	30	1000	0	95.7	60-135	0			
1,2,4-Trichlorobenzene	968.5	100	1000	0	96.8	65-130	0			
1,2-Dibromo-3-chloropropane	952.5	100	1000	0	95.2	40-135	0			
1,2-Dibromoethane	966.5	30	1000	0	96.6	80-195	0			
1,2-Dichlorobenzene	934	30	1000	0	93.4	75-120	0			
1,2-Dichloroethane	933.5	100	1000	0	93.4	70-135	0			
1,2-Dichloropropane	893.5	30	1000	0	89.4	70-120	0			
1,3-Dichlorobenzene	937.5	30	1000	0	93.8	70-125	0			
1,4-Dichlorobenzene	908	30	1000	0	90.8	70-125	0			
2-Butanone	1024	200	1000	0	102	30-160	0			
2-Hexanone	967.5	30	1000	0	96.8	45-145	0			
4-Methyl-2-pentanone	1334	30	1000	0	133	74-176	0			
Acetone	1211	100	1000	0	121	20-160	0			
Benzene	868.5	30	1000	0	86.8	75-125	0			
Bromochloromethane	870.5	30	1000	0	87	74-134	0			
Bromodichloromethane	954.5	30	1000	0	95.4	70-130	0			
Bromoform	903	30	1000	0	90.3	55-135	0			
Bromomethane	1004	100	1000	0	100	50-170	0			
Carbon disulfide	820.5	30	1000	0	82	45-160	0			
Carbon tetrachloride	838.5	30	1000	0	83.8	65-135	0			
Chlorobenzene	884.5	30	1000	0	88.4	75-125	0			
Chloroethane	786	100	1000	0	78.6	40-155	0			
Chloroform	892	30	1000	0	89.2	70-125	0			
Chloromethane	664.5	100	1000	0	66.4	50-144	0			
cis-1,2-Dichloroethene	882	30	1000	0	88.2	65-125	0			
cis-1,3-Dichloropropene	954.5	30	1000	0	95.4	70-125	0			
Dibromochloromethane	886	30	1000	0	88.6	65-135	0			
Dichlorodifluoromethane	1124	100	1000	0	112	35-135	0			
Ethylbenzene	996.5	30	1000	0	99.6	75-125	0			
Isopropylbenzene	902.5	30	1000	0	90.2	75-130	0			
m,p-Xylene	2014	60	2000	0	101	80-125	0			
Methyl tert-butyl ether	1054	30	1000	0	105	75-125	0			
Methylene chloride	845.5	250	1000	0	84.6	55-145	0			
o-Xylene	916	30	1000	0	91.6	75-125	0			
Styrene	936	30	1000	0	93.6	80-138	0			
Tetrachloroethene	930	30	1000	0	93	67-167	0			
Toluene	860	30	1000	0	86	70-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **140341**	Instrument ID **VMS8**		Method: **SW8260C**				
trans-1,2-Dichloroethene	879	30	1000	0	87.9	65-135	0
trans-1,3-Dichloropropene	930.5	30	1000	0	93	59-129	0
Trichloroethene	907.5	30	1000	0	90.8	75-125	0
Trichlorofluoromethane	752	30	1000	0	75.2	25-185	0
Vinyl chloride	791	30	1000	0	79.1	60-125	0
Xylenes, Total	2930	90	3000	0	97.6	75-125	0
Surr: 1,2-Dichloroethane-d4	*987.5*	0	*1000*	0	*98.8*	*70-130*	0
Surr: 4-Bromofluorobenzene	*1003*	0	*1000*	0	*100*	*70-130*	0
Surr: Dibromofluoromethane	*1026*	0	*1000*	0	*103*	*70-130*	0
Surr: Toluene-d8	*973*	0	*1000*	0	*97.3*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19080245
Project: Enbridge Blackhawk (60596530)

QC BATCH REPORT

Batch ID: **140341** Instrument ID **VMS8** Method: **SW8260C**

MS Sample ID: **19080245-04A MS** Units: **µg/Kg-dry** Analysis Date: **8/15/2019 03:03 AM**
Client ID: **SW-4** Run ID: **VMS10_190814B** SeqNo: **5848271** Prep Date: **8/6/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1116	31	1046	0	107	70-135	0			
1,1,2,2-Tetrachloroethane	409.5	31	1046	0	39.2	55-130	0			S
1,1,2-Trichloroethane	1063	31	1046	0	102	60-125	0			
1,1-Dichloroethane	1190	31	1046	0	114	75-125	0			
1,1-Dichloroethene	1116	31	1046	0	107	76-148	0			
1,2,3-Trichlorobenzene	1056	31	1046	0	101	60-135	0			
1,2,4-Trichlorobenzene	1046	100	1046	0	100	65-130	0			
1,2-Dibromo-3-chloropropane	816.9	100	1046	0	78.1	40-135	0			
1,2-Dibromoethane	1087	31	1046	0	104	80-195	0			
1,2-Dichlorobenzene	984.3	31	1046	0	94.1	75-120	0			
1,2-Dichloroethane	1148	100	1046	0	110	70-135	0			
1,2-Dichloropropane	1111	31	1046	0	106	70-120	0			
1,3-Dichlorobenzene	961.8	31	1046	0	92	70-125	0			
1,4-Dichlorobenzene	973.3	31	1046	0	93	70-125	0			
2-Butanone	985.9	210	1046	0	94.2	30-160	0			
2-Hexanone	1203	31	1046	0	115	45-145	0			
4-Methyl-2-pentanone	1181	31	1046	0	113	74-176	0			
Acetone	981.2	100	1046	0	93.8	20-160	0			
Benzene	1218	31	1046	0	116	75-125	0			
Bromochloromethane	1135	31	1046	0	108	74-134	0			
Bromodichloromethane	958.7	31	1046	0	91.6	70-130	0			
Bromoform	790.3	31	1046	0	75.6	55-135	0			
Bromomethane	225.9	100	1046	0	21.6	50-170	0			S
Carbon disulfide	884.4	31	1046	0	84.6	45-160	0			
Carbon tetrachloride	916.8	31	1046	0	87.6	65-135	0			
Chlorobenzene	990.1	31	1046	0	94.6	75-125	0			
Chloroethane	914.7	100	1046	0	87.4	40-155	0			
Chloroform	1122	31	1046	0	107	70-125	0			
Chloromethane	911.6	100	1046	0	87.2	50-144	0			
cis-1,2-Dichloroethene	1045	31	1046	0	99.9	65-125	0			
cis-1,3-Dichloropropene	989.5	31	1046	0	94.6	70-125	0			
Dibromochloromethane	792.9	31	1046	0	75.8	65-135	0			
Dichlorodifluoromethane	1023	100	1046	0	97.8	35-135	0			
Ethylbenzene	1032	31	1046	0	98.6	75-125	0			
Isopropylbenzene	1025	31	1046	0	98	75-130	0			
m,p-Xylene	2134	63	2092	0	102	80-125	0			
Methyl tert-butyl ether	1314	31	1046	0	126	75-125	0			S
Methylene chloride	1130	260	1046	0	108	55-145	0			
o-Xylene	1046	31	1046	0	100	75-125	0			
Styrene	1080	31	1046	0	103	80-138	0			
Tetrachloroethene	1806	31	1046	0	173	67-167	0			S
Toluene	1335	31	1046	0	128	70-125	0			S

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Batch ID: **140341**	Instrument ID **VMS8**		Method: **SW8260C**					
trans-1,2-Dichloroethene	1274	31	1046	0	122	65-135	0	
trans-1,3-Dichloropropene	947.7	31	1046	0	90.6	59-129	0	
Trichloroethene	1614	31	1046	0	154	75-125	0	S
Trichlorofluoromethane	718.1	31	1046	0	68.6	25-185	0	
Vinyl chloride	1142	31	1046	0	109	60-125	0	
Xylenes, Total	3180	94	3138	0	101	75-125	0	
Surr: 1,2-Dichloroethane-d4	*1118*	0	*1046*	0	*107*	*70-130*	0	
Surr: 4-Bromofluorobenzene	*1055*	0	*1046*	0	*101*	*70-130*	0	
Surr: Dibromofluoromethane	*1020*	0	*1046*	0	*97.5*	*70-130*	0	
Surr: Toluene-d8	*1032*	0	*1046*	0	*98.6*	*70-130*	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19080245
Project: Enbridge Blackhawk (60596530)

QC BATCH REPORT

Batch ID: **140341** Instrument ID **VMS8** Method: **SW8260C**

MSD Sample ID: **19080245-04A MSD** Units: **µg/Kg-dry** Analysis Date: **8/15/2019 03:20 AM**
Client ID: **SW-4** Run ID: **VMS10_190814B** SeqNo: **5848272** Prep Date: **8/6/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	885.1	31	1031	0	85.8	70-135	1116	23.1	30	
1,1,2,2-Tetrachloroethane	541.2	31	1031	0	52.5	55-130	409.5	27.7	30	S
1,1,2-Trichloroethane	979.9	31	1031	0	95	60-125	1063	8.11	30	
1,1-Dichloroethane	1030	31	1031	0	99.9	75-125	1190	14.5	30	
1,1-Dichloroethene	912.9	31	1031	0	88.6	76-148	1116	20	30	
1,2,3-Trichlorobenzene	938.1	31	1031	0	91	60-135	1056	11.8	30	
1,2,4-Trichlorobenzene	928.4	100	1031	0	90	65-130	1046	11.9	30	
1,2-Dibromo-3-chloropropane	757.2	100	1031	0	73.4	40-135	816.9	7.59	30	
1,2-Dibromoethane	1008	31	1031	0	97.8	80-195	1087	7.55	30	
1,2-Dichlorobenzene	901	31	1031	0	87.4	75-120	984.3	8.83	30	
1,2-Dichloroethane	1029	100	1031	0	99.8	70-135	1148	10.9	30	
1,2-Dichloropropane	971.1	31	1031	0	94.2	70-120	1111	13.5	30	
1,3-Dichlorobenzene	833	31	1031	0	80.8	70-125	961.8	14.4	30	
1,4-Dichlorobenzene	864.9	31	1031	0	83.9	70-125	973.3	11.8	30	
2-Butanone	852.1	210	1031	0	82.6	30-160	985.9	14.6	30	
2-Hexanone	1151	31	1031	0	112	45-145	1203	4.45	30	
4-Methyl-2-pentanone	1212	31	1031	0	118	74-176	1181	2.62	30	
Acetone	854.6	100	1031	0	82.9	20-160	981.2	13.8	30	
Benzene	1009	31	1031	0	97.8	75-125	1218	18.8	30	
Bromochloromethane	1033	31	1031	0	100	74-134	1135	9.41	30	
Bromodichloromethane	852.1	31	1031	0	82.6	70-130	958.7	11.8	30	
Bromoform	752.6	31	1031	0	73	55-135	790.3	4.89	30	
Bromomethane	260.3	100	1031	0	25.2	50-170	225.9	14.1	30	S
Carbon disulfide	724.7	31	1031	0	70.3	45-160	884.4	19.8	30	
Carbon tetrachloride	729.9	31	1031	0	70.8	65-135	916.8	22.7	30	
Chlorobenzene	863.4	31	1031	0	83.8	75-125	990.1	13.7	30	
Chloroethane	706.2	100	1031	0	68.5	40-155	914.7	25.7	30	
Chloroform	964.9	31	1031	0	93.6	70-125	1122	15	30	
Chloromethane	824.7	100	1031	0	80	50-144	911.6	10	30	
cis-1,2-Dichloroethene	941.2	31	1031	0	91.3	65-125	1045	10.4	30	
cis-1,3-Dichloropropene	877.8	31	1031	0	85.2	70-125	989.5	12	30	
Dibromochloromethane	707.2	31	1031	0	68.6	65-135	792.9	11.4	30	
Dichlorodifluoromethane	1577	100	1031	0	153	35-135	1023	42.6	30	SR
Ethylbenzene	885.1	31	1031	0	85.8	75-125	1032	15.3	30	
Isopropylbenzene	853.1	31	1031	0	82.8	75-130	1025	18.3	30	
m,p-Xylene	1822	62	2062	0	88.4	80-125	2134	15.8	30	
Methyl tert-butyl ether	1222	31	1031	0	119	75-125	1314	7.27	30	
Methylene chloride	1014	260	1031	0	98.4	55-145	1130	10.8	30	
o-Xylene	905.2	31	1031	0	87.8	75-125	1046	14.4	30	
Styrene	958.2	31	1031	0	93	80-138	1080	11.9	30	
Tetrachloroethene	1554	31	1031	0	151	67-167	1806	15.1	30	
Toluene	1113	31	1031	0	108	70-125	1335	18.2	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **140341**	Instrument ID **VMS8**		Method: **SW8260C**						
trans-1,2-Dichloroethene	1026	31	1031	0	99.6	65-135	1274	21.5	30
trans-1,3-Dichloropropene	860.8	31	1031	0	83.5	59-129	947.7	9.61	30
Trichloroethene	1222	31	1031	0	118	75-125	1614	27.7	30
Trichlorofluoromethane	628.9	31	1031	0	61	25-185	718.1	13.2	30
Vinyl chloride	975.3	31	1031	0	94.6	60-125	1142	15.7	30
Xylenes, Total	2727	93	3093	0	88.2	75-125	3180	15.3	30
Surr: 1,2-Dichloroethane-d4	*1101*	0	*1031*	0	*107*	*70-130*	1118	*1.55*	*30*
Surr: 4-Bromofluorobenzene	*1061*	0	*1031*	0	*103*	*70-130*	1055	*0.559*	*30*
Surr: Dibromofluoromethane	*1005*	0	*1031*	0	*97.5*	*70-130*	1020	*1.45*	*30*
Surr: Toluene-d8	*1030*	0	*1031*	0	*99.9*	*70-130*	1032	*0.195*	*30*

The following samples were analyzed in this batch:

19080245-01A	19080245-02A	19080245-03A
19080245-04A	19080245-05A	19080245-06A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19080245
Project: Enbridge Blackhawk (60596530)

QC BATCH REPORT

Batch ID: **R267613** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R267613** Units: **% of sample** Analysis Date: **8/5/2019 03:48 PM**
Client ID: Run ID: **MOIST_190805D** SeqNo: **5825461** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.10								

LCS Sample ID: **LCS-R267613** Units: **% of sample** Analysis Date: **8/5/2019 03:48 PM**
Client ID: Run ID: **MOIST_190805D** SeqNo: **5825459** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.10	100	0	100	98-102	0			

DUP Sample ID: **19080223-12A DUP** Units: **% of sample** Analysis Date: **8/5/2019 03:48 PM**
Client ID: Run ID: **MOIST_190805D** SeqNo: **5825429** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	6.3	0.10	0	0	0	0-0	6.52	3.43	10	

DUP Sample ID: **19080242-08B DUP** Units: **% of sample** Analysis Date: **8/5/2019 03:48 PM**
Client ID: Run ID: **MOIST_190805D** SeqNo: **5825452** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	16.85	0.10	0	0	0	0-0	16.28	3.44	10	

The following samples were analyzed in this batch:

19080245-01B	19080245-02B	19080245-03B
19080245-04B	19080245-05B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
South Charleston, WV +1 304 356 3168
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
York, PA +1 717 505 5280

Chain of Custody Form

Page ____ of ____

COC ID: 187876

ALS Project Manager: | ALS Work Order #: 1908045

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Enbridge Blackhawk	A	VOCs
Work Order		Project Number	60596530	B	GRO
Company Name	AECOM	Bill To Company	AECOM	C	DRO
Send Report To	Dan Cervin	Invoice Attn	Accounts Payable	D	
Address	11 East Superior Street Suite 260	Address	11 East Superior Street Suite 260	E F	
City/State/Zip	Duluth, MN 55802	City/State/Zip	Duluth, MN 55802	G	
Phone	(218) 625-8766	Phone	(218) 625-8766	H	
Fax		Fax		I	
e-Mail Address	Daniel.Cervin@aecom.com	e-Mail Address	Daniel.Cervin@aecom.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SW-1	8/2/19	1330	Soil	See Bottle	3	X	X	X								
2	SW-2		1400			3	X	X	X								
3	SW-3		1451			3	X	X	X								
4	SW-4		1415			3	X	X	X								
5	B-1	8/2/19	1430	Soil		3	X	X	X								
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Mike Pawlak

Shipment Method: Fedex

Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other ____

Results Due Date:

Relinquished by:	Date: 8/2/19	Time:	Received by: Fedex	Notes:
Relinquished by: Fedex	Date: 8/3/19	Time: 9:30	Received by (Laboratory):	
Logged by (Laboratory): MJG	Date: 8/3/19	Time: 14:23	Checked by (Laboratory):	

Cooler ID	Cooler Temp.
	3.8C
	SR2

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP CheckList
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other ____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Group, USA

Sample Receipt Checklist

Client Name: **AECOM - DULUTH** Date/Time Received: **03-Aug-19 09:30**

Work Order: **19080245** Received by: **MJG**

Checklist completed by Matthew Gaylord (eSignature) 05-Aug-19 (Date) Reviewed by: Chad Whelton (eSignature) 06-Aug-19 (Date)

Matrices: SOIL

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.8/3.8C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/5/2019 2:42:16 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

24-Oct-2019

Darin Albrecht
AECOM
11 East Superior Street
Suite 260
Duluth, MN 55802

Re: **Enbridge Blackhawk Station** Work Order: **19100838**

Dear Darin,

ALS Environmental received 6 samples on 10-Oct-2019 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 30.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

ALS Group, USA

Date: 24-Oct-19

Client: AECOM
Project: Enbridge Blackhawk Station
Work Order: **19100838**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
19100838-01	SW-1 (5)	Soil		10/9/2019 14:00	10/10/2019 09:30	☐
19100838-02	SW-2 (5)	Soil		10/9/2019 14:14	10/10/2019 09:30	☐
19100838-03	SW-3 (5)	Soil		10/9/2019 14:35	10/10/2019 09:30	☐
19100838-04	SW-3 (9)	Soil		10/9/2019 14:51	10/10/2019 09:30	☐
19100838-05	SW-4 (5)	Soil		10/9/2019 14:25	10/10/2019 09:30	☐
19100838-06	Trip Blank	Soil		10/9/2019	10/10/2019 09:30	☐

Client: AECOM
Project: Enbridge Blackhawk Station
Work Order: 19100838

Case Narrative

Samples for the above noted Work Order were received on 10/10/2019. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:

Batch 143824, Method VOC_8260_S, Sample LCS-143824: The LCS recovery was above the upper control limit for Dichlorodifluoromethane. All the sample results in the batch were non-detect. No qualification is required.

Extractable Organics:
No other deviations or anomalies were noted.

Wet Chemistry:
No other deviations or anomalies were noted.

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group, USA

Date: *24-Oct-19*

Client: AECOM
Project: Enbridge Blackhawk Station
Sample ID: SW-1 (5)
Collection Date: 10/9/2019 02:00 PM

Work Order: 19100838
Lab ID: 19100838-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**PUBL-SW-141**	Prep: PUBL-SW-141 10/16/19 15:10		Analyst: **KB**
DRO (C10-C28)	**1.7**	J	**5.5**	**mg/Kg-dry**	1	10/17/2019 07:43 AM
GASOLINE RANGE ORGANICS BY GC-FID			**PUBL-SW-140**	Prep: SW5035 10/10/19 15:13		Analyst: **KB**
GRO (C6-C10)	U		2,300	µg/Kg-dry	1	10/24/2019 12:02 PM
Surr: a,a,a-Trifluorotoluene	*86.8*		*80-120*	*%REC*	1	10/24/2019 12:02 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 10/10/19 15:09		Analyst: **SJB**
1,1,1-Trichloroethane	U		28	µg/Kg	1	10/18/2019 11:19 PM
1,1,2,2-Tetrachloroethane	U		28	µg/Kg	1	10/18/2019 11:19 PM
1,1,2-Trichloroethane	U		28	µg/Kg	1	10/18/2019 11:19 PM
1,1,2-Trichlorotrifluoroethane	U		28	µg/Kg	1	10/18/2019 11:19 PM
1,1-Dichloroethane	U		28	µg/Kg	1	10/18/2019 11:19 PM
1,1-Dichloroethene	U		28	µg/Kg	1	10/18/2019 11:19 PM
1,2,3-Trichlorobenzene	U		92	µg/Kg	1	10/18/2019 11:19 PM
1,2,4-Trichlorobenzene	U		92	µg/Kg	1	10/18/2019 11:19 PM
1,2-Dibromo-3-chloropropane	U		92	µg/Kg	1	10/18/2019 11:19 PM
1,2-Dibromoethane	U		28	µg/Kg	1	10/18/2019 11:19 PM
1,2-Dichlorobenzene	U		28	µg/Kg	1	10/18/2019 11:19 PM
1,2-Dichloroethane	U		92	µg/Kg	1	10/18/2019 11:19 PM
1,2-Dichloropropane	U		28	µg/Kg	1	10/18/2019 11:19 PM
1,3-Dichlorobenzene	U		28	µg/Kg	1	10/18/2019 11:19 PM
1,4-Dichlorobenzene	U		28	µg/Kg	1	10/18/2019 11:19 PM
2-Butanone	U		180	µg/Kg	1	10/18/2019 11:19 PM
2-Hexanone	U		28	µg/Kg	1	10/18/2019 11:19 PM
4-Methyl-2-pentanone	U		28	µg/Kg	1	10/18/2019 11:19 PM
Acetone	U		92	µg/Kg	1	10/18/2019 11:19 PM
Benzene	U		28	µg/Kg	1	10/18/2019 11:19 PM
Bromochloromethane	U		28	µg/Kg	1	10/18/2019 11:19 PM
Bromodichloromethane	U		28	µg/Kg	1	10/18/2019 11:19 PM
Bromoform	U		28	µg/Kg	1	10/18/2019 11:19 PM
Bromomethane	U		92	µg/Kg	1	10/18/2019 11:19 PM
Carbon disulfide	U		28	µg/Kg	1	10/18/2019 11:19 PM
Carbon tetrachloride	U		28	µg/Kg	1	10/18/2019 11:19 PM
Chlorobenzene	U		28	µg/Kg	1	10/18/2019 11:19 PM
Chloroethane	U		92	µg/Kg	1	10/18/2019 11:19 PM
Chloroform	U		28	µg/Kg	1	10/18/2019 11:19 PM
Chloromethane	U		92	µg/Kg	1	10/18/2019 11:19 PM
cis-1,2-Dichloroethene	U		28	µg/Kg	1	10/18/2019 11:19 PM
cis-1,3-Dichloropropene	U		28	µg/Kg	1	10/18/2019 11:19 PM
Cyclohexane	U		92	µg/Kg	1	10/18/2019 11:19 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk Station **Work Order:** 19100838
Sample ID: SW-1 (5) **Lab ID:** 19100838-01
Collection Date: 10/9/2019 02:00 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibromochloromethane	U		28	µg/Kg	1	10/18/2019 11:19 PM
Dichlorodifluoromethane	U		92	µg/Kg	1	10/18/2019 11:19 PM
Ethylbenzene	U		28	µg/Kg	1	10/18/2019 11:19 PM
Isopropylbenzene	U		28	µg/Kg	1	10/18/2019 11:19 PM
m,p-Xylene	U		55	µg/Kg	1	10/18/2019 11:19 PM
Methyl acetate	U		230	µg/Kg	1	10/18/2019 11:19 PM
Methyl tert-butyl ether	U		28	µg/Kg	1	10/18/2019 11:19 PM
Methylcyclohexane	U		28	µg/Kg	1	10/18/2019 11:19 PM
Methylene chloride	U		230	µg/Kg	1	10/18/2019 11:19 PM
o-Xylene	U		28	µg/Kg	1	10/18/2019 11:19 PM
Styrene	U		28	µg/Kg	1	10/18/2019 11:19 PM
Tetrachloroethene	U		28	µg/Kg	1	10/18/2019 11:19 PM
Toluene	U		28	µg/Kg	1	10/18/2019 11:19 PM
trans-1,2-Dichloroethene	U		28	µg/Kg	1	10/18/2019 11:19 PM
trans-1,3-Dichloropropene	U		28	µg/Kg	1	10/18/2019 11:19 PM
Trichloroethene	U		28	µg/Kg	1	10/18/2019 11:19 PM
Trichlorofluoromethane	U		28	µg/Kg	1	10/18/2019 11:19 PM
Vinyl chloride	U		28	µg/Kg	1	10/18/2019 11:19 PM
Xylenes, Total	U		83	µg/Kg	1	10/18/2019 11:19 PM
Surr: 1,2-Dichloroethane-d4	*96.2*		*70-130*	*%REC*	1	10/18/2019 11:19 PM
Surr: 4-Bromofluorobenzene	*101*		*70-130*	*%REC*	1	10/18/2019 11:19 PM
Surr: Dibromofluoromethane	*87.1*		*70-130*	*%REC*	1	10/18/2019 11:19 PM
Surr: Toluene-d8	*95.5*		*70-130*	*%REC*	1	10/18/2019 11:19 PM
MOISTURE			**SW3550C**			Analyst: **KTP**
Moisture	**11**		**0.10**	**% of sample**	1	10/15/2019 04:17 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *24-Oct-19*

Client: AECOM
Project: Enbridge Blackhawk Station
Sample ID: SW-2 (5)
Collection Date: 10/9/2019 02:14 PM

Work Order: 19100838
Lab ID: 19100838-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**PUBL-SW-141**	Prep: PUBL-SW-141 10/16/19 15:10		Analyst: **KB**
DRO (C10-C28)	**1.6**	J	**5.5**	**mg/Kg-dry**	1	10/17/2019 08:12 AM
GASOLINE RANGE ORGANICS BY GC-FID			**PUBL-SW-140**	Prep: SW5035 10/10/19 15:13		Analyst: **KB**
GRO (C6-C10)	U		2,700	µg/Kg-dry	1	10/24/2019 12:32 PM
Surr: a,a,a-Trifluorotoluene	*92.4*		*80-120*	*%REC*	1	10/24/2019 12:32 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 10/10/19 15:09		Analyst: **SJB**
1,1,1-Trichloroethane	U		32	µg/Kg	1	10/18/2019 11:35 PM
1,1,2,2-Tetrachloroethane	U		32	µg/Kg	1	10/18/2019 11:35 PM
1,1,2-Trichloroethane	U		32	µg/Kg	1	10/18/2019 11:35 PM
1,1,2-Trichlorotrifluoroethane	U		32	µg/Kg	1	10/18/2019 11:35 PM
1,1-Dichloroethane	U		32	µg/Kg	1	10/18/2019 11:35 PM
1,1-Dichloroethene	U		32	µg/Kg	1	10/18/2019 11:35 PM
1,2,3-Trichlorobenzene	U		110	µg/Kg	1	10/18/2019 11:35 PM
1,2,4-Trichlorobenzene	U		110	µg/Kg	1	10/18/2019 11:35 PM
1,2-Dibromo-3-chloropropane	U		110	µg/Kg	1	10/18/2019 11:35 PM
1,2-Dibromoethane	U		32	µg/Kg	1	10/18/2019 11:35 PM
1,2-Dichlorobenzene	U		32	µg/Kg	1	10/18/2019 11:35 PM
1,2-Dichloroethane	U		110	µg/Kg	1	10/18/2019 11:35 PM
1,2-Dichloropropane	U		32	µg/Kg	1	10/18/2019 11:35 PM
1,3-Dichlorobenzene	U		32	µg/Kg	1	10/18/2019 11:35 PM
1,4-Dichlorobenzene	U		32	µg/Kg	1	10/18/2019 11:35 PM
2-Butanone	U		210	µg/Kg	1	10/18/2019 11:35 PM
2-Hexanone	U		32	µg/Kg	1	10/18/2019 11:35 PM
4-Methyl-2-pentanone	U		32	µg/Kg	1	10/18/2019 11:35 PM
Acetone	U		110	µg/Kg	1	10/18/2019 11:35 PM
Benzene	U		32	µg/Kg	1	10/18/2019 11:35 PM
Bromochloromethane	U		32	µg/Kg	1	10/18/2019 11:35 PM
Bromodichloromethane	U		32	µg/Kg	1	10/18/2019 11:35 PM
Bromoform	U		32	µg/Kg	1	10/18/2019 11:35 PM
Bromomethane	U		110	µg/Kg	1	10/18/2019 11:35 PM
Carbon disulfide	U		32	µg/Kg	1	10/18/2019 11:35 PM
Carbon tetrachloride	U		32	µg/Kg	1	10/18/2019 11:35 PM
Chlorobenzene	U		32	µg/Kg	1	10/18/2019 11:35 PM
Chloroethane	U		110	µg/Kg	1	10/18/2019 11:35 PM
Chloroform	U		32	µg/Kg	1	10/18/2019 11:35 PM
Chloromethane	U		110	µg/Kg	1	10/18/2019 11:35 PM
cis-1,2-Dichloroethene	U		32	µg/Kg	1	10/18/2019 11:35 PM
cis-1,3-Dichloropropene	U		32	µg/Kg	1	10/18/2019 11:35 PM
Cyclohexane	U		110	µg/Kg	1	10/18/2019 11:35 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk Station **Work Order:** 19100838
Sample ID: SW-2 (5) **Lab ID:** 19100838-02
Collection Date: 10/9/2019 02:14 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibromochloromethane	U		32	µg/Kg	1	10/18/2019 11:35 PM
Dichlorodifluoromethane	U		110	µg/Kg	1	10/18/2019 11:35 PM
Ethylbenzene	U		32	µg/Kg	1	10/18/2019 11:35 PM
Isopropylbenzene	U		32	µg/Kg	1	10/18/2019 11:35 PM
m,p-Xylene	U		64	µg/Kg	1	10/18/2019 11:35 PM
Methyl acetate	U		270	µg/Kg	1	10/18/2019 11:35 PM
Methyl tert-butyl ether	U		32	µg/Kg	1	10/18/2019 11:35 PM
Methylcyclohexane	U		32	µg/Kg	1	10/18/2019 11:35 PM
Methylene chloride	U		270	µg/Kg	1	10/18/2019 11:35 PM
o-Xylene	U		32	µg/Kg	1	10/18/2019 11:35 PM
Styrene	U		32	µg/Kg	1	10/18/2019 11:35 PM
Tetrachloroethene	U		32	µg/Kg	1	10/18/2019 11:35 PM
Toluene	U		32	µg/Kg	1	10/18/2019 11:35 PM
trans-1,2-Dichloroethene	U		32	µg/Kg	1	10/18/2019 11:35 PM
trans-1,3-Dichloropropene	U		32	µg/Kg	1	10/18/2019 11:35 PM
Trichloroethene	U		32	µg/Kg	1	10/18/2019 11:35 PM
Trichlorofluoromethane	U		32	µg/Kg	1	10/18/2019 11:35 PM
Vinyl chloride	U		32	µg/Kg	1	10/18/2019 11:35 PM
Xylenes, Total	U		96	µg/Kg	1	10/18/2019 11:35 PM
Surr: 1,2-Dichloroethane-d4	*96.2*		*70-130*	*%REC*	1	10/18/2019 11:35 PM
Surr: 4-Bromofluorobenzene	*98.4*		*70-130*	*%REC*	1	10/18/2019 11:35 PM
Surr: Dibromofluoromethane	*87.3*		*70-130*	*%REC*	1	10/18/2019 11:35 PM
Surr: Toluene-d8	*95.2*		*70-130*	*%REC*	1	10/18/2019 11:35 PM
MOISTURE			**SW3550C**			Analyst: **KTP**
Moisture	**11**		**0.10**	**% of sample**	1	10/15/2019 04:17 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *24-Oct-19*

Client: AECOM
Project: Enbridge Blackhawk Station
Sample ID: SW-3 (5)
Collection Date: 10/9/2019 02:35 PM

Work Order: 19100838
Lab ID: 19100838-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**PUBL-SW-141**	Prep: PUBL-SW-141 10/16/19 15:10		Analyst: **KB**
DRO (C10-C28)	**2.4**	J	**5.3**	**mg/Kg-dry**	1	10/17/2019 08:41 AM
GASOLINE RANGE ORGANICS BY GC-FID			**PUBL-SW-140**	Prep: SW5035 10/10/19 15:13		Analyst: **KB**
GRO (C6-C10)	U		2,900	µg/Kg-dry	1	10/24/2019 01:01 PM
Surr: a,a,a-Trifluorotoluene	*96.4*		*80-120*	*%REC*	1	10/24/2019 01:01 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 10/10/19 15:09		Analyst: **WH**
1,1,1-Trichloroethane	U		35	µg/Kg	1	10/18/2019 12:19 PM
1,1,2,2-Tetrachloroethane	U		35	µg/Kg	1	10/18/2019 12:19 PM
1,1,2-Trichloroethane	U		35	µg/Kg	1	10/18/2019 12:19 PM
1,1,2-Trichlorotrifluoroethane	U		35	µg/Kg	1	10/18/2019 12:19 PM
1,1-Dichloroethane	U		35	µg/Kg	1	10/18/2019 12:19 PM
1,1-Dichloroethene	U		35	µg/Kg	1	10/18/2019 12:19 PM
1,2,3-Trichlorobenzene	U		120	µg/Kg	1	10/18/2019 12:19 PM
1,2,4-Trichlorobenzene	U		120	µg/Kg	1	10/18/2019 12:19 PM
1,2-Dibromo-3-chloropropane	U		120	µg/Kg	1	10/18/2019 12:19 PM
1,2-Dibromoethane	U		35	µg/Kg	1	10/18/2019 12:19 PM
1,2-Dichlorobenzene	U		35	µg/Kg	1	10/18/2019 12:19 PM
1,2-Dichloroethane	U		120	µg/Kg	1	10/18/2019 12:19 PM
1,2-Dichloropropane	U		35	µg/Kg	1	10/18/2019 12:19 PM
1,3-Dichlorobenzene	U		35	µg/Kg	1	10/18/2019 12:19 PM
1,4-Dichlorobenzene	U		35	µg/Kg	1	10/18/2019 12:19 PM
2-Butanone	**45**	J	**230**	**µg/Kg**	1	10/18/2019 12:19 PM
2-Hexanone	U		35	µg/Kg	1	10/18/2019 12:19 PM
4-Methyl-2-pentanone	U		35	µg/Kg	1	10/18/2019 12:19 PM
Acetone	U		120	µg/Kg	1	10/18/2019 12:19 PM
Benzene	**12**	J	**35**	**µg/Kg**	1	10/18/2019 12:19 PM
Bromochloromethane	U		35	µg/Kg	1	10/18/2019 12:19 PM
Bromodichloromethane	U		35	µg/Kg	1	10/18/2019 12:19 PM
Bromoform	U		35	µg/Kg	1	10/18/2019 12:19 PM
Bromomethane	U		120	µg/Kg	1	10/18/2019 12:19 PM
Carbon disulfide	U		35	µg/Kg	1	10/18/2019 12:19 PM
Carbon tetrachloride	U		35	µg/Kg	1	10/18/2019 12:19 PM
Chlorobenzene	U		35	µg/Kg	1	10/18/2019 12:19 PM
Chloroethane	U		120	µg/Kg	1	10/18/2019 12:19 PM
Chloroform	U		35	µg/Kg	1	10/18/2019 12:19 PM
Chloromethane	U		120	µg/Kg	1	10/18/2019 12:19 PM
cis-1,2-Dichloroethene	U		35	µg/Kg	1	10/18/2019 12:19 PM
cis-1,3-Dichloropropene	U		35	µg/Kg	1	10/18/2019 12:19 PM
Cyclohexane	**100**	J	**120**	**µg/Kg**	1	10/18/2019 12:19 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk Station **Work Order:** 19100838
Sample ID: SW-3 (5) **Lab ID:** 19100838-03
Collection Date: 10/9/2019 02:35 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibromochloromethane	U		35	µg/Kg	1	10/18/2019 12:19 PM
Dichlorodifluoromethane	U		120	µg/Kg	1	10/18/2019 12:19 PM
Ethylbenzene	**7.5**	J	**35**	**µg/Kg**	1	10/18/2019 12:19 PM
Isopropylbenzene	U		35	µg/Kg	1	10/18/2019 12:19 PM
m,p-Xylene	**62**	J	**69**	**µg/Kg**	1	10/18/2019 12:19 PM
Methyl acetate	U		290	µg/Kg	1	10/18/2019 12:19 PM
Methyl tert-butyl ether	U		35	µg/Kg	1	10/18/2019 12:19 PM
Methylcyclohexane	**180**		**35**	**µg/Kg**	1	10/18/2019 12:19 PM
Methylene chloride	U		290	µg/Kg	1	10/18/2019 12:19 PM
o-Xylene	U		35	µg/Kg	1	10/18/2019 12:19 PM
Styrene	U		35	µg/Kg	1	10/18/2019 12:19 PM
Tetrachloroethene	U		35	µg/Kg	1	10/18/2019 12:19 PM
Toluene	U		35	µg/Kg	1	10/18/2019 12:19 PM
trans-1,2-Dichloroethene	U		35	µg/Kg	1	10/18/2019 12:19 PM
trans-1,3-Dichloropropene	U		35	µg/Kg	1	10/18/2019 12:19 PM
Trichloroethene	U		35	µg/Kg	1	10/18/2019 12:19 PM
Trichlorofluoromethane	U		35	µg/Kg	1	10/18/2019 12:19 PM
Vinyl chloride	U		35	µg/Kg	1	10/18/2019 12:19 PM
Xylenes, Total	**62**	J	**100**	**µg/Kg**	1	10/18/2019 12:19 PM
Surr: 1,2-Dichloroethane-d4	*98.4*		*70-130*	*%REC*	1	10/18/2019 12:19 PM
Surr: 4-Bromofluorobenzene	*103*		*70-130*	*%REC*	1	10/18/2019 12:19 PM
Surr: Dibromofluoromethane	*87.0*		*70-130*	*%REC*	1	10/18/2019 12:19 PM
Surr: Toluene-d8	*96.8*		*70-130*	*%REC*	1	10/18/2019 12:19 PM
MOISTURE			**SW3550C**			Analyst: **KTP**
Moisture	**6.0**		**0.10**	**% of sample**	1	10/15/2019 04:17 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *24-Oct-19*

Client: AECOM
Project: Enbridge Blackhawk Station
Sample ID: SW-3 (9)
Collection Date: 10/9/2019 02:51 PM

Work Order: 19100838
Lab ID: 19100838-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**PUBL-SW-141**	Prep: PUBL-SW-141 10/16/19 15:10		Analyst: **KB**
DRO (C10-C28)	**25**		**5.7**	**mg/Kg-dry**	1	10/17/2019 09:10 AM
GASOLINE RANGE ORGANICS BY GC-FID			**PUBL-SW-140**	Prep: SW5035 10/10/19 15:13		Analyst: **KB**
GRO (C6-C10)	**13,000**		**3,200**	**µg/Kg-dry**	1	10/24/2019 01:30 PM
Surr: a,a,a-Trifluorotoluene	*97.5*		*80-120*	*%REC*	1	10/24/2019 01:30 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 10/10/19 15:09		Analyst: **WH**
1,1,1-Trichloroethane	U		38	µg/Kg	1	10/18/2019 12:35 PM
1,1,2,2-Tetrachloroethane	U		38	µg/Kg	1	10/18/2019 12:35 PM
1,1,2-Trichloroethane	U		38	µg/Kg	1	10/18/2019 12:35 PM
1,1,2-Trichlorotrifluoroethane	U		38	µg/Kg	1	10/18/2019 12:35 PM
1,1-Dichloroethane	U		38	µg/Kg	1	10/18/2019 12:35 PM
1,1-Dichloroethene	U		38	µg/Kg	1	10/18/2019 12:35 PM
1,2,3-Trichlorobenzene	U		130	µg/Kg	1	10/18/2019 12:35 PM
1,2,4-Trichlorobenzene	U		130	µg/Kg	1	10/18/2019 12:35 PM
1,2-Dibromo-3-chloropropane	U		130	µg/Kg	1	10/18/2019 12:35 PM
1,2-Dibromoethane	U		38	µg/Kg	1	10/18/2019 12:35 PM
1,2-Dichlorobenzene	U		38	µg/Kg	1	10/18/2019 12:35 PM
1,2-Dichloroethane	U		130	µg/Kg	1	10/18/2019 12:35 PM
1,2-Dichloropropane	U		38	µg/Kg	1	10/18/2019 12:35 PM
1,3-Dichlorobenzene	U		38	µg/Kg	1	10/18/2019 12:35 PM
1,4-Dichlorobenzene	U		38	µg/Kg	1	10/18/2019 12:35 PM
2-Butanone	**77**	J	**250**	**µg/Kg**	1	10/18/2019 12:35 PM
2-Hexanone	U		38	µg/Kg	1	10/18/2019 12:35 PM
4-Methyl-2-pentanone	U		38	µg/Kg	1	10/18/2019 12:35 PM
Acetone	U		130	µg/Kg	1	10/18/2019 12:35 PM
Benzene	**14**	J	**38**	**µg/Kg**	1	10/18/2019 12:35 PM
Bromochloromethane	U		38	µg/Kg	1	10/18/2019 12:35 PM
Bromodichloromethane	U		38	µg/Kg	1	10/18/2019 12:35 PM
Bromoform	U		38	µg/Kg	1	10/18/2019 12:35 PM
Bromomethane	U		130	µg/Kg	1	10/18/2019 12:35 PM
Carbon disulfide	U		38	µg/Kg	1	10/18/2019 12:35 PM
Carbon tetrachloride	U		38	µg/Kg	1	10/18/2019 12:35 PM
Chlorobenzene	U		38	µg/Kg	1	10/18/2019 12:35 PM
Chloroethane	U		130	µg/Kg	1	10/18/2019 12:35 PM
Chloroform	U		38	µg/Kg	1	10/18/2019 12:35 PM
Chloromethane	U		130	µg/Kg	1	10/18/2019 12:35 PM
cis-1,2-Dichloroethene	U		38	µg/Kg	1	10/18/2019 12:35 PM
cis-1,3-Dichloropropene	U		38	µg/Kg	1	10/18/2019 12:35 PM
Cyclohexane	**260**		**130**	**µg/Kg**	1	10/18/2019 12:35 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk Station **Work Order:** 19100838
Sample ID: SW-3 (9) **Lab ID:** 19100838-04
Collection Date: 10/9/2019 02:51 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibromochloromethane	U		38	µg/Kg	1	10/18/2019 12:35 PM
Dichlorodifluoromethane	U		130	µg/Kg	1	10/18/2019 12:35 PM
Ethylbenzene	**14**	J	**38**	**µg/Kg**	1	10/18/2019 12:35 PM
Isopropylbenzene	U		38	µg/Kg	1	10/18/2019 12:35 PM
m,p-Xylene	**84**		**76**	**µg/Kg**	1	10/18/2019 12:35 PM
Methyl acetate	U		320	µg/Kg	1	10/18/2019 12:35 PM
Methyl tert-butyl ether	U		38	µg/Kg	1	10/18/2019 12:35 PM
Methylcyclohexane	**750**		**38**	**µg/Kg**	1	10/18/2019 12:35 PM
Methylene chloride	U		320	µg/Kg	1	10/18/2019 12:35 PM
o-Xylene	U		38	µg/Kg	1	10/18/2019 12:35 PM
Styrene	U		38	µg/Kg	1	10/18/2019 12:35 PM
Tetrachloroethene	U		38	µg/Kg	1	10/18/2019 12:35 PM
Toluene	U		38	µg/Kg	1	10/18/2019 12:35 PM
trans-1,2-Dichloroethene	U		38	µg/Kg	1	10/18/2019 12:35 PM
trans-1,3-Dichloropropene	U		38	µg/Kg	1	10/18/2019 12:35 PM
Trichloroethene	U		38	µg/Kg	1	10/18/2019 12:35 PM
Trichlorofluoromethane	U		38	µg/Kg	1	10/18/2019 12:35 PM
Vinyl chloride	U		38	µg/Kg	1	10/18/2019 12:35 PM
Xylenes, Total	**84**	J	**110**	**µg/Kg**	1	10/18/2019 12:35 PM
Surr: 1,2-Dichloroethane-d4	*95.8*		*70-130*	*%REC*	1	10/18/2019 12:35 PM
Surr: 4-Bromofluorobenzene	*104*		*70-130*	*%REC*	1	10/18/2019 12:35 PM
Surr: Dibromofluoromethane	*84.8*		*70-130*	*%REC*	1	10/18/2019 12:35 PM
Surr: Toluene-d8	*97.0*		*70-130*	*%REC*	1	10/18/2019 12:35 PM
MOISTURE			**SW3550C**			Analyst: **KTP**
Moisture	**13**		**0.10**	**% of sample**	1	10/15/2019 04:17 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *24-Oct-19*

Client: AECOM
Project: Enbridge Blackhawk Station
Sample ID: SW-4 (5)
Collection Date: 10/9/2019 02:25 PM

Work Order: 19100838
Lab ID: 19100838-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**PUBL-SW-141**	Prep: PUBL-SW-141 10/16/19 15:10		Analyst: **KB**
DRO (C10-C28)	**1.6**	J	**5.4**	**mg/Kg-dry**	1	10/17/2019 09:39 AM
GASOLINE RANGE ORGANICS BY GC-FID			**PUBL-SW-140**	Prep: SW5035 10/10/19 15:13		Analyst: **KB**
GRO (C6-C10)	U		2,600	µg/Kg-dry	1	10/24/2019 01:59 PM
Surr: a,a,a-Trifluorotoluene	*94.1*		*80-120*	*%REC*	1	10/24/2019 01:59 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 10/10/19 15:09		Analyst: **WH**
1,1,1-Trichloroethane	U		32	µg/Kg	1	10/18/2019 12:51 PM
1,1,2,2-Tetrachloroethane	U		32	µg/Kg	1	10/18/2019 12:51 PM
1,1,2-Trichloroethane	U		32	µg/Kg	1	10/18/2019 12:51 PM
1,1,2-Trichlorotrifluoroethane	U		32	µg/Kg	1	10/18/2019 12:51 PM
1,1-Dichloroethane	U		32	µg/Kg	1	10/18/2019 12:51 PM
1,1-Dichloroethene	U		32	µg/Kg	1	10/18/2019 12:51 PM
1,2,3-Trichlorobenzene	U		110	µg/Kg	1	10/18/2019 12:51 PM
1,2,4-Trichlorobenzene	U		110	µg/Kg	1	10/18/2019 12:51 PM
1,2-Dibromo-3-chloropropane	U		110	µg/Kg	1	10/18/2019 12:51 PM
1,2-Dibromoethane	U		32	µg/Kg	1	10/18/2019 12:51 PM
1,2-Dichlorobenzene	U		32	µg/Kg	1	10/18/2019 12:51 PM
1,2-Dichloroethane	U		110	µg/Kg	1	10/18/2019 12:51 PM
1,2-Dichloropropane	U		32	µg/Kg	1	10/18/2019 12:51 PM
1,3-Dichlorobenzene	U		32	µg/Kg	1	10/18/2019 12:51 PM
1,4-Dichlorobenzene	U		32	µg/Kg	1	10/18/2019 12:51 PM
2-Butanone	**50**	J	**210**	**µg/Kg**	1	10/18/2019 12:51 PM
2-Hexanone	U		32	µg/Kg	1	10/18/2019 12:51 PM
4-Methyl-2-pentanone	U		32	µg/Kg	1	10/18/2019 12:51 PM
Acetone	U		110	µg/Kg	1	10/18/2019 12:51 PM
Benzene	**64**		**32**	**µg/Kg**	1	10/18/2019 12:51 PM
Bromochloromethane	U		32	µg/Kg	1	10/18/2019 12:51 PM
Bromodichloromethane	U		32	µg/Kg	1	10/18/2019 12:51 PM
Bromoform	U		32	µg/Kg	1	10/18/2019 12:51 PM
Bromomethane	U		110	µg/Kg	1	10/18/2019 12:51 PM
Carbon disulfide	U		32	µg/Kg	1	10/18/2019 12:51 PM
Carbon tetrachloride	U		32	µg/Kg	1	10/18/2019 12:51 PM
Chlorobenzene	U		32	µg/Kg	1	10/18/2019 12:51 PM
Chloroethane	U		110	µg/Kg	1	10/18/2019 12:51 PM
Chloroform	U		32	µg/Kg	1	10/18/2019 12:51 PM
Chloromethane	U		110	µg/Kg	1	10/18/2019 12:51 PM
cis-1,2-Dichloroethene	U		32	µg/Kg	1	10/18/2019 12:51 PM
cis-1,3-Dichloropropene	U		32	µg/Kg	1	10/18/2019 12:51 PM
Cyclohexane	**340**		**110**	**µg/Kg**	1	10/18/2019 12:51 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk Station **Work Order:** 19100838
Sample ID: SW-4 (5) **Lab ID:** 19100838-05
Collection Date: 10/9/2019 02:25 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibromochloromethane	U		32	µg/Kg	1	10/18/2019 12:51 PM
Dichlorodifluoromethane	U		110	µg/Kg	1	10/18/2019 12:51 PM
Ethylbenzene	**19**	J	**32**	**µg/Kg**	1	10/18/2019 12:51 PM
Isopropylbenzene	**15**	J	**32**	**µg/Kg**	1	10/18/2019 12:51 PM
m,p-Xylene	U		63	µg/Kg	1	10/18/2019 12:51 PM
Methyl acetate	U		260	µg/Kg	1	10/18/2019 12:51 PM
Methyl tert-butyl ether	U		32	µg/Kg	1	10/18/2019 12:51 PM
Methylcyclohexane	**360**		**32**	**µg/Kg**	1	10/18/2019 12:51 PM
Methylene chloride	U		260	µg/Kg	1	10/18/2019 12:51 PM
o-Xylene	**36**		**32**	**µg/Kg**	1	10/18/2019 12:51 PM
Styrene	U		32	µg/Kg	1	10/18/2019 12:51 PM
Tetrachloroethene	U		32	µg/Kg	1	10/18/2019 12:51 PM
Toluene	**22**	J	**32**	**µg/Kg**	1	10/18/2019 12:51 PM
trans-1,2-Dichloroethene	U		32	µg/Kg	1	10/18/2019 12:51 PM
trans-1,3-Dichloropropene	U		32	µg/Kg	1	10/18/2019 12:51 PM
Trichloroethene	U		32	µg/Kg	1	10/18/2019 12:51 PM
Trichlorofluoromethane	U		32	µg/Kg	1	10/18/2019 12:51 PM
Vinyl chloride	U		32	µg/Kg	1	10/18/2019 12:51 PM
Xylenes, Total	U		95	µg/Kg	1	10/18/2019 12:51 PM
Surr: 1,2-Dichloroethane-d4	*97.0*		*70-130*	*%REC*	1	10/18/2019 12:51 PM
Surr: 4-Bromofluorobenzene	*102*		*70-130*	*%REC*	1	10/18/2019 12:51 PM
Surr: Dibromofluoromethane	*86.2*		*70-130*	*%REC*	1	10/18/2019 12:51 PM
Surr: Toluene-d8	*96.6*		*70-130*	*%REC*	1	10/18/2019 12:51 PM
MOISTURE			**SW3550C**			Analyst: **KTP**
Moisture	**11**		**0.10**	**% of sample**	1	10/15/2019 04:17 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *24-Oct-19*

Client: AECOM
Project: Enbridge Blackhawk Station
Sample ID: Trip Blank
Collection Date: 10/9/2019

Work Order: 19100838
Lab ID: 19100838-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			**SW8260C**		Prep: SW5035 10/10/19 15:09	Analyst: **WH**
1,1,1-Trichloroethane	U		30	µg/Kg	1	10/18/2019 01:06 PM
1,1,2,2-Tetrachloroethane	U		30	µg/Kg	1	10/18/2019 01:06 PM
1,1,2-Trichloroethane	U		30	µg/Kg	1	10/18/2019 01:06 PM
1,1,2-Trichlorotrifluoroethane	U		30	µg/Kg	1	10/18/2019 01:06 PM
1,1-Dichloroethane	U		30	µg/Kg	1	10/18/2019 01:06 PM
1,1-Dichloroethene	U		30	µg/Kg	1	10/18/2019 01:06 PM
1,2,3-Trichlorobenzene	U		100	µg/Kg	1	10/18/2019 01:06 PM
1,2,4-Trichlorobenzene	U		100	µg/Kg	1	10/18/2019 01:06 PM
1,2-Dibromo-3-chloropropane	U		100	µg/Kg	1	10/18/2019 01:06 PM
1,2-Dibromoethane	U		30	µg/Kg	1	10/18/2019 01:06 PM
1,2-Dichlorobenzene	U		30	µg/Kg	1	10/18/2019 01:06 PM
1,2-Dichloroethane	U		100	µg/Kg	1	10/18/2019 01:06 PM
1,2-Dichloropropane	U		30	µg/Kg	1	10/18/2019 01:06 PM
1,3-Dichlorobenzene	U		30	µg/Kg	1	10/18/2019 01:06 PM
1,4-Dichlorobenzene	U		30	µg/Kg	1	10/18/2019 01:06 PM
2-Butanone	**49**	J	**200**	**µg/Kg**	1	10/18/2019 01:06 PM
2-Hexanone	U		30	µg/Kg	1	10/18/2019 01:06 PM
4-Methyl-2-pentanone	U		30	µg/Kg	1	10/18/2019 01:06 PM
Acetone	U		100	µg/Kg	1	10/18/2019 01:06 PM
Benzene	U		30	µg/Kg	1	10/18/2019 01:06 PM
Bromochloromethane	U		30	µg/Kg	1	10/18/2019 01:06 PM
Bromodichloromethane	U		30	µg/Kg	1	10/18/2019 01:06 PM
Bromoform	U		30	µg/Kg	1	10/18/2019 01:06 PM
Bromomethane	U		100	µg/Kg	1	10/18/2019 01:06 PM
Carbon disulfide	U		30	µg/Kg	1	10/18/2019 01:06 PM
Carbon tetrachloride	U		30	µg/Kg	1	10/18/2019 01:06 PM
Chlorobenzene	U		30	µg/Kg	1	10/18/2019 01:06 PM
Chloroethane	U		100	µg/Kg	1	10/18/2019 01:06 PM
Chloroform	U		30	µg/Kg	1	10/18/2019 01:06 PM
Chloromethane	U		100	µg/Kg	1	10/18/2019 01:06 PM
cis-1,2-Dichloroethene	U		30	µg/Kg	1	10/18/2019 01:06 PM
cis-1,3-Dichloropropene	U		30	µg/Kg	1	10/18/2019 01:06 PM
Cyclohexane	U		100	µg/Kg	1	10/18/2019 01:06 PM
Dibromochloromethane	U		30	µg/Kg	1	10/18/2019 01:06 PM
Dichlorodifluoromethane	U		100	µg/Kg	1	10/18/2019 01:06 PM
Ethylbenzene	U		30	µg/Kg	1	10/18/2019 01:06 PM
Isopropylbenzene	U		30	µg/Kg	1	10/18/2019 01:06 PM
m,p-Xylene	U		60	µg/Kg	1	10/18/2019 01:06 PM
Methyl acetate	U		250	µg/Kg	1	10/18/2019 01:06 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AECOM
Project: Enbridge Blackhawk Station **Work Order:** 19100838
Sample ID: Trip Blank **Lab ID:** 19100838-06
Collection Date: 10/9/2019 **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	U		30	µg/Kg	1	10/18/2019 01:06 PM
Methylcyclohexane	U		30	µg/Kg	1	10/18/2019 01:06 PM
Methylene chloride	U		250	µg/Kg	1	10/18/2019 01:06 PM
o-Xylene	U		30	µg/Kg	1	10/18/2019 01:06 PM
Styrene	U		30	µg/Kg	1	10/18/2019 01:06 PM
Tetrachloroethene	U		30	µg/Kg	1	10/18/2019 01:06 PM
Toluene	U		30	µg/Kg	1	10/18/2019 01:06 PM
trans-1,2-Dichloroethene	U		30	µg/Kg	1	10/18/2019 01:06 PM
trans-1,3-Dichloropropene	U		30	µg/Kg	1	10/18/2019 01:06 PM
Trichloroethene	U		30	µg/Kg	1	10/18/2019 01:06 PM
Trichlorofluoromethane	U		30	µg/Kg	1	10/18/2019 01:06 PM
Vinyl chloride	U		30	µg/Kg	1	10/18/2019 01:06 PM
Xylenes, Total	U		90	µg/Kg	1	10/18/2019 01:06 PM
Surr: 1,2-Dichloroethane-d4	*97.8*		*70-130*	*%REC*	1	10/18/2019 01:06 PM
Surr: 4-Bromofluorobenzene	*103*		*70-130*	*%REC*	1	10/18/2019 01:06 PM
Surr: Dibromofluoromethane	*85.0*		*70-130*	*%REC*	1	10/18/2019 01:06 PM
Surr: Toluene-d8	*96.0*		*70-130*	*%REC*	1	10/18/2019 01:06 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Batch ID: **144061** Instrument ID **GC8** Method: **PUBL-SW-141**

MBLK	Sample ID: **DBLKS1-144061-144061**			Units: **mg/Kg**			Analysis Date: **10/17/2019 06:45 A**			
Client ID:	Run ID: **GC8_191016A**			SeqNo: **5998466**			Prep Date: **10/16/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	5.0								

LCS	Sample ID: **DLCSS1-144061-144061**			Units: **mg/Kg**			Analysis Date: **10/17/2019 06:15 A**			
Client ID:	Run ID: **GC8_191016A**			SeqNo: **5998465**			Prep Date: **10/16/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	9.794	5.0	10	0	97.9	70-120	0			

LCSD	Sample ID: **DLCSDS1-144061-144061**			Units: **mg/Kg**			Analysis Date: **10/17/2019 10:08 A**			
Client ID:	Run ID: **GC8_191016A**			SeqNo: **5998473**			Prep Date: **10/16/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	9.023	5.0	10	0	90.2	70-120	9.794	8.19	20	

The following samples were analyzed in this batch:

19100838-01B	19100838-02B	19100838-03B
19100838-04B	19100838-05B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19100838
Project: Enbridge Blackhawk Station

QC BATCH REPORT

Batch ID: **143826** Instrument ID **GC9** Method: **SW8015D**

MBLK Sample ID: **MBLK-143826-143826** Units: **µg/Kg-dry** Analysis Date: **10/11/2019 02:08 P**
Client ID: Run ID: **GC9_191010A** SeqNo: **5984320** Prep Date: **10/10/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	5,000								

MBLK Sample ID: **MBLK-143826-143826** Units: **µg/Kg-dry** Analysis Date: **10/24/2019 11:04 A**
Client ID: Run ID: **GC9_191024A** SeqNo: **6009917** Prep Date: **10/10/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	2,500								
Surr: a,a,a-Trifluorotoluene	*925.2*	0	*1000*	0	*92.5*	*80-120*	0			

LCS Sample ID: **LCS-143826-143826** Units: **µg/Kg-dry** Analysis Date: **10/11/2019 02:37 P**
Client ID: Run ID: **GC9_191010A** SeqNo: **5984321** Prep Date: **10/10/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	416300	5,000	500000	0	83.3	71-123	0			

LCS Sample ID: **LCS-143826-143826** Units: **µg/Kg-dry** Analysis Date: **10/24/2019 10:35 A**
Client ID: Run ID: **GC9_191024A** SeqNo: **6009916** Prep Date: **10/10/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	8149	2,500	10000	0	81.5	80-120	0			
Surr: a,a,a-Trifluorotoluene	*928.8*	0	*1000*	0	*92.9*	*80-120*	0			

LCSD Sample ID: **LCSD-143826-143826** Units: **µg/Kg-dry** Analysis Date: **10/24/2019 02:28 P**
Client ID: Run ID: **GC9_191024A** SeqNo: **6009923** Prep Date: **10/10/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	8328	2,500	10000	0	83.3	80-120	8149	2.17	20	
Surr: a,a,a-Trifluorotoluene	*888*	0	*1000*	0	*88.8*	*80-120*	928.8	*4.49*	*20*	

MS Sample ID: **19100772-01A MS** Units: **µg/Kg-dry** Analysis Date: **10/11/2019 04:05 P**
Client ID: Run ID: **GC9_191010A** SeqNo: **5984527** Prep Date: **10/10/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	994900	5,100	1014000	56650	92.5	71-123	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19100838
Project: Enbridge Blackhawk Station

QC BATCH REPORT

Batch ID: **143826** Instrument ID **GC9** Method: **SW8015D**

MSD Sample ID: **19100772-01A MSD** Units: **µg/Kg-dry** Analysis Date: **10/11/2019 04:34 P**

Client ID: Run ID: **GC9_191010A** SeqNo: **5984528** Prep Date: **10/10/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	986300	5,100	1028000	56650	90.5	71-123	994900	0.87	30	

The following samples were analyzed in this batch:

19100838-01A	19100838-02A	19100838-03A
19100838-04A	19100838-05A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19100838
Project: Enbridge Blackhawk Station

QC BATCH REPORT

Batch ID: **143824** Instrument ID **VMS11** Method: **SW8260C**

MBLK Sample ID: **MBLK-143824-143824** Units: **µg/Kg-dry** Analysis Date: **10/12/2019 02:25 A**
Client ID: Run ID: **VMS11_191011B** SeqNo: **5984584** Prep Date: **10/10/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	30								
1,1,2,2-Tetrachloroethane	U	30								
1,1,2-Trichloroethane	U	30								
1,1,2-Trichlorotrifluoroethane	U	30								
1,1-Dichloroethane	U	30								
1,1-Dichloroethene	U	30								
1,2,3-Trichlorobenzene	U	30								
1,2,4-Trichlorobenzene	U	100								
1,2-Dibromo-3-chloropropane	U	100								
1,2-Dibromoethane	U	30								
1,2-Dichlorobenzene	U	30								
1,2-Dichloroethane	U	100								
1,2-Dichloropropane	U	30								
1,3-Dichlorobenzene	U	30								
1,4-Dichlorobenzene	U	30								
2-Butanone	U	200								
2-Hexanone	U	30								
4-Methyl-2-pentanone	U	30								
Acetone	U	100								
Benzene	U	30								
Bromochloromethane	U	30								
Bromodichloromethane	U	30								
Bromoform	U	30								
Bromomethane	U	100								
Carbon disulfide	U	30								
Carbon tetrachloride	U	30								
Chlorobenzene	U	30								
Chloroethane	U	100								
Chloroform	U	30								
Chloromethane	U	100								
cis-1,2-Dichloroethene	U	30								
cis-1,3-Dichloropropene	U	30								
Cyclohexane	U	100								
Dibromochloromethane	U	30								
Dichlorodifluoromethane	U	100								
Ethylbenzene	U	30								
Isopropylbenzene	U	30								
m,p-Xylene	U	60								
Methyl acetate	U	250								
Methyl tert-butyl ether	U	30								
Methylcyclohexane	U	30								
Methylene chloride	U	250								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **143824** Instrument ID **VMS11** Method: **SW8260C**

o-Xylene	U	30					
Styrene	U	30					
Tetrachloroethene	U	30					
Toluene	U	30					
trans-1,2-Dichloroethene	U	30					
trans-1,3-Dichloropropene	U	30					
Trichloroethene	U	30					
Trichlorofluoromethane	U	30					
Vinyl chloride	U	30					
Xylenes, Total	U	90					
Surr: 1,2-Dichloroethane-d4	*945.5*	0	*1000*	0	*94.6*	*70-130*	0
Surr: 4-Bromofluorobenzene	*973*	0	*1000*	0	*97.3*	*70-130*	0
Surr: Dibromofluoromethane	*902.5*	0	*1000*	0	*90.2*	*70-130*	0
Surr: Toluene-d8	*983*	0	*1000*	0	*98.3*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19100838
Project: Enbridge Blackhawk Station

QC BATCH REPORT

Batch ID: **143824** Instrument ID **VMS11** Method: **SW8260C**

LCS Sample ID: **LCS-143824-143824** Units: **µg/Kg-dry** Analysis Date: **10/12/2019 01:19 A**

Client ID: Run ID: **VMS11_191011B** SeqNo: **5984583** Prep Date: **10/10/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1122	30	1000	0	112	70-135	0			
1,1,2,2-Tetrachloroethane	1116	30	1000	0	112	55-130	0			
1,1,2-Trichloroethane	1110	30	1000	0	111	60-125	0			
1,1-Dichloroethane	1078	30	1000	0	108	75-125	0			
1,1-Dichloroethene	1134	30	1000	0	113	76-148	0			
1,2,3-Trichlorobenzene	1054	30	1000	0	105	60-135	0			
1,2,4-Trichlorobenzene	1100	100	1000	0	110	65-130	0			
1,2-Dibromo-3-chloropropane	786	100	1000	0	78.6	40-135	0			
1,2-Dibromoethane	1151	30	1000	0	115	80-195	0			
1,2-Dichlorobenzene	1124	30	1000	0	112	75-120	0			
1,2-Dichloroethane	1006	100	1000	0	101	70-135	0			
1,2-Dichloropropane	1079	30	1000	0	108	70-120	0			
1,3-Dichlorobenzene	1165	30	1000	0	116	70-125	0			
1,4-Dichlorobenzene	1154	30	1000	0	115	70-125	0			
2-Butanone	1073	200	1000	0	107	30-160	0			
2-Hexanone	1106	30	1000	0	111	45-145	0			
4-Methyl-2-pentanone	1450	30	1000	0	145	74-176	0			
Acetone	1070	100	1000	0	107	20-160	0			
Benzene	1068	30	1000	0	107	75-125	0			
Bromochloromethane	1095	30	1000	0	110	74-134	0			
Bromodichloromethane	1152	30	1000	0	115	70-130	0			
Bromoform	947	30	1000	0	94.7	55-135	0			
Bromomethane	1363	100	1000	0	136	50-170	0			
Carbon disulfide	1179	30	1000	0	118	45-160	0			
Carbon tetrachloride	1111	30	1000	0	111	65-135	0			
Chlorobenzene	1133	30	1000	0	113	75-125	0			
Chloroethane	977.5	100	1000	0	97.8	40-155	0			
Chloroform	1056	30	1000	0	106	66-140	0			
Chloromethane	1215	100	1000	0	122	50-144	0			
cis-1,2-Dichloroethene	1080	30	1000	0	108	65-125	0			
cis-1,3-Dichloropropene	1118	30	1000	0	112	70-125	0			
Dibromochloromethane	800	30	1000	0	80	65-135	0			
Dichlorodifluoromethane	1752	100	1000	0	175	35-135	0			S
Ethylbenzene	1123	30	1000	0	112	75-125	0			
Isopropylbenzene	1176	30	1000	0	118	75-130	0			
m,p-Xylene	2284	60	2000	0	114	80-125	0			
Methyl tert-butyl ether	1242	30	1000	0	124	75-125	0			
Methylene chloride	1042	250	1000	0	104	55-145	0			
o-Xylene	1154	30	1000	0	115	75-125	0			
Styrene	1168	30	1000	0	117	80-138	0			
Tetrachloroethene	1104	30	1000	0	110	67-167	0			
Toluene	1082	30	1000	0	108	70-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **143824** Instrument ID **VMS11** Method: **SW8260C**

trans-1,2-Dichloroethene	1094	30	1000	0	109	65-135	0
trans-1,3-Dichloropropene	944	30	1000	0	94.4	59-129	0
Trichloroethene	1123	30	1000	0	112	75-125	0
Trichlorofluoromethane	994	30	1000	0	99.4	25-185	0
Vinyl chloride	1188	30	1000	0	119	60-125	0
Xylenes, Total	3438	90	3000	0	115	75-125	0
Surr: 1,2-Dichloroethane-d4	*925.5*	0	*1000*	0	*92.6*	*70-130*	0
Surr: 4-Bromofluorobenzene	*993.5*	0	*1000*	0	*99.4*	*70-130*	0
Surr: Dibromofluoromethane	*972.5*	0	*1000*	0	*97.2*	*70-130*	0
Surr: Toluene-d8	*977*	0	*1000*	0	*97.7*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19100838
Project: Enbridge Blackhawk Station

QC BATCH REPORT

Batch ID: **143824** Instrument ID **VMS11** Method: **SW8260C**

MS Sample ID: **19100772-01A MS** Units: **µg/Kg-dry** Analysis Date: **10/12/2019 09:27 A**

Client ID: Run ID: **VMS11_191011B** SeqNo: **5984591** Prep Date: **10/10/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1401	44	1456	0	96.2	70-135	0			
1,1,2,2-Tetrachloroethane	1325	44	1456	919.6	27.8	55-130	0			S
1,1,2-Trichloroethane	1525	44	1456	34.42	102	60-125	0			
1,1-Dichloroethane	1538	44	1456	0	106	75-125	0			
1,1-Dichloroethene	1569	44	1456	0	108	76-148	0			
1,2,3-Trichlorobenzene	1485	44	1456	0	102	60-135	0			
1,2,4-Trichlorobenzene	1573	150	1456	0	108	65-130	0			
1,2-Dibromo-3-chloropropane	762.4	150	1456	0	52.4	40-135	0			
1,2-Dibromoethane	1480	44	1456	0	102	80-195	0			
1,2-Dichlorobenzene	1582	44	1456	0	109	75-120	0			
1,2-Dichloroethane	1384	150	1456	0	95	70-135	0			
1,2-Dichloropropane	1487	44	1456	0	102	70-120	0			
1,3-Dichlorobenzene	1568	44	1456	0	108	70-125	0			
1,4-Dichlorobenzene	1558	44	1456	0	107	70-125	0			
2-Butanone	1820	290	1456	0	125	30-160	0			
2-Hexanone	1381	44	1456	7724	-436	45-145	0			SO
4-Methyl-2-pentanone	2070	44	1456	1243	56.8	74-176	0			S
Acetone	1895	150	1456	0	130	20-160	0			
Benzene	1513	44	1456	0	104	75-125	0			
Bromochloromethane	1488	44	1456	0	102	74-134	0			
Bromodichloromethane	1271	44	1456	47.14	84.1	70-130	0			
Bromoform	957.5	44	1456	0	65.8	55-135	0			
Bromomethane	866.5	150	1456	0	59.5	50-170	0			
Carbon disulfide	1238	44	1456	0	85	45-160	0			
Carbon tetrachloride	1314	44	1456	0	90.2	65-135	0			
Chlorobenzene	1555	44	1456	0	107	75-125	0			
Chloroethane	1303	150	1456	0	89.5	40-155	0			
Chloroform	1451	44	1456	0	99.6	66-140	0			
Chloromethane	1885	150	1456	0	129	50-144	0			
cis-1,2-Dichloroethene	1501	44	1456	0	103	65-125	0			
cis-1,3-Dichloropropene	1284	44	1456	0	88.2	70-125	0			
Dibromochloromethane	831.6	44	1456	65.85	52.6	65-135	0			S
Dichlorodifluoromethane	3040	150	1456	0	209	35-135	0			S
Ethylbenzene	1583	44	1456	0	109	75-125	0			
Isopropylbenzene	1661	44	1456	0	114	75-130	0			
m,p-Xylene	3865	87	2913	1310	87.7	80-125	0			
Methyl tert-butyl ether	1711	44	1456	0	118	75-125	0			
Methylene chloride	1562	360	1456	0	107	55-145	0			
o-Xylene	2238	44	1456	1256	67.4	75-125	0			S
Styrene	1649	44	1456	37.41	111	80-138	0			
Tetrachloroethene	2830	44	1456	0	194	67-167	0			S
Toluene	1507	44	1456	23.94	102	70-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **143824**	Instrument ID **VMS11**		Method: **SW8260C**					
trans-1,2-Dichloroethene	1544	44	1456	0	106	65-135	0	
trans-1,3-Dichloropropene	1028	44	1456	29.18	68.6	59-129	0	
Trichloroethene	1880	44	1456	0	129	75-125	0	S
Trichlorofluoromethane	1376	44	1456	0	94.5	25-185	0	
Vinyl chloride	1813	44	1456	0	124	60-125	0	
Xylenes, Total	6103	130	4369	2566	81	75-125	0	
Surr: 1,2-Dichloroethane-d4	*1334*	0	*1456*	0	*91.6*	*70-130*	0	
Surr: 4-Bromofluorobenzene	*1555*	0	*1456*	0	*107*	*70-130*	0	
Surr: Dibromofluoromethane	*1354*	0	*1456*	0	*93*	*70-130*	0	
Surr: Toluene-d8	*1616*	0	*1456*	0	*111*	*70-130*	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19100838
Project: Enbridge Blackhawk Station

QC BATCH REPORT

Batch ID: **143824** Instrument ID **VMS11** Method: **SW8260C**

MSD Sample ID: **19100772-01A MSD** Units: **µg/Kg-dry** Analysis Date: **10/12/2019 09:49 A**

Client ID: Run ID: **VMS11_191011B** SeqNo: **5984592** Prep Date: **10/10/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1481	44	1473	0	101	70-135	1401	5.55	30	
1,1,2,2-Tetrachloroethane	1114	44	1473	919.6	13.2	55-130	1325	17.2	30	S
1,1,2-Trichloroethane	1572	44	1473	34.42	104	60-125	1525	3.07	30	
1,1-Dichloroethane	1572	44	1473	0	107	75-125	1538	2.21	30	
1,1-Dichloroethene	1615	44	1473	0	110	76-148	1569	2.88	30	
1,2,3-Trichlorobenzene	1564	44	1473	0	106	60-135	1485	5.16	30	
1,2,4-Trichlorobenzene	1644	150	1473	0	112	65-130	1573	4.45	30	
1,2-Dibromo-3-chloropropane	801.2	150	1473	0	54.4	40-135	762.4	4.97	30	
1,2-Dibromoethane	1524	44	1473	0	104	80-195	1480	2.98	30	
1,2-Dichlorobenzene	1585	44	1473	0	108	75-120	1582	0.203	30	
1,2-Dichloroethane	1408	150	1473	0	95.6	70-135	1384	1.76	30	
1,2-Dichloropropane	1540	44	1473	0	105	70-120	1487	3.5	30	
1,3-Dichlorobenzene	1635	44	1473	0	111	70-125	1568	4.19	30	
1,4-Dichlorobenzene	1598	44	1473	0	108	70-125	1558	2.52	30	
2-Butanone	2452	290	1473	0	166	30-160	1820	29.6	30	S
2-Hexanone	1942	44	1473	7724	-393	45-145	1381	33.7	30	SRO
4-Methyl-2-pentanone	2234	44	1473	1243	67.3	74-176	2070	7.63	30	S
Acetone	3248	150	1473	0	221	20-160	1895	52.6	30	SR
Benzene	1579	44	1473	0	107	75-125	1513	4.25	30	
Bromochloromethane	1524	44	1473	0	104	74-134	1488	2.39	30	
Bromodichloromethane	1338	44	1473	47.14	87.6	70-130	1271	5.11	30	
Bromoform	1013	44	1473	0	68.8	55-135	957.5	5.66	30	
Bromomethane	1086	150	1473	0	73.8	50-170	866.5	22.5	30	
Carbon disulfide	1320	44	1473	0	89.6	45-160	1238	6.45	30	
Carbon tetrachloride	1434	44	1473	0	97.4	65-135	1314	8.75	30	
Chlorobenzene	1614	44	1473	0	110	75-125	1555	3.72	30	
Chloroethane	1307	150	1473	0	88.8	40-155	1303	0.287	30	
Chloroform	1475	44	1473	0	100	66-140	1451	1.63	30	
Chloromethane	1930	150	1473	0	131	50-144	1885	2.36	30	
cis-1,2-Dichloroethene	1521	44	1473	0	103	65-125	1501	1.32	30	
cis-1,3-Dichloropropene	1335	44	1473	0	90.6	70-125	1284	3.92	30	
Dibromochloromethane	869.7	44	1473	65.85	54.6	65-135	831.6	4.49	30	S
Dichlorodifluoromethane	3187	150	1473	0	216	35-135	3040	4.73	30	S
Ethylbenzene	1665	44	1473	0	113	75-125	1583	5.05	30	
Isopropylbenzene	1738	44	1473	0	118	75-130	1661	4.53	30	
m,p-Xylene	4139	88	2946	1310	96	80-125	3865	6.84	30	
Methyl tert-butyl ether	1738	44	1473	0	118	75-125	1711	1.55	30	
Methylene chloride	1566	370	1473	0	106	55-145	1562	0.286	30	
o-Xylene	2523	44	1473	1256	86.1	75-125	2238	12	30	
Styrene	1725	44	1473	37.41	115	80-138	1649	4.47	30	
Tetrachloroethene	2959	44	1473	0	201	67-167	2830	4.47	30	S
Toluene	1574	44	1473	23.94	105	70-125	1507	4.41	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19100838
Project: Enbridge Blackhawk Station

QC BATCH REPORT

Batch ID: **143824** Instrument ID **VMS11** Method: **SW8260C**

trans-1,2-Dichloroethene	1600	44	1473	0	109	65-135	1544	3.5	30	
trans-1,3-Dichloropropene	1094	44	1473	29.18	72.3	59-129	1028	6.23	30	
Trichloroethene	2303	44	1473	0	156	75-125	1880	20.2	30	S
Trichlorofluoromethane	1450	44	1473	0	98.4	25-185	1376	5.22	30	
Vinyl chloride	1859	44	1473	0	126	60-125	1813	2.52	30	S
Xylenes, Total	6662	130	4419	2566	92.7	75-125	6103	8.76	30	
Surr: 1,2-Dichloroethane-d4	*1380*	0	*1473*	0	*93.7*	*70-130*	1334	*3.39*	*30*	
Surr: 4-Bromofluorobenzene	*1601*	0	*1473*	0	*109*	*70-130*	1555	*2.89*	*30*	
Surr: Dibromofluoromethane	*1372*	0	*1473*	0	*93.2*	*70-130*	1354	*1.34*	*30*	
Surr: Toluene-d8	*1703*	0	*1473*	0	*116*	*70-130*	1616	*5.28*	*30*	

The following samples were analyzed in this batch:

19100838-01A	19100838-02A	19100838-03A
19100838-04A	19100838-05A	19100838-06A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AECOM
Work Order: 19100838
Project: Enbridge Blackhawk Station

QC BATCH REPORT

Batch ID: **R272943** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R272943** Units: **% of sample** Analysis Date: **10/15/2019 04:17 P**
Client ID: Run ID: **MOIST_191015D** SeqNo: **5991008** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.10								

LCS Sample ID: **LCS-R272943** Units: **% of sample** Analysis Date: **10/15/2019 04:17 P**
Client ID: Run ID: **MOIST_191015D** SeqNo: **5991007** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.10	100	0	100	98-102	0			

DUP Sample ID: **19100838-03B DUP** Units: **% of sample** Analysis Date: **10/15/2019 04:17 P**
Client ID: **SW-3 (5)** Run ID: **MOIST_191015D** SeqNo: **5990989** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	6.07	0.10	0	0	0	0-0	5.99	1.33	10	

DUP Sample ID: **19101109-39A DUP** Units: **% of sample** Analysis Date: **10/15/2019 04:17 P**
Client ID: Run ID: **MOIST_191015D** SeqNo: **5991000** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	3.37	0.10	0	0	0	0-0	3.46	2.64	10	

The following samples were analyzed in this batch:

19100838-01B	19100838-02B	19100838-03B
19100838-04B	19100838-05B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
South Charleston, WV +1 304 356 3168
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
York, PA +1 717 505 5280

Chain of Custody Form

Page ____ of ____

COC ID: 191406

ALS Project Manager: | ALS Work Order #: 19100838

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Enbridge Blackhawk station	A	VOCs
Work Order		Project Number	60596830	B	WI GRO
Company Name	AECOM	Bill To Company	AECOM	C	WI DRO
Send Report To	Darin Albrecht	Invoice Attn	Accounts Payable	D	
Address	11 East Superior Street Suite 260	Address	11 East Superior Street Suite 260	E F	
City/State/Zip	Duluth, MN 55802	City/State/Zip	Duluth, MN 55802	G	
Phone	(218) 625-8766	Phone	(218) 625-8766	H	
Fax		Fax		I	
e-Mail Address	Daniel.Cerrin@aecom.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SW-1 (5)	10/9/19	1400	Soil	See Bottle	3	X	X	X								
2	SW-2 (5)		1414			3	X	X	X								
3	SW-3 (5)		1435			3	X	X	X								
4	SW-3 (9)		1451			3	X	X	X								
5	SW-4 (5)		1425			3	X	X	X								
6	TRIP BLANK	10/9/19	—			1	X										
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Mike Pawlak 10/9/19

Shipment Method: Fedex

Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☐ Other ____ ☐ 2 WK Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date: 10/9/19	Time: 1700	Received by: FEDEX	
Relinquished by: FEDEX	Date: 10/10/19	Time: 0930	Received by (Laboratory):	
Logged by (Laboratory): KE	Date: 10/10/19	Time: 1250	Checked by (Laboratory):	

Notes:

Cooler ID	Cooler Temp.
SR2	4.8°C

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP CheckList
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other ____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Group, USA

Sample Receipt Checklist

Client Name: **AECOM - DULUTH** Date/Time Received: **10-Oct-19 09:30**

Work Order: **19100838** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 10-Oct-19 (Date) Reviewed by: Chad Whelton (eSignature) 10-Oct-19 (Date)

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.8/4.8 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	10/10/2019 12:59:41 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

July 29, 2020

Joe Pearson
AECOM
11 East Superior St, Suite 260
Duluth, MN 55802

RE: Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Dear Joe Pearson:

Enclosed are the analytical results for sample(s) received by the laboratory on July 22, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay
- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tina Soltani
tina.soltani@pacelabs.com
(612) 607-6384
Project Manager

Enclosures

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Pace Analytical Services - Minneapolis MN

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

Pace Analytical Services Green Bay

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

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10525806001	**B1-22**	Solid	07/21/20 11:00	07/22/20 08:40
10525806002	**TW-01**	Water	07/21/20 12:30	07/22/20 08:40
10525806003	**TB072120**	Solid	07/21/20 00:00	07/22/20 08:40

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Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10525806001	**B1-22**	WI MOD DRO	JVM	2	PASI-M
		WI MOD GRO	ALD	1	PASI-G
		ASTM D2974	JT1	1	PASI-M
		EPA 8270E by SIM	CH3	18	PASI-M
		EPA 8260	MDS	64	PASI-G
10525806002	**TW-01**	WI MOD DRO	TT2	2	PASI-M
		WI MOD GRO	ALD	1	PASI-G
		EPA 8270E by SIM	JNG, JZ	18	PASI-M
		EPA 8260	HNW	64	PASI-G
10525806003	**TB072120**	WI MOD GRO	ALD	1	PASI-G
		EPA 8260	MDS	61	PASI-G

PASI-G = Pace Analytical Services - Green Bay
PASI-M = Pace Analytical Services - Minneapolis

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SUMMARY OF DETECTION

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10525806001	**B1-22**					
WI MOD DRO	WDRO C10-C28	6.4J	mg/kg	7.8	07/24/20 12:59	
WI MOD GRO	Gasoline Range Organics	8.1	mg/kg	5.4	07/27/20 11:02	GO
ASTM D2974	Percent Moisture	7.6	%	0.10	07/27/20 11:24	N2
EPA 8270E by SIM	Naphthalene	10.1	ug/kg	1.6	07/24/20 14:35	
EPA 8270E by SIM	Phenanthrene	2.7	ug/kg	2.5	07/24/20 14:35	
EPA 8260	1,2,4-Trimethylbenzene	127	ug/kg	64.9	07/24/20 13:27	
EPA 8260	1,3,5-Trimethylbenzene	48.6J	ug/kg	64.9	07/24/20 13:27	
EPA 8260	Benzene	270	ug/kg	64.9	07/24/20 13:27	
EPA 8260	Ethylbenzene	29.2J	ug/kg	64.9	07/24/20 13:27	
EPA 8260	Methylene Chloride	44.1J	ug/kg	95.2	07/24/20 13:27	
EPA 8260	Naphthalene	50.4J	ug/kg	98.5	07/24/20 13:27	
EPA 8260	Toluene	231	ug/kg	64.9	07/24/20 13:27	
EPA 8260	m&p-Xylene	139	ug/kg	130	07/24/20 13:27	
EPA 8260	n-Propylbenzene	85.2	ug/kg	64.9	07/24/20 13:27	
EPA 8260	o-Xylene	48.9J	ug/kg	64.9	07/24/20 13:27	
10525806002	**TW-01**					
WI MOD DRO	WDRO C10-C28	0.32	mg/L	0.12	07/23/20 09:11	T7
WI MOD GRO	Gasoline Range Organics	11000	ug/L	1000	07/29/20 09:34	G-
EPA 8270E by SIM	Fluoranthene	0.012J	ug/L	0.035	07/28/20 22:35	
EPA 8270E by SIM	Naphthalene	11.0	ug/L	0.073	07/29/20 13:26	
EPA 8270E by SIM	Pyrene	0.019J	ug/L	0.051	07/28/20 22:35	
EPA 8260	1,2,4-Trimethylbenzene	21.9J	ug/L	28.0	07/24/20 12:45	
EPA 8260	Benzene	4810	ug/L	100	07/27/20 09:28	
EPA 8260	Ethylbenzene	86.5	ug/L	10.6	07/24/20 12:45	M1
EPA 8260	Isopropylbenzene (Cumene)	19.6J	ug/L	56.2	07/24/20 12:45	
EPA 8260	Toluene	998	ug/L	9.0	07/24/20 12:45	
EPA 8260	m&p-Xylene	131	ug/L	20.0	07/24/20 12:45	
EPA 8260	o-Xylene	39.0	ug/L	10.0	07/24/20 12:45	
10525806003	**TB072120**					
EPA 8260	Methylene Chloride	43.5J	ug/kg	88.0	07/27/20 14:10	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Sample: B1-22 **Lab ID: 10525806001** Collected: 07/21/20 11:00 Received: 07/22/20 08:40 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
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO Pace Analytical Services - Minneapolis								
WDRO C10-C28	**6.4J**	mg/kg	7.8	2.3	1	07/23/20 09:30	07/24/20 12:59		
Surrogates									
n-Triacontane (S)	76	%.	50-150		1	07/23/20 09:30	07/24/20 12:59	638-68-6	
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext. Pace Analytical Services - Green Bay								
Gasoline Range Organics	**8.1**	mg/kg	5.4	2.7	1	07/27/20 08:45	07/27/20 11:02		GO
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis								
Percent Moisture	**7.6**	%	0.10	0.10	1		07/27/20 11:24		N2
8270E MSSV PAH by SIM	Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3550C Pace Analytical Services - Minneapolis								
Acenaphthene	**<0.48**	ug/kg	1.6	0.48	1	07/23/20 10:16	07/24/20 14:35	83-32-9	
Acenaphthylene	**<0.74**	ug/kg	2.5	0.74	1	07/23/20 10:16	07/24/20 14:35	208-96-8	
Anthracene	**<0.34**	ug/kg	1.1	0.34	1	07/23/20 10:16	07/24/20 14:35	120-12-7	
Benzo(a)anthracene	**<0.45**	ug/kg	1.5	0.45	1	07/23/20 10:16	07/24/20 14:35	56-55-3	
Benzo(a)pyrene	**<0.61**	ug/kg	2.0	0.61	1	07/23/20 10:16	07/24/20 14:35	50-32-8	
Benzo(b)fluoranthene	**<0.50**	ug/kg	1.7	0.50	1	07/23/20 10:16	07/24/20 14:35	205-99-2	
Benzo(g,h,i)perylene	**<0.50**	ug/kg	1.7	0.50	1	07/23/20 10:16	07/24/20 14:35	191-24-2	
Benzo(k)fluoranthene	**<0.52**	ug/kg	1.7	0.52	1	07/23/20 10:16	07/24/20 14:35	207-08-9	
Chrysene	**<0.43**	ug/kg	1.4	0.43	1	07/23/20 10:16	07/24/20 14:35	218-01-9	
Dibenz(a,h)anthracene	**<0.71**	ug/kg	2.4	0.71	1	07/23/20 10:16	07/24/20 14:35	53-70-3	
Fluoranthene	**<0.65**	ug/kg	2.2	0.65	1	07/23/20 10:16	07/24/20 14:35	206-44-0	
Fluorene	**<0.65**	ug/kg	2.2	0.65	1	07/23/20 10:16	07/24/20 14:35	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.58**	ug/kg	1.9	0.58	1	07/23/20 10:16	07/24/20 14:35	193-39-5	
Naphthalene	**10.1**	ug/kg	1.6	0.49	1	07/23/20 10:16	07/24/20 14:35	91-20-3	
Phenanthrene	**2.7**	ug/kg	2.5	0.76	1	07/23/20 10:16	07/24/20 14:35	85-01-8	
Pyrene	**<0.70**	ug/kg	2.3	0.70	1	07/23/20 10:16	07/24/20 14:35	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	68	%.	30-138		1	07/23/20 10:16	07/24/20 14:35	321-60-8	
p-Terphenyl-d14 (S)	82	%.	30-143		1	07/23/20 10:16	07/24/20 14:35	1718-51-0	
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	630-20-6	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	71-55-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	79-34-5	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	79-00-5	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	75-34-3	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	75-35-4	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	563-58-6	W
1,2,3-Trichlorobenzene	**<47.3**	ug/kg	158	47.3	1	07/24/20 07:30	07/24/20 13:27	87-61-6	W

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Sample: B1-22 **Lab ID: 10525806001** Collected: 07/21/20 11:00 Received: 07/22/20 08:40 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 Pace Analytical Services - Green Bay								
1,2,3-Trichloropropane	**<37.4**	ug/kg	125	37.4	1	07/24/20 07:30	07/24/20 13:27	96-18-4	W
1,2,4-Trichlorobenzene	**<41.7**	ug/kg	250	41.7	1	07/24/20 07:30	07/24/20 13:27	120-82-1	W
1,2,4-Trimethylbenzene	**127**	ug/kg	64.9	27.1	1	07/24/20 07:30	07/24/20 13:27	95-63-6	
1,2-Dibromo-3-chloropropane	**<237**	ug/kg	789	237	1	07/24/20 07:30	07/24/20 13:27	96-12-8	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	106-93-4	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	95-50-1	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	107-06-2	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	78-87-5	W
1,3,5-Trimethylbenzene	**48.6J**	ug/kg	64.9	27.1	1	07/24/20 07:30	07/24/20 13:27	108-67-8	
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	541-73-1	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	142-28-9	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	106-46-7	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	594-20-7	W
2-Chlorotoluene	**<25.0**	ug/kg	64.0	25.0	1	07/24/20 07:30	07/24/20 13:27	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	64.0	25.0	1	07/24/20 07:30	07/24/20 13:27	106-43-4	W
Benzene	**270**	ug/kg	64.9	27.1	1	07/24/20 07:30	07/24/20 13:27	71-43-2	
Bromobenzene	**<25.0**	ug/kg	62.0	25.0	1	07/24/20 07:30	07/24/20 13:27	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	70.0	25.0	1	07/24/20 07:30	07/24/20 13:27	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	75-27-4	W
Bromoform	**<25.0**	ug/kg	72.0	25.0	1	07/24/20 07:30	07/24/20 13:27	75-25-2	W
Bromomethane	**<63.8**	ug/kg	250	63.8	1	07/24/20 07:30	07/24/20 13:27	74-83-9	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	108-90-7	W
Chloroethane	**<46.4**	ug/kg	250	46.4	1	07/24/20 07:30	07/24/20 13:27	75-00-3	W
Chloroform	**<47.5**	ug/kg	250	47.5	1	07/24/20 07:30	07/24/20 13:27	67-66-3	W
Chloromethane	**<25.0**	ug/kg	80.0	25.0	1	07/24/20 07:30	07/24/20 13:27	74-87-3	W
Dibromochloromethane	**<229**	ug/kg	763	229	1	07/24/20 07:30	07/24/20 13:27	124-48-1	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	74-95-3	W
Dichlorodifluoromethane	**<25.0**	ug/kg	72.0	25.0	1	07/24/20 07:30	07/24/20 13:27	75-71-8	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	108-20-3	W
Ethylbenzene	**29.2J**	ug/kg	64.9	27.1	1	07/24/20 07:30	07/24/20 13:27	100-41-4	
Hexachloro-1,3-butadiene	**<68.7**	ug/kg	229	68.7	1	07/24/20 07:30	07/24/20 13:27	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	98-82-8	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	1634-04-4	W
Methylene Chloride	**44.1J**	ug/kg	95.2	28.4	1	07/24/20 07:30	07/24/20 13:27	75-09-2	
Naphthalene	**50.4J**	ug/kg	98.5	29.5	1	07/24/20 07:30	07/24/20 13:27	91-20-3	
Styrene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	100-42-5	W
Tetrachloroethene	**<38.7**	ug/kg	129	38.7	1	07/24/20 07:30	07/24/20 13:27	127-18-4	W
Toluene	**231**	ug/kg	64.9	27.1	1	07/24/20 07:30	07/24/20 13:27	108-88-3	
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	65.0	25.0	1	07/24/20 07:30	07/24/20 13:27	75-69-4	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	75-01-4	L1,W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/24/20 13:27	156-59-2	W
cis-1,3-Dichloropropene	**<42.3**	ug/kg	141	42.3	1	07/24/20 07:30	07/24/20 13:27	10061-01-5	W

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Sample: B1-22 **Lab ID: 10525806001** Collected: 07/21/20 11:00 Received: 07/22/20 08:40 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 Pace Analytical Services - Green Bay								
m&p-Xylene	**139**	ug/kg	130	54.1	1	07/24/20 07:30	07/24/20 13:27	179601-23-1	
n-Butylbenzene	**<30.0**	ug/kg	100	30.0	1	07/24/20 07:30	07/24/20 13:27	104-51-8	W
n-Propylbenzene	**85.2**	ug/kg	64.9	27.1	1	07/24/20 07:30	07/24/20 13:27	103-65-1	
o-Xylene	**48.9J**	ug/kg	64.9	27.1	1	07/24/20 07:30	07/24/20 13:27	95-47-6	
p-Isopropyltoluene	**<25.0**	ug/kg	72.0	25.0	1	07/24/20 07:30	07/24/20 13:27	99-87-6	W
sec-Butylbenzene	**<25.0**	ug/kg	72.0	25.0	1	07/24/20 07:30	07/24/20 13:27	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	62.0	25.0	1	07/24/20 07:30	07/24/20 13:27	98-06-6	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	67.0	25.0	1	07/24/20 07:30	07/24/20 13:27	156-60-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	74.0	25.0	1	07/24/20 07:30	07/24/20 13:27	10061-02-6	W
Surrogates									
Dibromofluoromethane (S)	108	%	58-145		1	07/24/20 07:30	07/24/20 13:27	1868-53-7	
Toluene-d8 (S)	113	%	56-140		1	07/24/20 07:30	07/24/20 13:27	2037-26-5	
4-Bromofluorobenzene (S)	112	%	52-137		1	07/24/20 07:30	07/24/20 13:27	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Sample: TW-01 **Lab ID: 10525806002** Collected: 07/21/20 12:30 Received: 07/22/20 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO LV GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO Pace Analytical Services - Minneapolis								
WDRO C10-C28	**0.32**	mg/L	0.12	0.036	1	07/22/20 17:31	07/23/20 09:11		T7
Surrogates									
n-Triacontane (S)	72	%.	50-150		1	07/22/20 17:31	07/23/20 09:11	638-68-6	
WIGRO GCV	Analytical Method: WI MOD GRO Pace Analytical Services - Green Bay								
Gasoline Range Organics	**11000**	ug/L	1000	305	10		07/29/20 09:34		G-
8270E MSSV PAH by SIM	Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	**<0.0081**	ug/L	0.027	0.0081	1	07/27/20 16:24	07/28/20 22:35	83-32-9	
Acenaphthylene	**<0.0064**	ug/L	0.021	0.0064	1	07/27/20 16:24	07/28/20 22:35	208-96-8	
Anthracene	**<0.0082**	ug/L	0.027	0.0082	1	07/27/20 16:24	07/28/20 22:35	120-12-7	
Benzo(a)anthracene	**<0.012**	ug/L	0.039	0.012	1	07/27/20 16:24	07/28/20 22:35	56-55-3	
Benzo(a)pyrene	**<0.0088**	ug/L	0.029	0.0088	1	07/27/20 16:24	07/28/20 22:35	50-32-8	
Benzo(b)fluoranthene	**<0.0078**	ug/L	0.026	0.0078	1	07/27/20 16:24	07/28/20 22:35	205-99-2	
Benzo(g,h,i)perylene	**<0.0084**	ug/L	0.028	0.0084	1	07/27/20 16:24	07/28/20 22:35	191-24-2	
Benzo(k)fluoranthene	**<0.0085**	ug/L	0.028	0.0085	1	07/27/20 16:24	07/28/20 22:35	207-08-9	
Chrysene	**<0.011**	ug/L	0.037	0.011	1	07/27/20 16:24	07/28/20 22:35	218-01-9	
Dibenz(a,h)anthracene	**<0.011**	ug/L	0.036	0.011	1	07/27/20 16:24	07/28/20 22:35	53-70-3	
Fluoranthene	**0.012J**	ug/L	0.035	0.011	1	07/27/20 16:24	07/28/20 22:35	206-44-0	
Fluorene	**<0.0068**	ug/L	0.023	0.0068	1	07/27/20 16:24	07/28/20 22:35	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.019**	ug/L	0.064	0.019	1	07/27/20 16:24	07/28/20 22:35	193-39-5	
Naphthalene	**11.0**	ug/L	0.073	0.022	2	07/27/20 16:24	07/29/20 13:26	91-20-3	
Phenanthrene	**<0.010**	ug/L	0.034	0.010	1	07/27/20 16:24	07/28/20 22:35	85-01-8	
Pyrene	**0.019J**	ug/L	0.051	0.015	1	07/27/20 16:24	07/28/20 22:35	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	58	%.	50-125		1	07/27/20 16:24	07/28/20 22:35	321-60-8	
p-Terphenyl-d14 (S)	76	%.	58-125		1	07/27/20 16:24	07/28/20 22:35	1718-51-0	
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<2.7**	ug/L	10.0	2.7	10		07/24/20 12:45	630-20-6	
1,1,1-Trichloroethane	**<2.4**	ug/L	10.0	2.4	10		07/24/20 12:45	71-55-6	
1,1,2,2-Tetrachloroethane	**<2.8**	ug/L	10.0	2.8	10		07/24/20 12:45	79-34-5	
1,1,2-Trichloroethane	**<5.5**	ug/L	50.0	5.5	10		07/24/20 12:45	79-00-5	
1,1-Dichloroethane	**<2.7**	ug/L	10.0	2.7	10		07/24/20 12:45	75-34-3	
1,1-Dichloroethene	**<2.4**	ug/L	10.0	2.4	10		07/24/20 12:45	75-35-4	
1,1-Dichloropropene	**<5.4**	ug/L	18.0	5.4	10		07/24/20 12:45	563-58-6	
1,2,3-Trichlorobenzene	**<22.1**	ug/L	73.7	22.1	10		07/24/20 12:45	87-61-6	
1,2,3-Trichloropropane	**<5.9**	ug/L	50.0	5.9	10		07/24/20 12:45	96-18-4	
1,2,4-Trichlorobenzene	**<9.5**	ug/L	50.0	9.5	10		07/24/20 12:45	120-82-1	
1,2,4-Trimethylbenzene	**21.9J**	ug/L	28.0	8.4	10		07/24/20 12:45	95-63-6	
1,2-Dibromo-3-chloropropane	**<17.6**	ug/L	58.8	17.6	10		07/24/20 12:45	96-12-8	R1
1,2-Dibromoethane (EDB)	**<8.3**	ug/L	27.6	8.3	10		07/24/20 12:45	106-93-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Sample: TW-01 **Lab ID: 10525806002** Collected: 07/21/20 12:30 Received: 07/22/20 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,2-Dichlorobenzene	**<7.1**	ug/L	23.5	7.1	10		07/24/20 12:45	95-50-1	
1,2-Dichloroethane	**<2.8**	ug/L	10.0	2.8	10		07/24/20 12:45	107-06-2	M1
1,2-Dichloropropane	**<2.8**	ug/L	10.0	2.8	10		07/24/20 12:45	78-87-5	
1,3,5-Trimethylbenzene	**<8.7**	ug/L	29.1	8.7	10		07/24/20 12:45	108-67-8	
1,3-Dichlorobenzene	**<6.3**	ug/L	20.9	6.3	10		07/24/20 12:45	541-73-1	
1,3-Dichloropropane	**<8.3**	ug/L	27.5	8.3	10		07/24/20 12:45	142-28-9	
1,4-Dichlorobenzene	**<9.4**	ug/L	31.5	9.4	10		07/24/20 12:45	106-46-7	
2,2-Dichloropropane	**<22.7**	ug/L	75.5	22.7	10		07/24/20 12:45	594-20-7	
2-Chlorotoluene	**<9.3**	ug/L	50.0	9.3	10		07/24/20 12:45	95-49-8	
4-Chlorotoluene	**<7.6**	ug/L	25.2	7.6	10		07/24/20 12:45	106-43-4	
Benzene	**4810**	ug/L	100	24.6	100		07/27/20 09:28	71-43-2	
Bromobenzene	**<2.4**	ug/L	10.0	2.4	10		07/24/20 12:45	108-86-1	
Bromochloromethane	**<3.6**	ug/L	50.0	3.6	10		07/24/20 12:45	74-97-5	
Bromodichloromethane	**<3.6**	ug/L	12.1	3.6	10		07/24/20 12:45	75-27-4	
Bromoform	**<39.7**	ug/L	132	39.7	10		07/24/20 12:45	75-25-2	
Bromomethane	**<9.7**	ug/L	50.0	9.7	10		07/24/20 12:45	74-83-9	
Carbon tetrachloride	**<10.8**	ug/L	35.9	10.8	10		07/24/20 12:45	56-23-5	
Chlorobenzene	**<7.1**	ug/L	23.7	7.1	10		07/24/20 12:45	108-90-7	
Chloroethane	**<13.4**	ug/L	50.0	13.4	10		07/24/20 12:45	75-00-3	
Chloroform	**<12.7**	ug/L	50.0	12.7	10		07/24/20 12:45	67-66-3	
Chloromethane	**<21.9**	ug/L	73.0	21.9	10		07/24/20 12:45	74-87-3	
Dibromochloromethane	**<26.0**	ug/L	86.7	26.0	10		07/24/20 12:45	124-48-1	
Dibromomethane	**<9.4**	ug/L	31.2	9.4	10		07/24/20 12:45	74-95-3	
Dichlorodifluoromethane	**<5.0**	ug/L	50.0	5.0	10		07/24/20 12:45	75-71-8	
Diisopropyl ether	**<18.9**	ug/L	62.9	18.9	10		07/24/20 12:45	108-20-3	
Ethylbenzene	**86.5**	ug/L	10.6	3.2	10		07/24/20 12:45	100-41-4	M1
Hexachloro-1,3-butadiene	**<14.6**	ug/L	48.8	14.6	10		07/24/20 12:45	87-68-3	
Isopropylbenzene (Cumene)	**19.6J**	ug/L	56.2	16.9	10		07/24/20 12:45	98-82-8	
Methyl-tert-butyl ether	**<12.5**	ug/L	41.5	12.5	10		07/24/20 12:45	1634-04-4	
Methylene Chloride	**<5.8**	ug/L	50.0	5.8	10		07/24/20 12:45	75-09-2	
Naphthalene	**<11.8**	ug/L	50.0	11.8	10		07/24/20 12:45	91-20-3	
Styrene	**<30.1**	ug/L	100	30.1	10		07/24/20 12:45	100-42-5	
Tetrachloroethene	**<3.3**	ug/L	10.9	3.3	10		07/24/20 12:45	127-18-4	
Toluene	**998**	ug/L	9.0	2.7	10		07/24/20 12:45	108-88-3	
Trichloroethene	**<2.6**	ug/L	10.0	2.6	10		07/24/20 12:45	79-01-6	
Trichlorofluoromethane	**<2.1**	ug/L	10.0	2.1	10		07/24/20 12:45	75-69-4	
Vinyl chloride	**<1.7**	ug/L	10.0	1.7	10		07/24/20 12:45	75-01-4	
cis-1,2-Dichloroethene	**<2.7**	ug/L	10.0	2.7	10		07/24/20 12:45	156-59-2	
cis-1,3-Dichloropropene	**<36.3**	ug/L	121	36.3	10		07/24/20 12:45	10061-01-5	
m&p-Xylene	**131**	ug/L	20.0	4.7	10		07/24/20 12:45	179601-23-1	
n-Butylbenzene	**<7.1**	ug/L	23.6	7.1	10		07/24/20 12:45	104-51-8	
n-Propylbenzene	**<8.1**	ug/L	50.0	8.1	10		07/24/20 12:45	103-65-1	
o-Xylene	**39.0**	ug/L	10.0	2.6	10		07/24/20 12:45	95-47-6	
p-Isopropyltoluene	**<8.0**	ug/L	26.7	8.0	10		07/24/20 12:45	99-87-6	
sec-Butylbenzene	**<8.5**	ug/L	50.0	8.5	10		07/24/20 12:45	135-98-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Sample: TW-01 **Lab ID: 10525806002** Collected: 07/21/20 12:30 Received: 07/22/20 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
tert-Butylbenzene	**<3.0**	ug/L	10.1	3.0	10		07/24/20 12:45	98-06-6	
trans-1,2-Dichloroethene	**<4.6**	ug/L	15.5	4.6	10		07/24/20 12:45	156-60-5	
trans-1,3-Dichloropropene	**<43.7**	ug/L	146	43.7	10		07/24/20 12:45	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		10		07/24/20 12:45	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		10		07/24/20 12:45	1868-53-7	
Toluene-d8 (S)	101	%	70-130		10		07/24/20 12:45	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Sample: TB072120 **Lab ID: 10525806003** Collected: 07/21/20 00:00 Received: 07/22/20 08:40 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
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext. Pace Analytical Services - Green Bay								
Gasoline Range Organics	**<2.5**	mg/kg	5.0	2.5	1	07/27/20 08:45	07/27/20 14:26		
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	630-20-6	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	71-55-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	79-34-5	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	79-00-5	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	75-34-3	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	75-35-4	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	563-58-6	W
1,2,3-Trichlorobenzene	**<47.3**	ug/kg	158	47.3	1	07/24/20 07:30	07/27/20 14:10	87-61-6	W
1,2,3-Trichloropropane	**<37.4**	ug/kg	125	37.4	1	07/24/20 07:30	07/27/20 14:10	96-18-4	W
1,2,4-Trichlorobenzene	**<41.7**	ug/kg	250	41.7	1	07/24/20 07:30	07/27/20 14:10	120-82-1	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	95-63-6	W
1,2-Dibromo-3-chloropropane	**<237**	ug/kg	789	237	1	07/24/20 07:30	07/27/20 14:10	96-12-8	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	106-93-4	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	95-50-1	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	107-06-2	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	78-87-5	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	108-67-8	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	541-73-1	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	142-28-9	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	106-46-7	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	594-20-7	W
2-Chlorotoluene	**<25.0**	ug/kg	64.0	25.0	1	07/24/20 07:30	07/27/20 14:10	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	64.0	25.0	1	07/24/20 07:30	07/27/20 14:10	106-43-4	W
Benzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	71-43-2	W
Bromobenzene	**<25.0**	ug/kg	62.0	25.0	1	07/24/20 07:30	07/27/20 14:10	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	70.0	25.0	1	07/24/20 07:30	07/27/20 14:10	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	75-27-4	W
Bromoform	**<25.0**	ug/kg	72.0	25.0	1	07/24/20 07:30	07/27/20 14:10	75-25-2	W
Bromomethane	**<63.8**	ug/kg	250	63.8	1	07/24/20 07:30	07/27/20 14:10	74-83-9	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	108-90-7	W
Chloroethane	**<46.4**	ug/kg	250	46.4	1	07/24/20 07:30	07/27/20 14:10	75-00-3	W
Chloroform	**<47.5**	ug/kg	250	47.5	1	07/24/20 07:30	07/27/20 14:10	67-66-3	W
Chloromethane	**<25.0**	ug/kg	80.0	25.0	1	07/24/20 07:30	07/27/20 14:10	74-87-3	W
Dibromochloromethane	**<229**	ug/kg	763	229	1	07/24/20 07:30	07/27/20 14:10	124-48-1	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	74-95-3	W
Dichlorodifluoromethane	**<25.0**	ug/kg	72.0	25.0	1	07/24/20 07:30	07/27/20 14:10	75-71-8	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	100-41-4	W
Hexachloro-1,3-butadiene	**<68.7**	ug/kg	229	68.7	1	07/24/20 07:30	07/27/20 14:10	87-68-3	W

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Sample: TB072120 **Lab ID: 10525806003** Collected: 07/21/20 00:00 Received: 07/22/20 08:40 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 Pace Analytical Services - Green Bay								
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	98-82-8	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	1634-04-4	W
Methylene Chloride	**43.5J**	ug/kg	88.0	26.3	1	07/24/20 07:30	07/27/20 14:10	75-09-2	
Naphthalene	**<27.3**	ug/kg	91.0	27.3	1	07/24/20 07:30	07/27/20 14:10	91-20-3	W
Styrene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	100-42-5	W
Tetrachloroethene	**<38.7**	ug/kg	129	38.7	1	07/24/20 07:30	07/27/20 14:10	127-18-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	108-88-3	W
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	65.0	25.0	1	07/24/20 07:30	07/27/20 14:10	75-69-4	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	75-01-4	L1,W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	156-59-2	W
cis-1,3-Dichloropropene	**<42.3**	ug/kg	141	42.3	1	07/24/20 07:30	07/27/20 14:10	10061-01-5	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	07/24/20 07:30	07/27/20 14:10	179601-23-1	W
n-Butylbenzene	**<30.0**	ug/kg	100	30.0	1	07/24/20 07:30	07/27/20 14:10	104-51-8	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	103-65-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	07/24/20 07:30	07/27/20 14:10	95-47-6	W
p-Isopropyltoluene	**<25.0**	ug/kg	72.0	25.0	1	07/24/20 07:30	07/27/20 14:10	99-87-6	W
sec-Butylbenzene	**<25.0**	ug/kg	72.0	25.0	1	07/24/20 07:30	07/27/20 14:10	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	62.0	25.0	1	07/24/20 07:30	07/27/20 14:10	98-06-6	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	67.0	25.0	1	07/24/20 07:30	07/27/20 14:10	156-60-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	74.0	25.0	1	07/24/20 07:30	07/27/20 14:10	10061-02-6	W

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

QC Batch: 361227
QC Batch Method: TPH GRO/PVOC WI ext.
Analysis Method: WI MOD GRO
Analysis Description: WIGRO Solid GCV
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 10525806001, 10525806003

METHOD BLANK: 2088725 Matrix: Solid
Associated Lab Samples: 10525806001, 10525806003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	<1.2	4.1	07/27/20 09:45	
a,a,a-Trifluorotoluene (S)	%	103	80-120	07/27/20 09:45	

LABORATORY CONTROL SAMPLE & LCSD: 2088726 2088727

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Gasoline Range Organics	mg/kg	10	10.3	10.7	103	107	80-120	4	20	
a,a,a-Trifluorotoluene (S)	%				102	101	80-120			

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

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

QC Batch: 361393
QC Batch Method: WI MOD GRO
Analysis Method: WI MOD GRO
Analysis Description: WIGRO GCV Water
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 10525806002

METHOD BLANK: 2089174 Matrix: Water
Associated Lab Samples: 10525806002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	ug/L	<30.5	100	07/28/20 10:50	
a,a,a-Trifluorotoluene (S)	%	87	80-120	07/28/20 10:50	

LABORATORY CONTROL SAMPLE & LCSD: 2089175 2089176

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Gasoline Range Organics	ug/L	200	182	193	91	97	80-120	6	20	
a,a,a-Trifluorotoluene (S)	%				88	88	80-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2089694 2089695

Parameter	Units	40211676001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
a,a,a-Trifluorotoluene (S)	%						89	89	80-120			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

QC Batch: 689206
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight / %M by ASTM D2974
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10525806001

SAMPLE DUPLICATE: 3686104

Parameter	Units	10525736009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.2	5.6	7	30	N2

SAMPLE DUPLICATE: 3686312

Parameter	Units	10525471001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	48.2	48.0	0	30	N2

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

QC Batch: 361127
QC Batch Method: EPA 5035/5030B
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Med Level Normal List
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 10525806001, 10525806003

METHOD BLANK: 2087692 Matrix: Solid
Associated Lab Samples: 10525806001, 10525806003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<7.8	50.0	07/24/20 10:45	
1,1,1-Trichloroethane	ug/kg	<13.5	50.0	07/24/20 10:45	
1,1,2,2-Tetrachloroethane	ug/kg	<15.7	52.0	07/24/20 10:45	
1,1,2-Trichloroethane	ug/kg	<15.7	52.0	07/24/20 10:45	
1,1-Dichloroethane	ug/kg	<13.5	50.0	07/24/20 10:45	
1,1-Dichloroethene	ug/kg	<11.8	50.0	07/24/20 10:45	
1,1-Dichloropropene	ug/kg	<10.7	50.0	07/24/20 10:45	
1,2,3-Trichlorobenzene	ug/kg	<47.3	158	07/24/20 10:45	
1,2,3-Trichloropropane	ug/kg	<37.4	125	07/24/20 10:45	
1,2,4-Trichlorobenzene	ug/kg	<41.7	250	07/24/20 10:45	
1,2,4-Trimethylbenzene	ug/kg	<18.1	60.0	07/24/20 10:45	
1,2-Dibromo-3-chloropropane	ug/kg	<237	789	07/24/20 10:45	
1,2-Dibromoethane (EDB)	ug/kg	<17.0	57.0	07/24/20 10:45	
1,2-Dichlorobenzene	ug/kg	<13.1	50.0	07/24/20 10:45	
1,2-Dichloroethane	ug/kg	<13.8	50.0	07/24/20 10:45	
1,2-Dichloropropane	ug/kg	<13.5	50.0	07/24/20 10:45	
1,3,5-Trimethylbenzene	ug/kg	<16.0	53.0	07/24/20 10:45	
1,3-Dichlorobenzene	ug/kg	<13.0	50.0	07/24/20 10:45	
1,3-Dichloropropane	ug/kg	<11.0	50.0	07/24/20 10:45	
1,4-Dichlorobenzene	ug/kg	<12.0	50.0	07/24/20 10:45	
2,2-Dichloropropane	ug/kg	<15.7	52.0	07/24/20 10:45	
2-Chlorotoluene	ug/kg	<19.3	64.0	07/24/20 10:45	
4-Chlorotoluene	ug/kg	<19.3	64.0	07/24/20 10:45	
Benzene	ug/kg	<12.5	42.0	07/24/20 10:45	
Bromobenzene	ug/kg	<18.5	62.0	07/24/20 10:45	
Bromochloromethane	ug/kg	<20.9	70.0	07/24/20 10:45	
Bromodichloromethane	ug/kg	<10.0	50.0	07/24/20 10:45	
Bromoform	ug/kg	<21.6	72.0	07/24/20 10:45	
Bromomethane	ug/kg	<63.8	250	07/24/20 10:45	
Carbon tetrachloride	ug/kg	<7.5	50.0	07/24/20 10:45	
Chlorobenzene	ug/kg	<16.8	56.0	07/24/20 10:45	
Chloroethane	ug/kg	<46.4	250	07/24/20 10:45	
Chloroform	ug/kg	<47.5	250	07/24/20 10:45	
Chloromethane	ug/kg	<24.0	80.0	07/24/20 10:45	
cis-1,2-Dichloroethene	ug/kg	<14.8	50.0	07/24/20 10:45	
cis-1,3-Dichloropropene	ug/kg	<42.3	141	07/24/20 10:45	
Dibromochloromethane	ug/kg	<229	763	07/24/20 10:45	
Dibromomethane	ug/kg	<17.7	59.0	07/24/20 10:45	
Dichlorodifluoromethane	ug/kg	<21.7	72.0	07/24/20 10:45	
Diisopropyl ether	ug/kg	<14.0	50.0	07/24/20 10:45	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

METHOD BLANK: 2087692 Matrix: Solid
Associated Lab Samples: 10525806001, 10525806003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/kg	<14.5	50.0	07/24/20 10:45	
Hexachloro-1,3-butadiene	ug/kg	<68.7	229	07/24/20 10:45	
Isopropylbenzene (Cumene)	ug/kg	<17.7	59.0	07/24/20 10:45	
m&p-Xylene	ug/kg	<32.4	108	07/24/20 10:45	
Methyl-tert-butyl ether	ug/kg	<16.2	54.0	07/24/20 10:45	
Methylene Chloride	ug/kg	<26.3	88.0	07/24/20 10:45	
n-Butylbenzene	ug/kg	<30.0	100	07/24/20 10:45	
n-Propylbenzene	ug/kg	<17.8	59.0	07/24/20 10:45	
Naphthalene	ug/kg	<27.3	91.0	07/24/20 10:45	
o-Xylene	ug/kg	<18.1	60.0	07/24/20 10:45	
p-Isopropyltoluene	ug/kg	<21.7	72.0	07/24/20 10:45	
sec-Butylbenzene	ug/kg	<21.5	72.0	07/24/20 10:45	
Styrene	ug/kg	<12.3	50.0	07/24/20 10:45	
tert-Butylbenzene	ug/kg	<18.7	62.0	07/24/20 10:45	
Tetrachloroethene	ug/kg	<38.7	129	07/24/20 10:45	
Toluene	ug/kg	<13.1	50.0	07/24/20 10:45	
trans-1,2-Dichloroethene	ug/kg	<20.2	67.0	07/24/20 10:45	
trans-1,3-Dichloropropene	ug/kg	<22.2	74.0	07/24/20 10:45	
Trichloroethene	ug/kg	<12.8	50.0	07/24/20 10:45	
Trichlorofluoromethane	ug/kg	<19.6	65.0	07/24/20 10:45	
Vinyl chloride	ug/kg	<14.5	50.0	07/24/20 10:45	
4-Bromofluorobenzene (S)	%	105	52-137	07/24/20 10:45	
Dibromofluoromethane (S)	%	102	58-145	07/24/20 10:45	
Toluene-d8 (S)	%	106	56-140	07/24/20 10:45	

LABORATORY CONTROL SAMPLE: 2087693

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2660	106	70-130	
1,1,2,2-Tetrachloroethane	ug/kg	2500	3210	128	70-130	
1,1,2-Trichloroethane	ug/kg	2500	2710	108	70-130	
1,1-Dichloroethane	ug/kg	2500	2850	114	69-143	
1,1-Dichloroethene	ug/kg	2500	2590	104	73-118	
1,2,4-Trichlorobenzene	ug/kg	2500	2940	117	60-130	
1,2-Dibromo-3-chloropropane	ug/kg	2500	3240	130	66-130	
1,2-Dibromoethane (EDB)	ug/kg	2500	2730	109	70-130	
1,2-Dichlorobenzene	ug/kg	2500	2850	114	70-130	
1,2-Dichloroethane	ug/kg	2500	2680	107	70-130	
1,2-Dichloropropane	ug/kg	2500	2890	116	78-126	
1,3-Dichlorobenzene	ug/kg	2500	2790	112	70-130	
1,4-Dichlorobenzene	ug/kg	2500	2840	114	70-130	
Benzene	ug/kg	2500	2800	112	70-130	
Bromodichloromethane	ug/kg	2500	2690	108	70-130	
Bromoform	ug/kg	2500	2400	96	67-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

LABORATORY CONTROL SAMPLE: 2087693

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromomethane	ug/kg	2500	1660	66	45-134	
Carbon tetrachloride	ug/kg	2500	2640	106	70-130	
Chlorobenzene	ug/kg	2500	2500	100	70-130	
Chloroethane	ug/kg	2500	1580	63	58-143	
Chloroform	ug/kg	2500	2640	106	76-122	
Chloromethane	ug/kg	2500	2660	106	45-120	
cis-1,2-Dichloroethene	ug/kg	2500	2670	107	69-130	
cis-1,3-Dichloropropene	ug/kg	2500	2600	104	70-130	
Dibromochloromethane	ug/kg	2500	2720	109	70-130	
Dichlorodifluoromethane	ug/kg	2500	1830	73	26-99	
Ethylbenzene	ug/kg	2500	2710	109	80-120	
Isopropylbenzene (Cumene)	ug/kg	2500	2420	97	70-130	
m&p-Xylene	ug/kg	5000	5340	107	70-130	
Methyl-tert-butyl ether	ug/kg	2500	2840	114	70-130	
Methylene Chloride	ug/kg	2500	2650	106	70-130	
o-Xylene	ug/kg	2500	2750	110	70-130	
Styrene	ug/kg	2500	2470	99	70-130	
Tetrachloroethene	ug/kg	2500	2400	96	70-130	
Toluene	ug/kg	2500	2870	115	80-120	
trans-1,2-Dichloroethene	ug/kg	2500	2730	109	70-130	
trans-1,3-Dichloropropene	ug/kg	2500	2600	104	70-130	
Trichloroethene	ug/kg	2500	2620	105	70-130	
Trichlorofluoromethane	ug/kg	2500	2150	86	70-128	
Vinyl chloride	ug/kg	2500	2930	117	53-110	L1
4-Bromofluorobenzene (S)	%			108	52-137	
Dibromofluoromethane (S)	%			103	58-145	
Toluene-d8 (S)	%			104	56-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2087712 2087713

Parameter	Units	40211571015 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	1330	1240	93	87	66-130	7	20	
1,1,2,2-Tetrachloroethane	ug/kg	<25.0	1440	1440	1790	1750	125	122	70-133	2	20	
1,1,2-Trichloroethane	ug/kg	<25.0	1440	1440	1540	1450	107	101	70-130	6	20	
1,1-Dichloroethane	ug/kg	<25.0	1440	1440	1560	1390	109	97	69-143	11	20	
1,1-Dichloroethene	ug/kg	<25.0	1440	1440	1170	1080	82	75	58-120	8	20	
1,2,4-Trichlorobenzene	ug/kg	<41.7	1440	1440	1870	1730	130	120	60-130	8	20	
1,2-Dibromo-3-chloropropane	ug/kg	<237	1440	1440	1830	1750	127	122	59-136	4	20	
1,2-Dibromoethane (EDB)	ug/kg	<25.0	1440	1440	1530	1450	107	101	70-130	5	20	
1,2-Dichlorobenzene	ug/kg	<25.0	1440	1440	1610	1540	112	107	70-130	4	20	
1,2-Dichloroethane	ug/kg	363	1440	1440	1880	1760	106	97	70-136	7	20	
1,2-Dichloropropane	ug/kg	<25.0	1440	1440	1600	1500	111	104	78-128	6	20	
1,3-Dichlorobenzene	ug/kg	<25.0	1440	1440	1550	1500	108	104	70-130	4	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2087712 2087713

Parameter	Units	40211571015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/kg	<25.0	1440	1440	1640	1480	115	103	70-130	10	20	
Benzene	ug/kg	<25.0	1440	1440	1500	1400	104	97	70-130	7	20	
Bromodichloromethane	ug/kg	<25.0	1440	1440	1450	1400	101	98	70-130	3	20	
Bromoform	ug/kg	<25.0	1440	1440	1400	1370	97	96	63-130	2	20	
Bromomethane	ug/kg	<63.8	1440	1440	699	669	49	47	33-146	4	20	
Carbon tetrachloride	ug/kg	<25.0	1440	1440	1310	1210	91	84	65-130	7	20	
Chlorobenzene	ug/kg	<25.0	1440	1440	1410	1340	98	93	70-130	5	20	
Chloroethane	ug/kg	<46.4	1440	1440	672	641	47	45	46-156	5	20	M1
Chloroform	ug/kg	<47.5	1440	1440	1480	1370	103	95	75-130	8	20	
Chloromethane	ug/kg	<25.0	1440	1440	845	800	59	56	20-139	5	20	
cis-1,2-Dichloroethene	ug/kg	143	1440	1440	1610	1490	102	94	69-130	8	20	
cis-1,3-Dichloropropene	ug/kg	<42.3	1440	1440	1520	1440	106	100	70-130	6	20	
Dibromochloromethane	ug/kg	<229	1440	1440	1480	1420	103	99	70-130	4	20	
Dichlorodifluoromethane	ug/kg	<25.0	1440	1440	294	284	21	20	10-99	3	22	
Ethylbenzene	ug/kg	<25.0	1440	1440	1450	1340	101	94	80-120	7	20	
Isopropylbenzene (Cumene)	ug/kg	<25.0	1440	1440	1320	1250	92	87	70-130	6	20	
m&p-Xylene	ug/kg	<50.0	2870	2870	2920	2670	102	93	70-130	9	20	
Methyl-tert-butyl ether	ug/kg	<25.0	1440	1440	1570	1470	110	102	70-130	7	20	
Methylene Chloride	ug/kg	<26.3	1440	1440	1440	1360	100	95	70-136	6	20	
o-Xylene	ug/kg	<25.0	1440	1440	1480	1400	103	97	70-130	6	20	
Styrene	ug/kg	<25.0	1440	1440	1380	1320	96	92	70-130	4	20	
Tetrachloroethene	ug/kg	<38.7	1440	1440	1260	1190	88	83	68-130	6	20	
Toluene	ug/kg	<25.0	1440	1440	1590	1470	111	103	80-120	7	20	
trans-1,2-Dichloroethene	ug/kg	<25.0	1440	1440	1400	1280	98	89	70-130	9	20	
trans-1,3-Dichloropropene	ug/kg	<25.0	1440	1440	1540	1420	107	99	70-130	8	20	
Trichloroethene	ug/kg	479	1440	1440	1910	1830	99	94	70-130	4	20	
Trichlorofluoromethane	ug/kg	<25.0	1440	1440	914	832	64	58	53-128	9	20	
Vinyl chloride	ug/kg	<25.0	1440	1440	1040	949	73	66	32-118	9	20	
4-Bromofluorobenzene (S)	%						110	110	52-137			
Dibromofluoromethane (S)	%						108	106	58-145			
Toluene-d8 (S)	%						112	109	56-140			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

QC Batch: 361125
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 10525806002

METHOD BLANK: 2087684 Matrix: Water
Associated Lab Samples: 10525806002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	07/24/20 06:58	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	07/24/20 06:58	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	07/24/20 06:58	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	07/24/20 06:58	
1,1-Dichloroethane	ug/L	<0.27	1.0	07/24/20 06:58	
1,1-Dichloroethene	ug/L	<0.24	1.0	07/24/20 06:58	
1,1-Dichloropropene	ug/L	<0.54	1.8	07/24/20 06:58	
1,2,3-Trichlorobenzene	ug/L	<2.2	7.4	07/24/20 06:58	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	07/24/20 06:58	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	07/24/20 06:58	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	07/24/20 06:58	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	07/24/20 06:58	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	07/24/20 06:58	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	07/24/20 06:58	
1,2-Dichloroethane	ug/L	<0.28	1.0	07/24/20 06:58	
1,2-Dichloropropane	ug/L	<0.28	1.0	07/24/20 06:58	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	07/24/20 06:58	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	07/24/20 06:58	
1,3-Dichloropropane	ug/L	<0.83	2.8	07/24/20 06:58	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	07/24/20 06:58	
2,2-Dichloropropane	ug/L	<2.3	7.6	07/24/20 06:58	
2-Chlorotoluene	ug/L	<0.93	5.0	07/24/20 06:58	
4-Chlorotoluene	ug/L	<0.76	2.5	07/24/20 06:58	
Benzene	ug/L	<0.25	1.0	07/24/20 06:58	
Bromobenzene	ug/L	<0.24	1.0	07/24/20 06:58	
Bromochloromethane	ug/L	<0.36	5.0	07/24/20 06:58	
Bromodichloromethane	ug/L	<0.36	1.2	07/24/20 06:58	
Bromoform	ug/L	<4.0	13.2	07/24/20 06:58	
Bromomethane	ug/L	<0.97	5.0	07/24/20 06:58	
Carbon tetrachloride	ug/L	<1.1	3.6	07/24/20 06:58	
Chlorobenzene	ug/L	<0.71	2.4	07/24/20 06:58	
Chloroethane	ug/L	<1.3	5.0	07/24/20 06:58	
Chloroform	ug/L	<1.3	5.0	07/24/20 06:58	
Chloromethane	ug/L	<2.2	7.3	07/24/20 06:58	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	07/24/20 06:58	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	07/24/20 06:58	
Dibromochloromethane	ug/L	<2.6	8.7	07/24/20 06:58	
Dibromomethane	ug/L	<0.94	3.1	07/24/20 06:58	
Dichlorodifluoromethane	ug/L	<0.50	5.0	07/24/20 06:58	
Diisopropyl ether	ug/L	<1.9	6.3	07/24/20 06:58	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

METHOD BLANK: 2087684 Matrix: Water
Associated Lab Samples: 10525806002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/L	<0.32	1.1	07/24/20 06:58	
Hexachloro-1,3-butadiene	ug/L	<1.5	4.9	07/24/20 06:58	
Isopropylbenzene (Cumene)	ug/L	<1.7	5.6	07/24/20 06:58	
m&p-Xylene	ug/L	<0.47	2.0	07/24/20 06:58	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	07/24/20 06:58	
Methylene Chloride	ug/L	<0.58	5.0	07/24/20 06:58	
n-Butylbenzene	ug/L	<0.71	2.4	07/24/20 06:58	
n-Propylbenzene	ug/L	<0.81	5.0	07/24/20 06:58	
Naphthalene	ug/L	<1.2	5.0	07/24/20 06:58	
o-Xylene	ug/L	<0.26	1.0	07/24/20 06:58	
p-Isopropyltoluene	ug/L	<0.80	2.7	07/24/20 06:58	
sec-Butylbenzene	ug/L	<0.85	5.0	07/24/20 06:58	
Styrene	ug/L	<3.0	10.0	07/24/20 06:58	
tert-Butylbenzene	ug/L	<0.30	1.0	07/24/20 06:58	
Tetrachloroethene	ug/L	<0.33	1.1	07/24/20 06:58	
Toluene	ug/L	<0.27	0.90	07/24/20 06:58	
trans-1,2-Dichloroethene	ug/L	<0.46	1.5	07/24/20 06:58	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	07/24/20 06:58	
Trichloroethene	ug/L	<0.26	1.0	07/24/20 06:58	
Trichlorofluoromethane	ug/L	<0.21	1.0	07/24/20 06:58	
Vinyl chloride	ug/L	<0.17	1.0	07/24/20 06:58	
4-Bromofluorobenzene (S)	%	93	70-130	07/24/20 06:58	
Dibromofluoromethane (S)	%	101	70-130	07/24/20 06:58	
Toluene-d8 (S)	%	101	70-130	07/24/20 06:58	

LABORATORY CONTROL SAMPLE: 2087685

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	54.6	109	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.9	100	64-131	
1,1,2-Trichloroethane	ug/L	50	50.1	100	70-130	
1,1-Dichloroethane	ug/L	50	51.6	103	69-163	
1,1-Dichloroethene	ug/L	50	50.6	101	77-123	
1,2,4-Trichlorobenzene	ug/L	50	50.7	101	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	47.6	95	63-130	
1,2-Dibromoethane (EDB)	ug/L	50	50.2	100	70-130	
1,2-Dichlorobenzene	ug/L	50	47.7	95	70-130	
1,2-Dichloroethane	ug/L	50	51.9	104	78-142	
1,2-Dichloropropane	ug/L	50	52.8	106	86-134	
1,3-Dichlorobenzene	ug/L	50	49.0	98	70-130	
1,4-Dichlorobenzene	ug/L	50	48.6	97	70-130	
Benzene	ug/L	50	53.2	106	70-130	
Bromodichloromethane	ug/L	50	52.4	105	70-130	
Bromoform	ug/L	50	48.9	98	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

LABORATORY CONTROL SAMPLE: 2087685

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromomethane	ug/L	50	34.2	68	39-129	
Carbon tetrachloride	ug/L	50	55.9	112	70-132	
Chlorobenzene	ug/L	50	52.2	104	70-130	
Chloroethane	ug/L	50	50.1	100	66-140	
Chloroform	ug/L	50	50.3	101	75-132	
Chloromethane	ug/L	50	48.9	98	32-143	
cis-1,2-Dichloroethene	ug/L	50	50.9	102	70-130	
cis-1,3-Dichloropropene	ug/L	50	49.4	99	70-130	
Dibromochloromethane	ug/L	50	46.4	93	70-130	
Dichlorodifluoromethane	ug/L	50	52.5	105	10-141	
Ethylbenzene	ug/L	50	53.9	108	80-120	
Isopropylbenzene (Cumene)	ug/L	50	49.0	98	70-130	
m&p-Xylene	ug/L	100	107	107	70-130	
Methyl-tert-butyl ether	ug/L	50	48.2	96	61-129	
Methylene Chloride	ug/L	50	49.5	99	70-130	
o-Xylene	ug/L	50	52.1	104	70-130	
Styrene	ug/L	50	48.3	97	70-130	
Tetrachloroethene	ug/L	50	49.5	99	70-130	
Toluene	ug/L	50	52.0	104	80-120	
trans-1,2-Dichloroethene	ug/L	50	50.2	100	70-130	
trans-1,3-Dichloropropene	ug/L	50	47.1	94	69-130	
Trichloroethene	ug/L	50	52.1	104	70-130	
Trichlorofluoromethane	ug/L	50	54.8	110	75-145	
Vinyl chloride	ug/L	50	50.2	100	51-140	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			105	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2087756 2087757

Parameter	Units	10525806002 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/L	<2.4	200	200	212	226	106	113	70-130	6	20	
1,1,2,2-Tetrachloroethane	ug/L	<2.8	200	200	191	234	96	117	64-137	20	20	
1,1,2-Trichloroethane	ug/L	<5.5	200	200	198	225	99	112	70-137	13	20	
1,1-Dichloroethane	ug/L	<2.7	200	200	199	168	99	84	69-163	17	20	
1,1-Dichloroethene	ug/L	<2.4	200	200	188	200	94	100	77-129	6	20	
1,2,4-Trichlorobenzene	ug/L	<9.5	200	200	183	218	91	109	68-130	18	20	
1,2-Dibromo-3-chloropropane	ug/L	<17.6	200	200	177	234	88	117	60-130	28	20	R1
1,2-Dibromoethane (EDB)	ug/L	<8.3	200	200	197	227	99	113	70-130	14	20	
1,2-Dichlorobenzene	ug/L	<7.1	200	200	190	208	95	104	70-130	9	20	
1,2-Dichloroethane	ug/L	<2.8	200	200	357	380	178	190	78-145	6	20	M1
1,2-Dichloropropane	ug/L	<2.8	200	200	204	222	102	111	86-135	8	20	
1,3-Dichlorobenzene	ug/L	<6.3	200	200	195	211	97	105	70-130	8	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2087756 2087757

Parameter	Units	10525806002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dichlorobenzene	ug/L	<9.4	200	200	187	204	94	102	70-130	9	20	
Bromodichloromethane	ug/L	<3.6	200	200	199	222	100	111	70-130	11	20	
Bromoform	ug/L	<39.7	200	200	185	217	92	109	69-130	16	20	
Bromomethane	ug/L	<9.7	200	200	118	135	59	67	39-138	14	20	
Carbon tetrachloride	ug/L	<10.8	200	200	215	230	108	115	70-142	7	20	
Chlorobenzene	ug/L	<7.1	200	200	205	221	102	110	70-130	7	20	
Chloroethane	ug/L	<13.4	200	200	177	200	89	100	61-149	12	20	
Chloroform	ug/L	<12.7	200	200	195	210	98	105	75-133	7	20	
Chloromethane	ug/L	<21.9	200	200	137	146	68	73	32-143	7	20	
cis-1,2-Dichloroethene	ug/L	<2.7	200	200	197	214	99	107	70-130	8	20	
cis-1,3-Dichloropropene	ug/L	<36.3	200	200	192	209	96	104	70-130	9	20	
Dibromochloromethane	ug/L	<26.0	200	200	182	204	91	102	70-130	12	20	
Dichlorodifluoromethane	ug/L	<5.0	200	200	99.0	104	49	52	10-141	5	20	
Ethylbenzene	ug/L	86.5	200	200	315	335	114	124	80-120	6	20	M1
Isopropylbenzene (Cumene)	ug/L	19.6J	200	200	197	210	89	95	70-130	7	20	
m&p-Xylene	ug/L	131	400	400	581	611	112	120	70-130	5	20	
Methyl-tert-butyl ether	ug/L	<12.5	200	200	197	230	98	115	61-136	15	20	
Methylene Chloride	ug/L	<5.8	200	200	194	206	97	103	68-137	6	20	
o-Xylene	ug/L	39.0	200	200	259	276	110	119	70-130	6	20	
Styrene	ug/L	<30.1	200	200	188	205	94	103	70-130	8	20	
Tetrachloroethene	ug/L	<3.3	200	200	196	215	98	108	70-130	9	20	
trans-1,2-Dichloroethene	ug/L	<4.6	200	200	192	207	96	104	70-130	8	20	
trans-1,3-Dichloropropene	ug/L	<43.7	200	200	188	209	94	105	69-130	11	20	
Trichloroethene	ug/L	<2.6	200	200	199	219	99	110	70-130	10	20	
Trichlorofluoromethane	ug/L	<2.1	200	200	191	230	96	115	74-157	19	20	
Vinyl chloride	ug/L	<1.7	200	200	159	176	79	88	51-140	10	20	
4-Bromofluorobenzene (S)	%						101	101	70-130			
Dibromofluoromethane (S)	%						103	103	70-130			
Toluene-d8 (S)	%						103	102	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

QC Batch: 688687
QC Batch Method: EPA 3550C
Analysis Method: EPA 8270E by SIM
Analysis Description: 8270E Solid PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10525806001

METHOD BLANK: 3683265 Matrix: Solid
Associated Lab Samples: 10525806001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/kg	<0.45	1.5	07/24/20 10:24	
Acenaphthylene	ug/kg	<0.68	2.3	07/24/20 10:24	
Anthracene	ug/kg	<0.32	1.1	07/24/20 10:24	
Benzo(a)anthracene	ug/kg	<0.41	1.4	07/24/20 10:24	
Benzo(a)pyrene	ug/kg	<0.56	1.9	07/24/20 10:24	
Benzo(b)fluoranthene	ug/kg	<0.47	1.6	07/24/20 10:24	
Benzo(g,h,i)perylene	ug/kg	<0.46	1.5	07/24/20 10:24	
Benzo(k)fluoranthene	ug/kg	<0.48	1.6	07/24/20 10:24	
Chrysene	ug/kg	<0.40	1.3	07/24/20 10:24	
Dibenz(a,h)anthracene	ug/kg	<0.66	2.2	07/24/20 10:24	
Fluoranthene	ug/kg	<0.60	2.0	07/24/20 10:24	
Fluorene	ug/kg	<0.60	2.0	07/24/20 10:24	
Indeno(1,2,3-cd)pyrene	ug/kg	<0.54	1.8	07/24/20 10:24	
Naphthalene	ug/kg	<0.45	1.5	07/24/20 10:24	
Phenanthrene	ug/kg	<0.70	2.3	07/24/20 10:24	
Pyrene	ug/kg	<0.65	2.2	07/24/20 10:24	
2-Fluorobiphenyl (S)	%.	72	30-138	07/24/20 10:24	
p-Terphenyl-d14 (S)	%.	84	30-143	07/24/20 10:24	

LABORATORY CONTROL SAMPLE: 3683266

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	33.3	26.8	80	49-125	
Acenaphthylene	ug/kg	33.3	25.5	76	53-125	
Anthracene	ug/kg	33.3	30.2	91	59-125	
Benzo(a)anthracene	ug/kg	33.3	31.8	95	58-125	
Benzo(a)pyrene	ug/kg	33.3	30.7	92	64-125	
Benzo(b)fluoranthene	ug/kg	33.3	33.4	100	61-125	
Benzo(g,h,i)perylene	ug/kg	33.3	31.8	95	64-125	
Benzo(k)fluoranthene	ug/kg	33.3	31.0	93	62-125	
Chrysene	ug/kg	33.3	30.0	90	65-125	
Dibenz(a,h)anthracene	ug/kg	33.3	30.7	92	63-125	
Fluoranthene	ug/kg	33.3	32.6	98	68-125	
Fluorene	ug/kg	33.3	29.8	89	54-125	
Indeno(1,2,3-cd)pyrene	ug/kg	33.3	31.1	93	63-125	
Naphthalene	ug/kg	33.3	25.1	75	45-125	
Phenanthrene	ug/kg	33.3	30.9	93	63-125	
Pyrene	ug/kg	33.3	35.4	106	65-125	
2-Fluorobiphenyl (S)	%.			81	30-138	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

LABORATORY CONTROL SAMPLE: 3683266

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
p-Terphenyl-d14 (S)	%.			91	30-143	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3683267 3683268

Parameter	Units	10525806001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acenaphthene	ug/kg	<0.48	36	36	31.5	29.7	87	82	30-125	6	30	
Acenaphthylene	ug/kg	<0.74	36	36	30.3	29.9	84	83	30-150	1	30	
Anthracene	ug/kg	<0.34	36	36	34.1	31.3	95	87	30-150	9	30	
Benzo(a)anthracene	ug/kg	<0.45	36	36	33.4	32.1	92	89	30-150	4	30	
Benzo(a)pyrene	ug/kg	<0.61	36	36	32.9	32.5	91	90	30-150	1	30	
Benzo(b)fluoranthene	ug/kg	<0.50	36	36	31.4	30.7	87	85	30-150	2	30	
Benzo(g,h,i)perylene	ug/kg	<0.50	36	36	33.6	33.2	93	92	30-150	1	30	
Benzo(k)fluoranthene	ug/kg	<0.52	36	36	35.5	34.4	99	96	30-150	3	30	
Chrysene	ug/kg	<0.43	36	36	31.6	31.8	88	88	30-150	1	30	
Dibenz(a,h)anthracene	ug/kg	<0.71	36	36	31.4	32.1	87	89	30-147	2	30	
Fluoranthene	ug/kg	<0.65	36	36	34.7	33.9	96	94	30-150	2	30	
Fluorene	ug/kg	<0.65	36	36	33.5	31.4	93	87	30-150	6	30	
Indeno(1,2,3-cd)pyrene	ug/kg	<0.58	36	36	32.5	31.9	90	89	30-150	2	30	
Naphthalene	ug/kg	10.1	36	36	43.5	39.1	93	81	30-141	11	30	
Phenanthrene	ug/kg	2.7	36	36	37.1	34.8	95	89	30-150	6	30	
Pyrene	ug/kg	<0.70	36	36	39.9	39.3	111	109	30-150	1	30	
2-Fluorobiphenyl (S)	%.						85	78	30-138			
p-Terphenyl-d14 (S)	%.						91	87	30-143			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

QC Batch: 689287
QC Batch Method: EPA Mod. 3510C
Analysis Method: EPA 8270E by SIM
Analysis Description: 8270E Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10525806002

METHOD BLANK: 3686370 Matrix: Water
Associated Lab Samples: 10525806002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	<0.0081	0.027	07/28/20 18:13	
Acenaphthylene	ug/L	<0.0064	0.021	07/28/20 18:13	
Anthracene	ug/L	<0.0082	0.027	07/28/20 18:13	
Benzo(a)anthracene	ug/L	<0.012	0.039	07/28/20 18:13	
Benzo(a)pyrene	ug/L	<0.0088	0.029	07/28/20 18:13	
Benzo(b)fluoranthene	ug/L	<0.0078	0.026	07/28/20 18:13	
Benzo(g,h,i)perylene	ug/L	<0.0084	0.028	07/28/20 18:13	
Benzo(k)fluoranthene	ug/L	<0.0085	0.028	07/28/20 18:13	
Chrysene	ug/L	<0.011	0.037	07/28/20 18:13	
Dibenz(a,h)anthracene	ug/L	<0.011	0.036	07/28/20 18:13	
Fluoranthene	ug/L	<0.011	0.035	07/28/20 18:13	
Fluorene	ug/L	<0.0068	0.023	07/28/20 18:13	
Indeno(1,2,3-cd)pyrene	ug/L	<0.019	0.064	07/28/20 18:13	
Naphthalene	ug/L	<0.011	0.037	07/28/20 18:13	
Phenanthrene	ug/L	<0.010	0.034	07/28/20 18:13	
Pyrene	ug/L	<0.015	0.051	07/28/20 18:13	
2-Fluorobiphenyl (S)	%.	86	50-125	07/28/20 18:13	
p-Terphenyl-d14 (S)	%.	99	58-125	07/28/20 18:13	

LABORATORY CONTROL SAMPLE: 3686371

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/L	1	0.89	89	55-125	
Acenaphthylene	ug/L	1	0.89	89	54-125	
Anthracene	ug/L	1	0.88	88	60-125	
Benzo(a)anthracene	ug/L	1	0.85	85	61-125	
Benzo(a)pyrene	ug/L	1	0.85	85	64-125	
Benzo(b)fluoranthene	ug/L	1	0.97	97	64-125	
Benzo(g,h,i)perylene	ug/L	1	0.89	89	54-125	
Benzo(k)fluoranthene	ug/L	1	0.86	86	62-125	
Chrysene	ug/L	1	0.94	94	63-125	
Dibenz(a,h)anthracene	ug/L	1	0.92	92	45-125	
Fluoranthene	ug/L	1	0.89	89	66-125	
Fluorene	ug/L	1	0.90	90	59-125	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.90	90	63-125	
Naphthalene	ug/L	1	0.88	88	53-125	
Phenanthrene	ug/L	1	0.92	92	64-125	
Pyrene	ug/L	1	0.93	93	67-125	
2-Fluorobiphenyl (S)	%.			90	50-125	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

LABORATORY CONTROL SAMPLE: 3686371

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
p-Terphenyl-d14 (S)	%.			94	58-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3686594 3686595

Parameter	Units	10526372001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acenaphthene	ug/L	ND	1	1	0.71	0.67	71	67	43-125	6	30	
Acenaphthylene	ug/L	ND	1	1	0.75	0.70	75	70	46-125	7	30	
Anthracene	ug/L	ND	1	1	0.81	0.84	81	84	52-125	4	30	
Benzo(a)anthracene	ug/L	ND	1	1	0.81	0.82	81	82	51-125	2	30	
Benzo(a)pyrene	ug/L	ND	1	1	0.78	0.81	78	81	54-125	4	30	
Benzo(b)fluoranthene	ug/L	ND	1	1	0.86	0.90	86	90	51-125	5	30	
Benzo(g,h,i)perylene	ug/L	ND	1	1	0.76	0.80	76	80	43-125	5	30	
Benzo(k)fluoranthene	ug/L	ND	1	1	0.76	0.79	76	79	55-125	4	30	
Chrysene	ug/L	ND	1	1	0.80	0.85	80	85	61-125	5	30	
Dibenz(a,h)anthracene	ug/L	ND	1	1	0.81	0.84	81	84	40-125	3	30	
Fluoranthene	ug/L	ND	1	1	0.81	0.86	81	86	61-125	5	30	
Fluorene	ug/L	ND	1	1	0.75	0.75	75	75	50-125	0	30	
Indeno(1,2,3-cd)pyrene	ug/L	ND	1	1	0.78	0.81	78	81	43-125	3	30	
Naphthalene	ug/L	ND	1	1	0.65	0.57	65	57	30-125	14	30	
Phenanthrene	ug/L	ND	1	1	0.80	0.83	80	83	61-125	4	30	
Pyrene	ug/L	ND	1	1	0.83	0.87	83	87	62-125	5	30	
2-Fluorobiphenyl (S)	%.						68	61	50-125			
p-Terphenyl-d14 (S)	%.						75	79	58-125			

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

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

QC Batch: 688680
QC Batch Method: WI MOD DRO
Analysis Method: WI MOD DRO
Analysis Description: WIDRO GCS
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10525806001

METHOD BLANK: 3683248 Matrix: Solid
Associated Lab Samples: 10525806001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
WDRO C10-C28	mg/kg	<2.7	8.9	07/24/20 11:20	
n-Triacontane (S)	%.	78	50-150	07/24/20 11:20	

LABORATORY CONTROL SAMPLE & LCSD: 3683249 3683250

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
WDRO C10-C28	mg/kg	80	64.4	66.8	81	83	70-120	4	20	
n-Triacontane (S)	%.				79	79	50-150			

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

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

QC Batch: 688398
QC Batch Method: WI MOD DRO
Analysis Method: WI MOD DRO
Analysis Description: WIDRO Low Volume GCS
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10525806002

METHOD BLANK: 3682025 Matrix: Water
Associated Lab Samples: 10525806002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
WDRO C10-C28	mg/L	<0.034	0.11	07/23/20 07:25	
n-Triacontane (S)	%.	76	50-150	07/23/20 07:25	

LABORATORY CONTROL SAMPLE & LCSD: 3682026 3682027

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
WDRO C10-C28	mg/L	0.8	0.91	0.74	113	93	75-115	20	20	
n-Triacontane (S)	%.				100	85	50-150			

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

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

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, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

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.

ANALYTE QUALIFIERS

G-	Early peaks present outside the GRO window.
GO	Early and late peaks present outside the GRO window.
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.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
R1	RPD value was outside control limits.
T7	Low boiling point hydrocarbons are present in the sample.
W	Non-detect results are reported on a wet weight basis.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60626859 Blackhawk Valve Stati
Pace Project No.: 10525806

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10525806001	**B1-22**	WI MOD DRO	688680	WI MOD DRO	688952
10525806002	**TW-01**	WI MOD DRO	688398	WI MOD DRO	688675
10525806001	**B1-22**	TPH GRO/PVOC WI ext.	361227	WI MOD GRO	361305
10525806003	**TB072120**	TPH GRO/PVOC WI ext.	361227	WI MOD GRO	361305
10525806002	**TW-01**	WI MOD GRO	361393		
10525806001	**B1-22**	ASTM D2974	689206		
10525806001	**B1-22**	EPA 3550C	688687	EPA 8270E by SIM	688984
10525806002	**TW-01**	EPA Mod. 3510C	689287	EPA 8270E by SIM	689498
10525806001	**B1-22**	EPA 5035/5030B	361127	EPA 8260	361135
10525806003	**TB072120**	EPA 5035/5030B	361127	EPA 8260	361135
10525806002	**TW-01**	EPA 8260	361125		

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CHAIN-OF-CUSTODY / Analytical Request Do

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be complete

WO# : 10525806

10525806

Page: 1 of 1

Section A — Required Client Information:

Company: AECOM
Address: 230 W. Superior St, Ste 411
Duluth, MN 55802
Email To: Joseph.Pearson@aecom.com
Phone: 763-218-9982 Fax: n/a
Requested Due Date/TAT: Add 5-Day TAT (Call Joe)

Section B — Required Project Information:

Report To: Joe Pearson
Copy To:
Purchase Order No.:
Project Name: Blackhawk Valve Station
Project Number: 60626859.

Section C — Invoice Information:

Attention: Joe Pearson
Company Name: AECOM
Address: 230 W. Superior St, Ste 411
Pace Quote Reference:
Pace Project Manager: Tina
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE:

Section D — Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol 6Ro/VOC	Other	Analysis Test Y/N	DRO-2	GRO-2	VOC-2	PAH-1	% Moisture-1	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	BI-22	SL	G	7/21/20	11:00	—	—		8							X			X	X	X	X	X		(20-22) 001
2	FW-01	WT	G	7/21/20	12:30	—	—		10				X						X	X	X	X			002
3	TB072120	WT	—	—	—	—	—		2				X												003
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Robert Wesley AECOM	7/21/20	16:30	TN/Pace	72220	840

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.4	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) - MN**	Document Revised: 27Mar2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0150 Rev.00**	Pace Analytical Services - **Minneapolis**

Sample Condition Upon Receipt

Client Name: AECOM

Project #: WO# : 10525806

PM: TS1 Due Date: 07/29/20

CLIENT: AECOM

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exceptions** ☐

Tracking Number: 3950 2561 7839

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: _____ **Temp Blank?** ☒ Yes ☐ No

Thermometer: ☐ T1(0461) ☒ T2(1336) ☐ T3(0459) ☐ T4(0254) ☐ T5(0489) **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 0.4 °C **Average Corrected Temp (no temp blank only):** ☐ See Exceptions ☐ 1 Container

Correction Factor: true **Cooler Temp Corrected w/temp blank :** 0.4 °C ____ °C

USDA Regulated Soil: (☒ N/A, water sample/Other: _____)

Date/Initials of Person Examining Contents: TN 7/22/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☒ No	☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other_____
Rush Turn Around Time Requested?	☒ Yes	☐ No		6.
Sufficient Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No		8.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
Matrix: ☒ Water ☒ Soil ☐ Oil ☐ Other_____				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, ~~DRO/8015~~ (water) and Dioxin/PFAS	☒ Yes	☐ No	☐ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☒ Yes	☐ No	☐ N/A	13. **See Exception** ☐
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☒ No	☐ N/A	
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	14.
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	Pace Trip Blank Lot # (if purchased): covered

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Joe Pearson Date/Time: 7/22/20

Comments/Resolution: Client verified that samples were collected in WI.

Project Manager Review: Jina Soltani **Date:** 7/22/20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: TN

Internal Transfer Chain of Custody

4021620

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www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: WI
Cert. Needed: ☒ Yes ☐ No

Workorder: 10525806 **Workorder Name:** 60626859 Blackhawk Valve Stati

Owner Received Date: 7/22/2020 **Results Requested By:** 7/29/2020

Report To	Subcontract To
Tina Soltani Pace Analytical Minnesota 1700 Elm Street Suite 200 Minneapolis, MN 55414 Phone (612) 607-6384	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCl - VG9H	Preserved Containers: MeOH - VG9M	Preserved Containers				Requested Analysis: GRO by WIGRO - TB	GRO by WIGRO	VOC by 8260B - TB	VOC by 8260B									LAB USE ONLY
1	B1-22	PS	7/21/2020 11:00	10525806001	Solid		4						X		X									001
2	TW-01	PS	7/21/2020 12:30	10525806002	Water	6							X		X									002
3	TB072120	PS	7/21/2020 00:00	10525806003	Solid		2					X		X										003
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	7/22/20 16:30		
2	Walter	7/23/20 0835	[signature]	7/23/20 0835
3				

Comments
Minneapolis will analzye dry weight.

Cooler Temperature on Receipt 1 °C	Custody Seal (Y) or N	Received on Ice (Y) or N	Samples Intact (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Pace Analytical® 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 26Mar2020
	Document No.: ENV-FRM-GBAY-0014-Rev.00	Author: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #: WO# : 40211620

40211620

Client Name: Pace MN

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☒ Waltco
☐ Client ☐ Pace Other:

Tracking #: 2511553 2

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 - 86 **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 0 /Corr: 1

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 7/23/20 Initials: NP

Labeled By Initials: JMW

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

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. JMW 7/23/20 NP
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD: ☐Yes ☒No ☐N/A		8.
Correct Containers Used:	☒Yes ☐No	9. Tare weight covered on all V69MS JMW 7/23/20
-Pace Containers Used:	☐Yes ☐No ☒N/A	
-Pace IR Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W/S	☒Yes ☐No ☐N/A	12.
Trip Blank Present:	☒Yes ☐No ☐N/A	13.
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 ☐

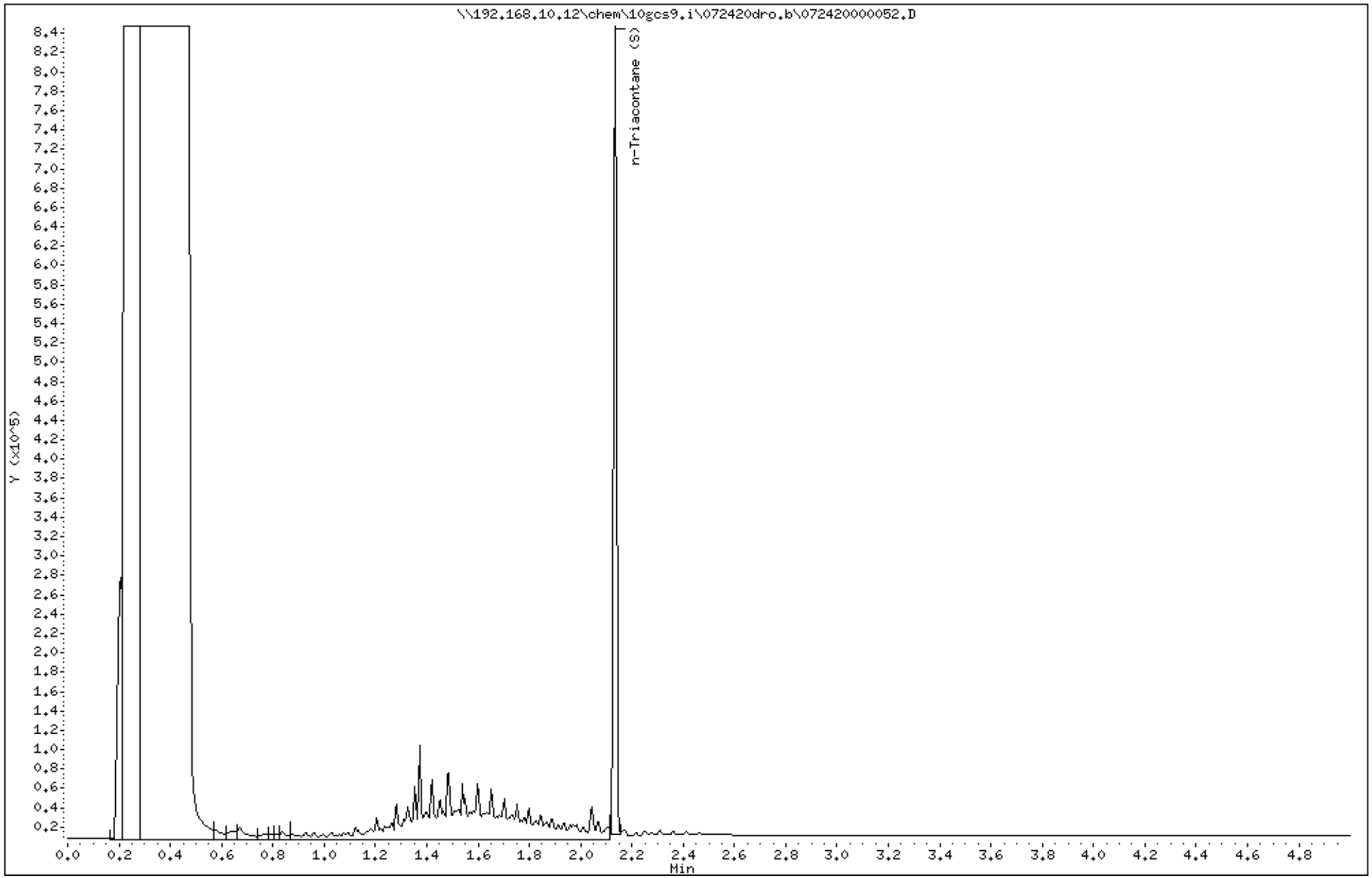
Person Contacted: Date/Time:

Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logir

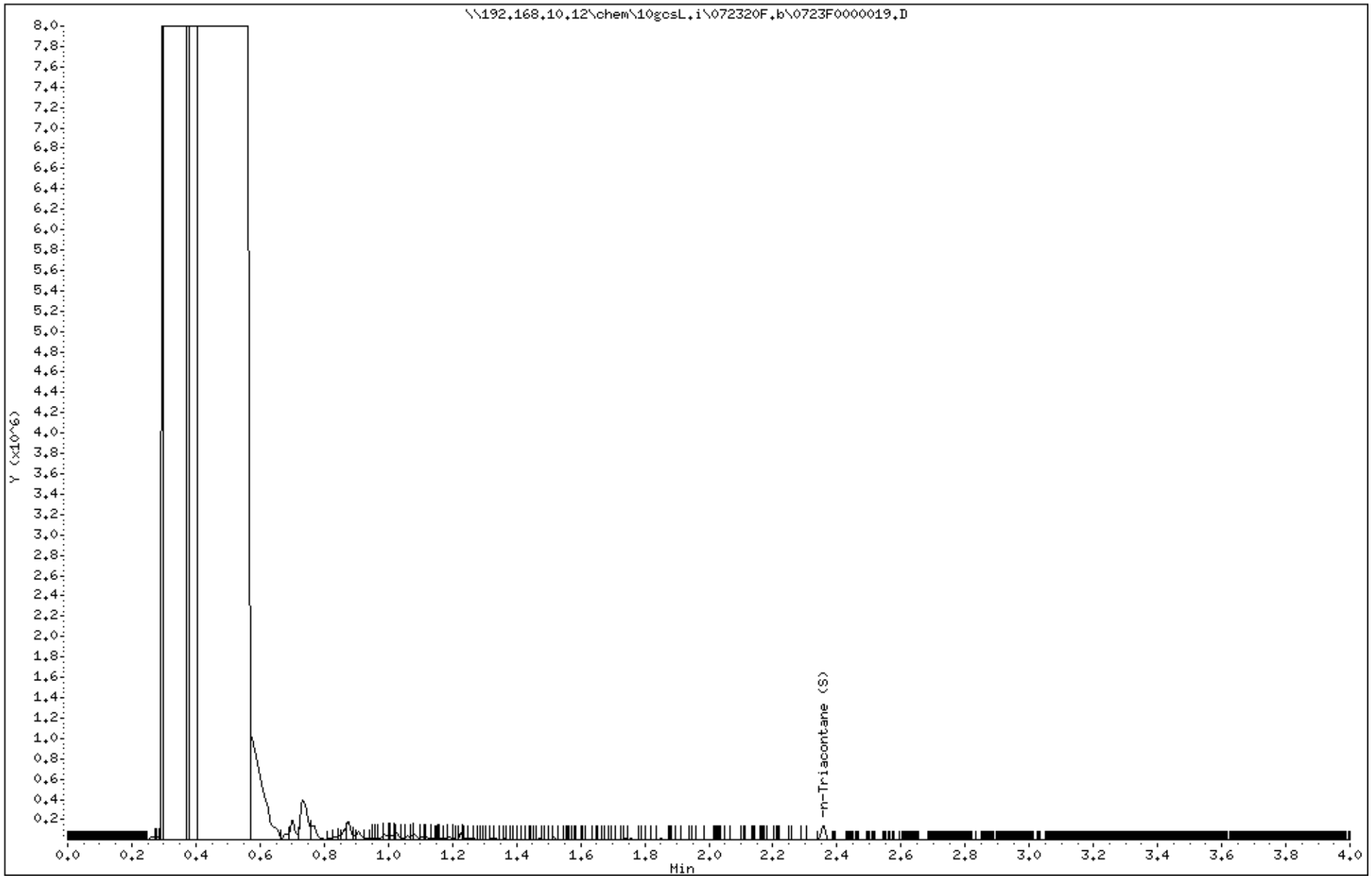
Data File: \\192.168.10.12\chem\10gcs9.i\072420dro.b\072420000052.D
Date : 24-JUL-2020 12:59
Client ID: B1-22
Sample Info: 10525806001
Volume Injected (uL): 1.0
Column phase: DB-5-US20180032

Instrument: 10gcs9.i
Operator: JVM
Column diameter: 0.32



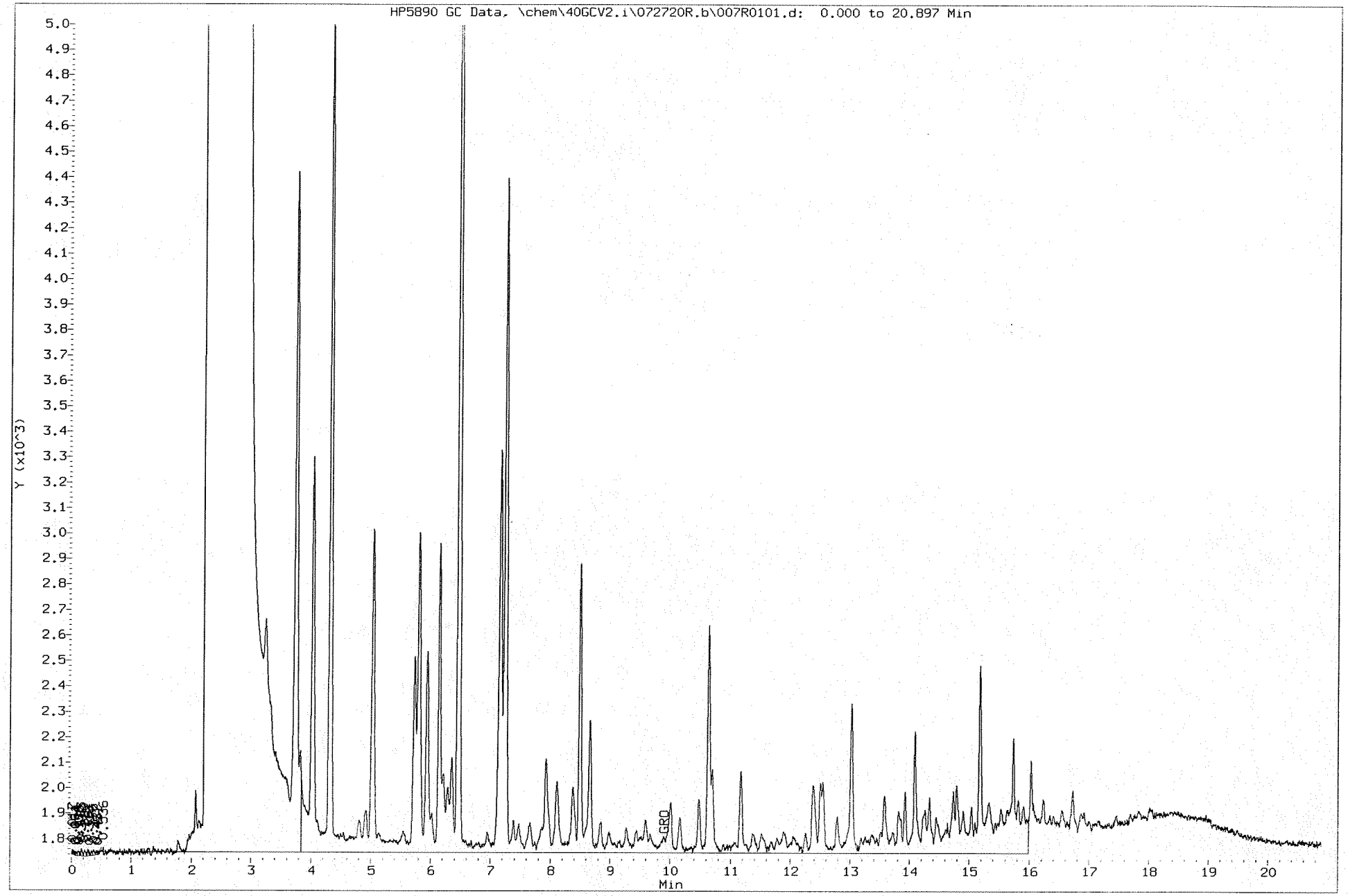
Data File: \\192.168.10.12\chem\10gcsL.i\072320F.b\0723F0000019.D
Date : 23-JUL-2020 09:11
Client ID: TW-01
Sample Info: 10525806002
Volume Injected (uL): 1.0
Column phase: DB-5-US20120014

Instrument: 10gcsL.i
Operator: TT2
Column diameter: 0.32

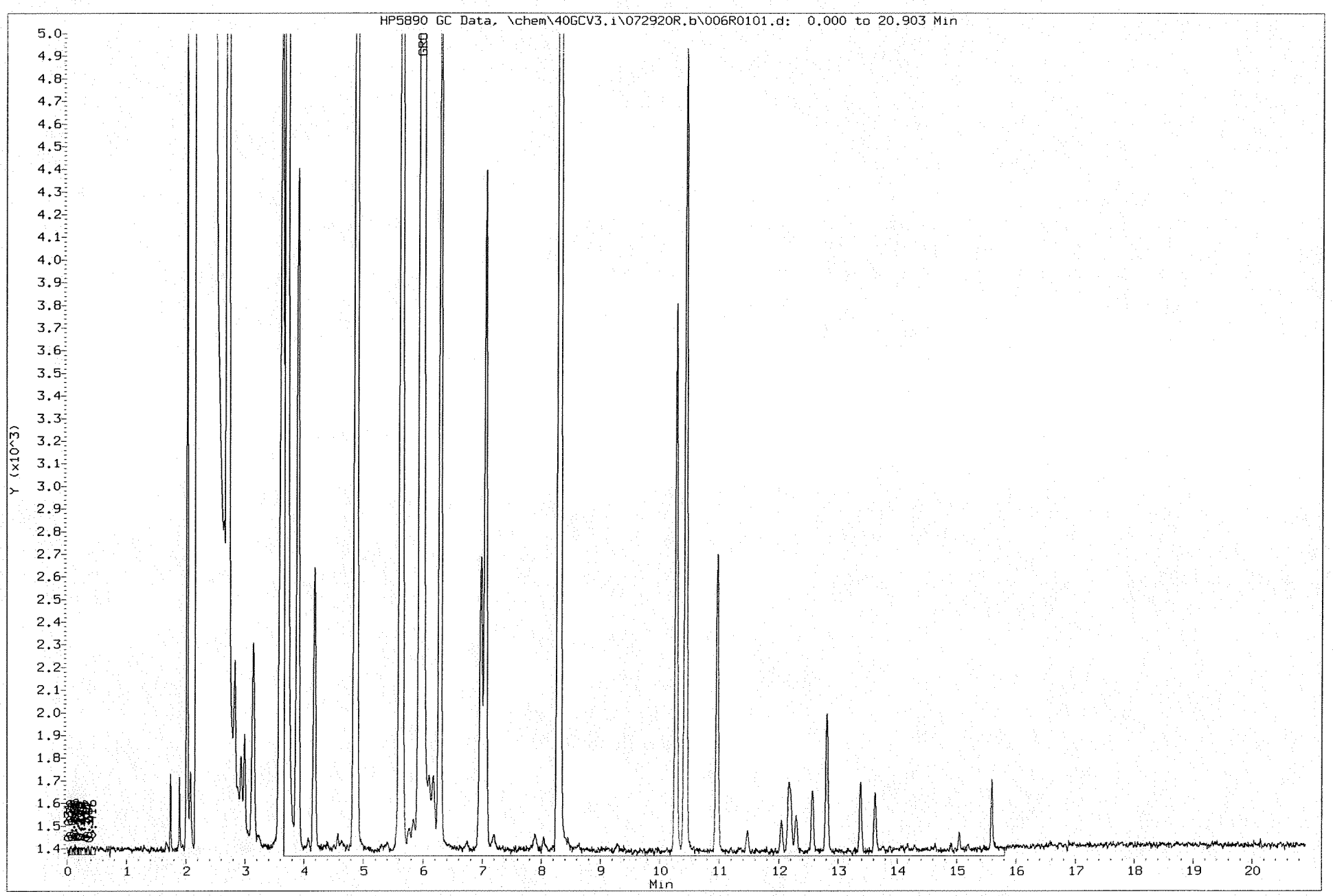


Data File: \\40wintarget\data2\chem\40GCV2.i\072720R.b\007R0101.d
Injection Date: 27-JUL-2020 11:02
Instrument: 40GCV2.i
Client Sample ID: 10525806001

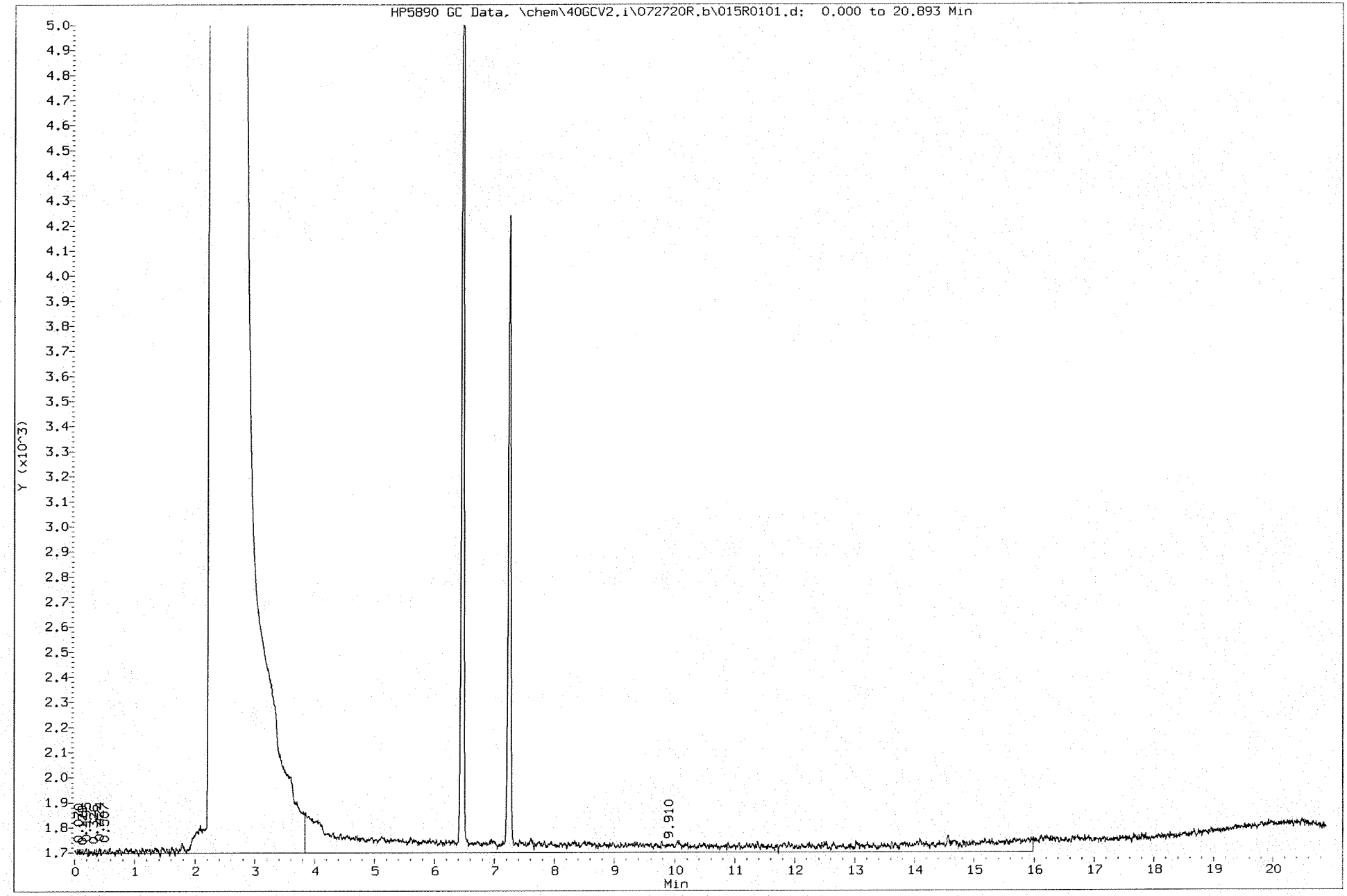
4021620



Data File: \\40wintarget\data2\chem\40GCV3.i\072920R.b\006R0101.d
Injection Date: 29-JUL-2020 09:34
Instrument: 40GCV3.i
Client Sample ID: 10525806002



Data File: \\40wintarget\data2\chem\40GCV2.i\072720R.b\015R0101.d
Injection Date: 27-JUL-2020 14:26
Instrument: 40GCV2.i
Client Sample ID: 10525806003



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ANALYTICAL REPORT

AECOM
ETHAN HARVEY
230 WEST SUPERIOR ST #400
DULUTH, MN 55802

Copy: ETHAN.HARVEY@AECOM.COM

Project Name: LINE13MP
Project Phase:
Contract #: 2323
Project #:
Folder #: 156053
Purchase Order #: 2141532

Arrival Temperature: See COC
Report Date: 09/03/2020
Date Received: 08/31/2020
Reprint Date: 09/03/2020

CT LAB Sample#: 467410 Sample Description: 20200827.SB1.21 Sampled: 08/27/2020 1130

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**93.1**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.2	mg/kg	1.2	3.9	1		09/01/2020 14:00	09/02/2020 02:27	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 02:27	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 02:27	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 02:27	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 02:27	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 02:27	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 02:27	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 02:27	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 02:27	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467412 Sample Description: 20200827.SB2.20 Sampled: 08/27/2020 1300

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**91.8**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.2	mg/kg	1.2	3.9	1		09/01/2020 14:00	09/02/2020 03:01	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 03:01	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 03:01	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 03:01	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 03:01	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 03:01	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 03:01	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 03:01	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 03:01	TMG	WDNR GRO

CT LAB Sample#: 467413 Sample Description: 20200827.SB3.23 Sampled: 08/27/2020 1530

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**95.1**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.2	mg/kg	1.2	3.8	1		09/01/2020 14:00	09/02/2020 03:35	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 03:35	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 03:35	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 03:35	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467413 Sample Description: 20200827.SB3.23 Sampled: 08/27/2020 1530

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 03:35	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 03:35	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 03:35	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 03:35	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 03:35	TMG	WDNR GRO

CT LAB Sample#: 467414 Sample Description: 20200827.SB4.19 Sampled: 08/27/2020 1630

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**92.5**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.2	mg/kg	1.2	3.9	1		09/01/2020 14:00	09/02/2020 04:09	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 04:09	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 04:09	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 04:09	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 04:09	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 04:09	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 04:09	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 04:09	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 04:09	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467415 Sample Description: 20200827.SB1.WATER Sampled: 08/27/2020 1815

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	**410**	ug/L	27	88	1	L		09/01/2020 15:38	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/01/2020 15:38	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/01/2020 15:38	TMG	WDNR GRO
Benzene	**16**	ug/L	0.40	1.3	1			09/01/2020 15:38	TMG	WDNR GRO
Ethylbenzene	**0.67**	ug/L	0.40 *	1.4	1			09/01/2020 15:38	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/01/2020 15:38	TMG	WDNR GRO
Methyl tert-butyl ether	**3.4**	ug/L	0.40	1.3	1			09/01/2020 15:38	TMG	WDNR GRO
o-Xylene	**0.94**	ug/L	0.40 *	1.4	1			09/01/2020 15:38	TMG	WDNR GRO
Toluene	**8.0**	ug/L	0.40	1.4	1			09/01/2020 15:38	TMG	WDNR GRO

CT LAB Sample#: 467416 Sample Description: 20200827.SB2.WATER Sampled: 08/27/2020 1825

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1			09/01/2020 16:13	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/01/2020 16:13	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/01/2020 16:13	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/01/2020 16:13	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/01/2020 16:13	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/01/2020 16:13	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/01/2020 16:13	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/01/2020 16:13	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467416 Sample Description: 20200827.SB2.WATER Sampled: 08/27/2020 1825

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Toluene	<0.40	ug/L	0.40	1.4	1			09/01/2020 16:13	TMG	WDNR GRO

CT LAB Sample#: 467417 Sample Description: 20200827.SB3.WATER Sampled: 08/27/2020 1740

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	**6500**	ug/L	270	880	10	L		09/02/2020 17:01		WDNR GRO
1,2,4-Trimethylbenzene	**8.8**	ug/L	0.40	1.3	1			09/01/2020 16:47		WDNR GRO
1,3,5-Trimethylbenzene	**5.4**	ug/L	0.40	1.4	1			09/01/2020 16:47		WDNR GRO
Benzene	**5600**	ug/L	80	260	200			09/03/2020 08:52	TMG	WDNR GRO
Ethylbenzene	**33**	ug/L	0.40	1.4	1			09/01/2020 16:47		WDNR GRO
m & p-Xylene	**59**	ug/L	0.80	2.8	1			09/01/2020 16:47		WDNR GRO
Methyl tert-butyl ether	**11**	ug/L	0.40	1.3	1			09/01/2020 16:47		WDNR GRO
o-Xylene	**39**	ug/L	0.40	1.4	1			09/01/2020 16:47		WDNR GRO
Toluene	**240**	ug/L	80 *	280	200			09/03/2020 08:52	TMG	WDNR GRO

CT LAB Sample#: 467418 Sample Description: 20200827.SB4.WATER Sampled: 08/27/2020 1755

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	**180**	ug/L	27	88	1			09/02/2020 14:10	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/02/2020 14:10	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/02/2020 14:10	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467418 Sample Description: 20200827.SB4.WATER Sampled: 08/27/2020 1755

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Benzene	<0.40	ug/L	0.40	1.3	1			09/02/2020 14:10	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/02/2020 14:10	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/02/2020 14:10	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/02/2020 14:10	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/02/2020 14:10	TMG	WDNR GRO
Toluene	<0.40	ug/L	0.40	1.4	1			09/02/2020 14:10	TMG	WDNR GRO

CT LAB Sample#: 467419 Sample Description: 20200828.SB5.19 Sampled: 08/28/2020 0905

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**96.9**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/01/2020 14:00	09/02/2020 04:43	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 04:43	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 04:43	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 04:43	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 04:43	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 04:43	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 04:43	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 04:43	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 04:43	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467420 Sample Description: 20200828.SB6.19 Sampled: 08/28/2020 1015

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**92.9**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.2	mg/kg	1.2	3.9	1		09/01/2020 14:00	09/02/2020 05:17	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 05:17	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 05:17	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 05:17	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 05:17	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 05:17	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 05:17	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 05:17	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 05:17	TMG	WDNR GRO

CT LAB Sample#: 467421 Sample Description: 20200828.SB7.21 Sampled: 08/28/2020 1105

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**93.8**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.2	mg/kg	1.2	3.8	1		09/01/2020 14:00	09/02/2020 05:51	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 05:51	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 05:51	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 05:51	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467421 Sample Description: 20200828.SB7.21 Sampled: 08/28/2020 1105

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 05:51	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 05:51	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 05:51	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 05:51	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 05:51	TMG	WDNR GRO

CT LAB Sample#: 467422 Sample Description: 20200828.SB8.19 Sampled: 08/28/2020 1215

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**96.8**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/01/2020 14:00	09/02/2020 06:25	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 06:25	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 06:25	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 06:25	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 06:25	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 06:25	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 06:25	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 06:25	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 06:25	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467423 Sample Description: 20200828.SB5.WATER Sampled: 08/28/2020 1300

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	**4300**	ug/L	270	880	10	L		09/03/2020 10:00		WDNR GRO
1,2,4-Trimethylbenzene	**15**	ug/L	0.40	1.3	1			09/01/2020 17:55		WDNR GRO
1,3,5-Trimethylbenzene	**11**	ug/L	0.40	1.4	1			09/01/2020 17:55		WDNR GRO
Benzene	**3800**	ug/L	40	130	100			09/03/2020 10:35	TMG	WDNR GRO
Ethylbenzene	**40**	ug/L	0.40	1.4	1			09/01/2020 17:55		WDNR GRO
m & p-Xylene	**26**	ug/L	0.80	2.8	1			09/01/2020 17:55		WDNR GRO
Methyl tert-butyl ether	**5.4**	ug/L	0.40	1.3	1			09/01/2020 17:55		WDNR GRO
o-Xylene	**39**	ug/L	0.40	1.4	1			09/01/2020 17:55		WDNR GRO
Toluene	**5.8**	ug/L	0.40	1.4	1			09/01/2020 17:55		WDNR GRO

CT LAB Sample#: 467424 Sample Description: 20200828.SB6.WATER Sampled: 08/28/2020 1400

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1			09/02/2020 14:44	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/02/2020 14:44	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/02/2020 14:44	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/02/2020 14:44	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/02/2020 14:44	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/02/2020 14:44	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/02/2020 14:44	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/02/2020 14:44	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467424 Sample Description: 20200828.SB6.WATER Sampled: 08/28/2020 1400

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Toluene	<0.40	ug/L	0.40	1.4	1			09/02/2020 14:44	TMG	WDNR GRO

CT LAB Sample#: 467425 Sample Description: 20200828.SB7.WATER Sampled: 08/28/2020 1340

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	**550**	ug/L	27	88	1	L		09/01/2020 19:04		WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/01/2020 19:04		WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/01/2020 19:04		WDNR GRO
Benzene	**68**	ug/L	1.0	3.3	3			09/02/2020 15:53	TMG	WDNR GRO
Ethylbenzene	**0.79**	ug/L	0.40 *	1.4	1			09/01/2020 19:04		WDNR GRO
m & p-Xylene	**1.2**	ug/L	0.80 *	2.8	1			09/01/2020 19:04		WDNR GRO
Methyl tert-butyl ether	**1.5**	ug/L	0.40	1.3	1			09/01/2020 19:04		WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/01/2020 19:04		WDNR GRO
Toluene	**4.1**	ug/L	0.40	1.4	1			09/01/2020 19:04		WDNR GRO

CT LAB Sample#: 467426 Sample Description: 20200828.SB8.WATER Sampled: 08/28/2020 1245

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	**1300**	ug/L	27	88	1	L		09/01/2020 19:38		WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/01/2020 19:38		WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/01/2020 19:38		WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467426 Sample Description: 20200828.SB8.WATER Sampled: 08/28/2020 1245

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Benzene	**800**	ug/L	8.0	26	20			09/02/2020 16:27	TMG	WDNR GRO
Ethylbenzene	**35**	ug/L	0.40	1.4	1			09/01/2020 19:38		WDNR GRO
m & p-Xylene	**1.2**	ug/L	0.80 *	2.8	1			09/01/2020 19:38		WDNR GRO
Methyl tert-butyl ether	**12**	ug/L	0.40	1.3	1			09/01/2020 19:38		WDNR GRO
o-Xylene	**1.4**	ug/L	0.40	1.4	1			09/01/2020 19:38		WDNR GRO
Toluene	**15**	ug/L	0.40	1.4	1			09/01/2020 19:38		WDNR GRO

CT LAB Sample#: 467428 Sample Description: 20200828.HYRDOVACSOIL Sampled: 08/28/2020 1320

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**91.6**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.2	mg/kg	1.2	3.9	1		09/01/2020 14:00	09/02/2020 06:59	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 06:59	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 06:59	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 06:59	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 06:59	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 06:59	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 06:59	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 06:59	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 06:59	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

Notes regarding entire Chain of Custody:

Notes: * Indicates a value in between the LOD (limit of detection) and the LOQ (limit of quantitation). All LOD/LOQs are adjusted to reflect dilution and also any differences in the sample weight / volume as compared to standard amounts.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

Submitted by: Eric T. Korthals
Project Manager
608-356-2760

QC Qualifiers

Code	Description
B	Analyte detected in the associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
I	Incubator temperature was outside acceptance limits during test period.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was below detection limit.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Specified calibration criteria was not met.

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# ACC20190002
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
ISO/IEC 17025-2005 A2LA Cert # 3806.01
DoD-ELAP A2LA 3806.01
GA EPD Stipulation ID ACC20190002

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 2

Company: AECOM
Project Contact: Ethan Harvey
Telephone: 218-205-6657
Project Name: Line13mp
Project #: 60626859
Location: Ft. Atkinson, WI
Sampled By: James McCoy

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 156053
Company: AECOM
Project: LINE13MP
Logged By: ERC PM: ET

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO # 2141532

Report To:
EMAIL: ethan.harvey@aecom.com
Company: AECOM
Address: 230 West Superior St. #400 Duluth MN 55802

Invoice To:*
EMAIL: Same
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: Rush!) 9/1/20 A
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: GRO/BTEX	ANALYSES REQUESTED: Dry wt	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
					Fill in Spaces with Bottles per Test						
8/27/20	1130	S	G		20200827.SB1.21		X	X	3		467410
8/27/20	1300	S	G		20200827.SB2.20		X	X	3		467412
8/27/20	1530	S	G		20200827.SB3.23		X	X	3		467413
8/27/20	1630	S	G		20200827.SB4.19		X	X	3		467414
8/27/20	1815	GW	G		20200827.SB1.water		X		4		467415
8/27/20	1825	GW	G		20200827.SB2.water		X		4		467416
8/27/20	1740	GW	G		20200827.SB3.water		X		4		467417
8/27/20	1755	GW	G		20200827.SB4.water		X		4		467418
8/28/20	0905	S	G		20200828.SB5.19		X	X	3		467419
8/28/20	1015	S	G		20200828.SB6.19		X	X	3		467420
8/28/20	1105	S	G		20200828.SB7.21		X	X	3		467421
8/28/20	1215	S	G		20200828.SB8.19		X	X	3		467422

Relinquished By:	Date/Time	Received By:	Date/Time	Lab Use Only
James McCoy/AECOM	8/28/20 1700		8-28-20 17:00	Ice Present (Yes) No
Received by:	Date/Time	Received for Laboratory by:	Date/Time	Temp 0.8 IR Gun 28
		ERC	9/1/2020 0855	Cooler # XXX

Rev. 02/2017

CHAIN OF CUSTODY

Page 2 of 2

Company:
Project Contact:
Telephone:
Project Name:
Project #:
Location:
Sampled By:

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

156053

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL:
Company:
Address:

Invoice To:*
EMAIL:
Company:
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	GRO/BTEX	Dry Wt	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
8/28/20	1300	W	G		20200828.SB5.Water		X		4		467477
8/28/20	1400	W	G		20200828.SB6.Water		X		4		467424
8/28/20	1340	W	G		20200828.SB7.Water		X		4		467485
8/28/20	1245	W	G		20200828.SB8.Water		X		4		467426
8/28/20	1320	W	G		20200828.Hydrovac Soil		X	X	3		467428

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

ANALYSES REQUESTED — Fill in Spaces with Bottles per Test

Relinquished By:	Date/Time	Received By:	Date/Time
James McCoy/AECOM	8/28/20 1700		8-28-20 1700
Received by:	Date/Time	Received for Laboratory by: EKL	Date/Time 8/31/2020 0855

Lab Use Only
Ice Present (Yes) No
Temp 0.8 IR Gun 28
Cooler # XXX

CT LABORATORIES
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CT Laboratories LLC • 1230 Lange Ct • Baraboo, WI 53913
608-356-2760 • www.ctlaboratories.com

ANALYTICAL REPORT

AECOM
ETHAN HARVEY
230 WEST SUPERIOR ST
400
DULUTH, MN 55802
Copy: ETHAN.HARVEY@AECOM.COM

Project Name: LINE13-MP
Project Phase:
Contract #: 2323
Project #:
Folder #: 156067
Purchase Order #:

Arrival Temperature: See COC
Report Date: 09/03/2020
Date Received: 09/01/2020
Reprint Date: 09/03/2020

CT LAB Sample#: 467783 Sample Description: 20200831.SB9.24 Sampled: 08/31/2020 0920

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**97.8**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/01/2020 14:00	09/02/2020 07:33	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 07:33	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 07:33	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 07:33	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 07:33	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 07:33	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 07:33	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 07:33	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 07:33	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467784 Sample Description: 20200831.SB10.23 Sampled: 08/31/2020 1015

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**96.9**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/01/2020 14:00	09/02/2020 08:07	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 08:07	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 08:07	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 08:07	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 08:07	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 08:07	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 08:07	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 08:07	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 08:07	TMG	WDNR GRO

CT LAB Sample#: 467785 Sample Description: 20200831.SB11.23 Sampled: 08/31/2020 1145

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**97.3**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/01/2020 14:00	09/02/2020 08:41	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 08:41	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 08:41	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 08:41	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467785 Sample Description: 20200831.SB11.23 Sampled: 08/31/2020 1145

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 08:41	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 08:41	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 08:41	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 08:41	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 08:41	TMG	WDNR GRO

CT LAB Sample#: 467786 Sample Description: 20200831.SB12.23 Sampled: 08/31/2020 1300

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**97.6**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/01/2020 14:00	09/02/2020 09:15	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 09:15	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/01/2020 14:00	09/02/2020 09:15	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/01/2020 14:00	09/02/2020 09:15	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 09:15	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/01/2020 14:00	09/02/2020 09:15	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/01/2020 14:00	09/02/2020 09:15	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/01/2020 14:00	09/02/2020 09:15	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/01/2020 14:00	09/02/2020 09:15	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467787 Sample Description: 20200831.SB9.WATER Sampled: 08/31/2020 1435

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	**34**	ug/L	27 *	88	1			09/02/2020 15:19	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/02/2020 15:19	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/02/2020 15:19	TMG	WDNR GRO
Benzene	**6.1**	ug/L	0.40	1.3	1			09/02/2020 15:19	TMG	WDNR GRO
Ethylbenzene	**1.0**	ug/L	0.40 *	1.4	1			09/02/2020 15:19	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/02/2020 15:19	TMG	WDNR GRO
Methyl tert-butyl ether	**1.0**	ug/L	0.40 *	1.3	1			09/02/2020 15:19	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/02/2020 15:19	TMG	WDNR GRO
Toluene	**3.9**	ug/L	0.40	1.4	1			09/02/2020 15:19	TMG	WDNR GRO

CT LAB Sample#: 467788 Sample Description: 20200831.SB10.WATER Sampled: 08/31/2020 1415

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	**39**	ug/L	27 *	88	1			09/01/2020 20:46	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/01/2020 20:46	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/01/2020 20:46	TMG	WDNR GRO
Benzene	**26**	ug/L	0.40	1.3	1			09/01/2020 20:46	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/01/2020 20:46	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/01/2020 20:46	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/01/2020 20:46	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/01/2020 20:46	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 467788 Sample Description: 20200831.SB10.WATER Sampled: 08/31/2020 1415

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Toluene	<0.40	ug/L	0.40	1.4	1			09/01/2020 20:46	TMG	WDNR GRO

CT LAB Sample#: 467789 Sample Description: 20200831.SB11.WATER Sampled: 08/31/2020 1245

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1			09/01/2020 21:20	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/01/2020 21:20	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/01/2020 21:20	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/01/2020 21:20	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/01/2020 21:20	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/01/2020 21:20	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/01/2020 21:20	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/01/2020 21:20	TMG	WDNR GRO
Toluene	<0.40	ug/L	0.40	1.4	1			09/01/2020 21:20	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

Notes regarding entire Chain of Custody:

Notes: * Indicates a value in between the LOD (limit of detection) and the LOQ (limit of quantitation). All LOD/LOQs are adjusted to reflect dilution and also any differences in the sample weight / volume as compared to standard amounts.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

Submitted by: Eric T. Korthals
Project Manager
608-356-2760

Current CT Laboratories Certifications
Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# ACC20190002
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
ISO/IEC 17025-2005 A2LA Cert # 3806.01
DoD-ELAP A2LA 3806.01
GA EPD Stipulation ID ACC20190002

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CHAIN OF CUSTODY

Page 1 of 1

Company: AECOM
Project Contact: Ethan Harvey
Telephone: 218-2056657
Project Name: Line 13-mp
Project #: 60625859
Location: Wisconsin
Sampled By: James McCoy

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 156067
Company: AECOM
Project: LINE13-MP
Logged By: ERC PM: ET

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO # 2141532

Report To:
EMAIL: ethan.harvey@aecom.com
Company: AECOM
Address: 230 west superior St. #400 Duluth, MN 55802

Invoice To:*
EMAIL: Same
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	GRO/BTEX Dry Wt.														Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
					Fill in Spaces with Bottles per Test																		
8/31/20	0920	S	G		20200831.SB9.24		X	X													3		467783
8/31/20	1015	S	G		20200831.SB10.23		X	X													3		467784
8/31/20	1145	S	G		20200831.SB11.23		X	X													3		467785
8/31/20	1300	S	G		20200831.SB12.23		X	X													3		467786
8/31/20	1435	DW	G		20200831.SB9.Water		X	X													4		467787
8/31/20	1415	DW	G		20200831.SB10.Water		X	X													4		467788
8/31/20	1745	DW	G		20200831.SB11.Water		X	X													4		467789

Turnaround Time
Normal (RUSH*)
Date Needed: ASAP
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
James McCoy	8/31/20 1637		
Received by:	Date/Time	Received for Laboratory by:	Date/Time
	8-31-2020 16:40	ERC	9/1/20 0821

Lab Use Only
Ice Present (Yes) No
Temp 1.3 IR Gun 28
Cooler # 5565

CT LABORATORIES
delivering more than data from your environmental analyses

CT Laboratories LLC • 1230 Lange Ct • Baraboo, WI 53913
608-356-2760 • www.ctlaboratories.com

ANALYTICAL REPORT

AECOM
ETHAN HARVEY
230 W. SUPERIOR ST #400
DULUTH, MN 55802

Copy: ETHAN.HARVEY@AECOM.COM

Project Name: LINE 13 MP
Project Phase:
Contract #: 2323
Project #: 60626859
Folder #: 156101
Purchase Order #: 2141532

Arrival Temperature: See COC
Report Date: 09/09/2020
Date Received: 09/02/2020
Reprint Date: 09/09/2020

CT LAB Sample#: 468296 Sample Description: 20200901.SB12.WATER Sampled: 09/01/2020 1000

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	**55**	ug/L	27 *	88	1	L		09/03/2020 22:07	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/03/2020 22:07	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/03/2020 22:07	TMG	WDNR GRO
Benzene	**2.2**	ug/L	0.40	1.3	1			09/03/2020 22:07	TMG	WDNR GRO
Ethylbenzene	**0.42**	ug/L	0.40 *	1.4	1			09/03/2020 22:07	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/03/2020 22:07	TMG	WDNR GRO
Methyl tert-butyl ether	**0.46**	ug/L	0.40 *	1.3	1			09/03/2020 22:07	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/03/2020 22:07	TMG	WDNR GRO
Toluene	**1.7**	ug/L	0.40	1.4	1			09/03/2020 22:07	TMG	WDNR GRO

CT LAB Sample#: 468303 Sample Description: 20200901.SB13.23 Sampled: 09/01/2020 0820

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468303 Sample Description: 20200901.SB13.23 Sampled: 09/01/2020 0820

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Solids, Percent	**98.0**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/04/2020 10:30	09/04/2020 18:07	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 18:07	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 18:07	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/04/2020 10:30	09/04/2020 18:07	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 18:07	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/04/2020 10:30	09/04/2020 18:07	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 18:07	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/04/2020 10:30	09/04/2020 18:07	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/04/2020 10:30	09/04/2020 18:07	TMG	WDNR GRO

CT LAB Sample#: 468305 Sample Description: 20200901.SB13.WATER Sampled: 09/01/2020 1340

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Qualifiers applying to all Analytes of Method WDNR GRO: T										
Gasoline Range Organics	<27	ug/L	27	88	1			09/03/2020 22:41	TMG	WDNR GRO
Qualifiers applying to all Analytes of Method WDNR GRO: T										
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/03/2020 22:41	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/03/2020 22:41	TMG	WDNR GRO
Benzene	**3.2**	ug/L	0.40	1.3	1			09/03/2020 22:41	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468305 Sample Description: 20200901.SB13.WATER Sampled: 09/01/2020 1340

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Qualifiers applying to all Analytes of Method WDNR GRO: T										
Ethylbenzene	**0.45**	ug/L	0.40 *	1.4	1			09/03/2020 22:41	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/03/2020 22:41	TMG	WDNR GRO
Methyl tert-butyl ether	**1.2**	ug/L	0.40 *	1.3	1			09/03/2020 22:41	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/03/2020 22:41	TMG	WDNR GRO
Toluene	**2.0**	ug/L	0.40	1.4	1			09/03/2020 22:41	TMG	WDNR GRO

CT LAB Sample#: 468306 Sample Description: 20200901.SB14.18 Sampled: 09/01/2020 1030

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**92.5**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.2	mg/kg	1.2	3.9	1		09/04/2020 10:30	09/04/2020 18:41	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 18:41	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 18:41	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/04/2020 10:30	09/04/2020 18:41	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 18:41	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/04/2020 10:30	09/04/2020 18:41	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 18:41	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/04/2020 10:30	09/04/2020 18:41	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/04/2020 10:30	09/04/2020 18:41	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468307 Sample Description: 20200901.SB14.WATER Sampled: 09/01/2020 1400

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Qualifiers applying to all Analytes of Method WDNR GRO: T										
Gasoline Range Organics	<27	ug/L	27	88	1			09/03/2020 23:15	TMG	WDNR GRO
Qualifiers applying to all Analytes of Method WDNR GRO: T										
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/03/2020 23:15	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/03/2020 23:15	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/03/2020 23:15	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/03/2020 23:15	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/03/2020 23:15	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/03/2020 23:15	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/03/2020 23:15	TMG	WDNR GRO
Toluene	<0.40	ug/L	0.40	1.4	1			09/03/2020 23:15	TMG	WDNR GRO

CT LAB Sample#: 468308 Sample Description: 20200901.SB15.19 Sampled: 09/01/2020 1130

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**97.6**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/04/2020 10:30	09/04/2020 19:16	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 19:16	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468308 Sample Description: 20200901.SB15.19 Sampled: 09/01/2020 1130

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 19:16	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/04/2020 10:30	09/04/2020 19:16	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 19:16	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/04/2020 10:30	09/04/2020 19:16	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 19:16	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/04/2020 10:30	09/04/2020 19:16	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/04/2020 10:30	09/04/2020 19:16	TMG	WDNR GRO

CT LAB Sample#: 468309 Sample Description: 20200901.SB15.WATER Sampled: 09/01/2020 1430

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1	L		09/03/2020 23:49	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/03/2020 23:49	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/03/2020 23:49	TMG	WDNR GRO
Benzene	**6.9**	ug/L	0.40	1.3	1			09/03/2020 23:49	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/03/2020 23:49	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/03/2020 23:49	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/03/2020 23:49	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/03/2020 23:49	TMG	WDNR GRO
Toluene	**1.1**	ug/L	0.40 *	1.4	1			09/03/2020 23:49	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468310 Sample Description: 20200901.SB16.19 Sampled: 09/01/2020 1230

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**97.5**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/04/2020 10:30	09/04/2020 19:50	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 19:50	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 19:50	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/04/2020 10:30	09/04/2020 19:50	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 19:50	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/04/2020 10:30	09/04/2020 19:50	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 19:50	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/04/2020 10:30	09/04/2020 19:50	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/04/2020 10:30	09/04/2020 19:50	TMG	WDNR GRO

CT LAB Sample#: 468311 Sample Description: 20200901.SB17.20 Sampled: 09/01/2020 1320

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**96.1**	%	0.1	0.1	1			09/02/2020 12:08	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.8	1		09/04/2020 10:30	09/04/2020 20:24	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 20:24	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 20:24	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/04/2020 10:30	09/04/2020 20:24	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468311 Sample Description: 20200901.SB17.20 Sampled: 09/01/2020 1320

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 20:24	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/04/2020 10:30	09/04/2020 20:24	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 20:24	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/04/2020 10:30	09/04/2020 20:24	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/04/2020 10:30	09/04/2020 20:24	TMG	WDNR GRO

CT LAB Sample#: 468312 Sample Description: 20200901.SB17.WATER Sampled: 09/01/2020 1450

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method

Organic Results

Qualifiers applying to all Analytes of Method WDNR GRO: T

Gasoline Range Organics	<27	ug/L	27	88	1			09/04/2020 00:23	TMG	WDNR GRO

Qualifiers applying to all Analytes of Method WDNR GRO: T

1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/04/2020 00:23	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 00:23	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/04/2020 00:23	TMG	WDNR GRO
Ethylbenzene	**0.51**	ug/L	0.40 *	1.4	1			09/04/2020 00:23	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/04/2020 00:23	TMG	WDNR GRO
Methyl tert-butyl ether	**1.7**	ug/L	0.40	1.3	1			09/04/2020 00:23	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/04/2020 00:23	TMG	WDNR GRO
Toluene	**1.9**	ug/L	0.40	1.4	1			09/04/2020 00:23	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

Notes regarding entire Chain of Custody:

Notes: * Indicates a value in between the LOD (limit of detection) and the LOQ (limit of quantitation). All LOD/LOQs are adjusted to reflect dilution and also any differences in the sample weight / volume as compared to standard amounts.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

Submitted by: Eric T. Korthals
Project Manager
608-356-2760

QC Qualifiers

Code	Description
B	Analyte detected in the associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
I	Incubator temperature was outside acceptance limits during test period.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was below detection limit.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Specified calibration criteria was not met.

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# ACC20190002
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
ISO/IEC 17025-2005 A2LA Cert # 3806.01
DoD-ELAP A2LA 3806.01
GA EPD Stipulation ID ACC20190002

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: AECOM
Project Contact: Ethan Harvey
Telephone: 218-205-6657
Project Name: Line 13 MP
Project #: 60626859
Location: Wisconsin
Sampled By: James McCoy

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 156101
Company: AECOM
Project: LINE 13 MP
Logged By: ERC PM: ET

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO # 214153c

Report To:
EMAIL: ethan.harvey@aecom.com
Company: AECOM
Address: 230 W. Superior St. #410
Duluth, MN 55802

Invoice To:*
EMAIL:
Company: Same
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	GRO/BTEX Dry Wt.												Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test														
9-1-20	1000	GW	G		20200901.SB12.water		X												4		468296
9-1-20	0820	S	G		20200901.SB13.23		X	X											3		468303
9-1-20	1340	GW	G		20200901.SB13.water		X												4		468305
9-1-20	1030	S	G		20200901.SB14.18		X	X											3		468306
9-1-20	1400	GW	G		20200901.SB14.water		X												4		468307
9-1-20	1130	S	G		20200901.SB15.19		X	X											3		468308
9-1-20	1430	GW	G		20200901.SB15.water		X												4		468309
9-1-20	1230	S	G		20200901.SB16.19		X	X											3		468310
9-1-20	1320	S	G		20200901.SB17.20		X	X											3		468311
9-1-20	1450	GW	G		20200901.SB17.water		X												4		468312

Turnaround Time
Normal RUSH*
Date Needed: ASAP!
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
James McCoy	9-1-20 1640		9-1-2020 16:41
Received by:	Date/Time	Received for Laboratory by:	Date/Time
E Bo	9-1-2020 16:40		9/2/2020 0837

Lab Use Only
Ice Present Yes No
Temp 3.4 IR Gun 20
Cooler # 6457

CT LABORATORIES
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608-356-2760 • www.ctlaboratories.com

ANALYTICAL REPORT

AECOM
ETHAN HARVEY
230 W. SUPERIOR ST.
#400
DULUTH, MN 55802

Copy: ETHAN.HARVEY@AECOM.COM

Project Name: LINE 13 MP
Project Phase:
Contract #: 2323
Project #:
Folder #: 156154

Purchase Order #: 2141532

Arrival Temperature: See COC
Report Date: 09/09/2020
Date Received: 09/03/2020
Reprint Date: 09/09/2020

CT LAB Sample#: 468780 Sample Description: 20200902.SB16.WATER Sampled: 09/02/2020 1030

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1	L		09/04/2020 00:57	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/04/2020 00:57	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 00:57	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/04/2020 00:57	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 00:57	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/04/2020 00:57	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/04/2020 00:57	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/04/2020 00:57	TMG	WDNR GRO
Toluene	**1.3**	ug/L	0.40 *	1.4	1			09/04/2020 00:57	TMG	WDNR GRO

CT LAB Sample#: 468786 Sample Description: 20200902.SB18.WATER Sampled: 09/02/2020 1140

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468786 Sample Description: 20200902.SB18.WATER Sampled: 09/02/2020 1140

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Gasoline Range Organics	<27	ug/L	27	88	1			09/04/2020 01:31	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/04/2020 01:31	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 01:31	TMG	WDNR GRO
Benzene	**2.6**	ug/L	0.40	1.3	1			09/04/2020 01:31	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 01:31	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/04/2020 01:31	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/04/2020 01:31	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/04/2020 01:31	TMG	WDNR GRO
Toluene	**1.3**	ug/L	0.40 *	1.4	1			09/04/2020 01:31	TMG	WDNR GRO

CT LAB Sample#: 468787 Sample Description: 20200902.SB18.19 Sampled: 09/02/2020 0815

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**97.9**	%	0.1	0.1	1			09/03/2020 13:46	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/04/2020 10:30	09/04/2020 20:58	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 20:58	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 20:58	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/04/2020 10:30	09/04/2020 20:58	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 20:58	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/04/2020 10:30	09/04/2020 20:58	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 20:58	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468787 Sample Description: 20200902.SB18.19 Sampled: 09/02/2020 0815

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/04/2020 10:30	09/04/2020 20:58	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/04/2020 10:30	09/04/2020 20:58	TMG	WDNR GRO

CT LAB Sample#: 468788 Sample Description: 20200902.SB19.17 Sampled: 09/02/2020 0900

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**97.8**	%	0.1	0.1	1			09/03/2020 13:46	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/04/2020 10:30	09/04/2020 21:32	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 21:32	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 21:32	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/04/2020 10:30	09/04/2020 21:32	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 21:32	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/04/2020 10:30	09/04/2020 21:32	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 21:32	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/04/2020 10:30	09/04/2020 21:32	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/04/2020 10:30	09/04/2020 21:32	TMG	WDNR GRO

CT LAB Sample#: 468789 Sample Description: 20200902.SB20.19 Sampled: 09/02/2020 0940

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468789 Sample Description: 20200902.SB20.19 Sampled: 09/02/2020 0940

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Solids, Percent	**96.1**	%	0.1	0.1	1			09/03/2020 13:46	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/04/2020 10:30	09/04/2020 22:06	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 22:06	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 22:06	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/04/2020 10:30	09/04/2020 22:06	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 22:06	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/04/2020 10:30	09/04/2020 22:06	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 22:06	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/04/2020 10:30	09/04/2020 22:06	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/04/2020 10:30	09/04/2020 22:06	TMG	WDNR GRO

CT LAB Sample#: 468790 Sample Description: 20200902.SB21.23 Sampled: 09/02/2020 1300

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**97.0**	%	0.1	0.1	1			09/03/2020 13:46	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/04/2020 10:30	09/04/2020 22:40	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 22:40	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 22:40	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/04/2020 10:30	09/04/2020 22:40	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 22:40	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468790 Sample Description: 20200902.SB21.23 Sampled: 09/02/2020 1300

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/04/2020 10:30	09/04/2020 22:40	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 22:40	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/04/2020 10:30	09/04/2020 22:40	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/04/2020 10:30	09/04/2020 22:40	TMG	WDNR GRO

CT LAB Sample#: 468791 Sample Description: 20200902.SB21.WATER Sampled: 09/02/2020 1400

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	**29**	ug/L	27 *	88	1			09/04/2020 07:32	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/04/2020 07:32	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 07:32	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/04/2020 07:32	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 07:32	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/04/2020 07:32	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/04/2020 07:32	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/04/2020 07:32	TMG	WDNR GRO
Toluene	**0.53**	ug/L	0.40 *	1.4	1			09/04/2020 07:32	TMG	WDNR GRO

CT LAB Sample#: 468792 Sample Description: 20200902.SB22.22 Sampled: 09/02/2020 1405

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468792 Sample Description: 20200902.SB22.22 Sampled: 09/02/2020 1405

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Solids, Percent	**96.8**	%	0.1	0.1	1			09/03/2020 13:46	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/04/2020 10:30	09/04/2020 23:17	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 23:17	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/04/2020 10:30	09/04/2020 23:17	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/04/2020 10:30	09/04/2020 23:17	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 23:17	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/04/2020 10:30	09/04/2020 23:17	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/04/2020 10:30	09/04/2020 23:17	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/04/2020 10:30	09/04/2020 23:17	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/04/2020 10:30	09/04/2020 23:17	TMG	WDNR GRO

CT LAB Sample#: 468793 Sample Description: 20200902.SB22.WATER Sampled: 09/02/2020 1430

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1			09/04/2020 08:06	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/04/2020 08:06	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 08:06	TMG	WDNR GRO
Benzene	**0.46**	ug/L	0.40	* 1.3	1			09/04/2020 08:06	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 08:06	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/04/2020 08:06	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/04/2020 08:06	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468793 Sample Description: 20200902.SB22.WATER Sampled: 09/02/2020 1430

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/04/2020 08:06	TMG	WDNR GRO
Toluene	**0.98**	ug/L	0.40 *	1.4	1			09/04/2020 08:06	TMG	WDNR GRO

CT LAB Sample#: 468794 Sample Description: 20200902.SB19.WATER Sampled: 09/02/2020 1435

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1			09/04/2020 08:40	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/04/2020 08:40	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 08:40	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/04/2020 08:40	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 08:40	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/04/2020 08:40	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/04/2020 08:40	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/04/2020 08:40	TMG	WDNR GRO
Toluene	**0.73**	ug/L	0.40 *	1.4	1			09/04/2020 08:40	TMG	WDNR GRO

CT LAB Sample#: 468795 Sample Description: 20200902.SB20.WATER Sampled: 09/02/2020 1450

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1			09/04/2020 09:14	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/04/2020 09:14	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 468795 Sample Description: 20200902.SB20.WATER Sampled: 09/02/2020 1450

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 09:14	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/04/2020 09:14	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/04/2020 09:14	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/04/2020 09:14	TMG	WDNR GRO
Methyl tert-butyl ether	**1.3**	ug/L	0.40	1.3	1			09/04/2020 09:14	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/04/2020 09:14	TMG	WDNR GRO
Toluene	**1.6**	ug/L	0.40	1.4	1			09/04/2020 09:14	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

Notes regarding entire Chain of Custody:

Notes: * Indicates a value in between the LOD (limit of detection) and the LOQ (limit of quantitation). All LOD/LOQs are adjusted to reflect dilution and also any differences in the sample weight / volume as compared to standard amounts.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

Submitted by: Eric T. Korthals
Project Manager
608-356-2760

QC Qualifiers

Code	Description
B	Analyte detected in the associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
I	Incubator temperature was outside acceptance limits during test period.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was below detection limit.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Specified calibration criteria was not met.

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# ACC20190002
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
ISO/IEC 17025-2005 A2LA Cert # 3806.01
DoD-ELAP A2LA 3806.01
GA EPD Stipulation ID ACC20190002

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: AECOM
Project Contact: Ethan Harvey
Telephone: 218-205-6657
Project Name: Line 13 MP
Project #: 60626859
Location: Wisconsin
Sampled By: James McCoy

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 156154
Company: AECOM
Project: LINE 13 MP
Logged By: ERC PM: ET

Program:
QSM RCRA SDWA NPDES
Solid Waste Other ______

PO # 2141532

Report To:
EMAIL: ethan.harvey@aecom.com
Company: AECOM
Address: 230 W. Superior St. #400 Duluth, MN 55802

Invoice To:*
EMAIL:
Company: Same
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: ASAP!
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

ANALYSES REQUESTED — Fill in Spaces with Bottles per Test

Collection Date	Collection Time	Matrix	Grab/Comp	Sample #	Sample ID Description	Filtered? Y/N	GRO/BTEX	Dry Wt	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
9-2-20	1030	GW			20200902.SB16.water		X		4		468785
9-2-20	1140	GW			20200902.SB18.water		X		4		468786
9-2-20	0845	S			20200902.SB18.19		X	X	3		468787
9-2-20	0900	S			20200902.SB19.17		X	X	3		468788
9-2-20	0940	S			20200902.SB20.19		X	X	3		468789
9-2-20	1300	S			20200902.SB21.23		X	X	3		468790
9-2-20	1400	GW			20200902.SB21.water		X		4		468791
9-2-20	1405	S			20200902.SB22.22		X	X	3		468792
9-2-20	1430	GW			20200902.SB22.water		X		4		468793
9-2-20	1435	GW			20200902.SB19.water		X		4		468794
9-2-20	1450	GW			20200902.SB20.water		X		4		468795
									4		

Relinquished By: [signature] AECOM — Date/Time: 9/2/2020 1640
Received By: [signature] — Date/Time: 9-2-2020 16:39
Received by: [signature] — Date/Time: 9-2-2020 16:44
Received for Laboratory by: ERC — Date/Time: 9/3/20 0917

Lab Use Only
Ice Present Yes No
Temp 3.2 IR Gun 28
Cooler # 6459

CT LABORATORIES
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608-356-2760 • www.ctlaboratories.com

ANALYTICAL REPORT

AECOM
ETHAN HARVEY
230 W. SUPERIOR ST #400
DULUTH, MN 55802

Copy: ETHAN.HARVEY@AECOM.COM

Project Name: LINE 13 MP
Project Phase:
Contract #: 2323
Project #:
Folder #: 156403
Purchase Order #: 2141532

Arrival Temperature: See COC
Report Date: 09/21/2020
Date Received: 09/15/2020
Reprint Date: 09/21/2020

CT LAB Sample#: 473133 Sample Description: 20200914.SB23.19 Sampled: 09/14/2020 1300

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**94.1**	%	0.1	0.1	1			09/15/2020 14:16	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.2	mg/kg	1.2	3.8	1		09/15/2020 14:30	09/18/2020 16:48	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/15/2020 14:30	09/18/2020 16:48	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/15/2020 14:30	09/18/2020 16:48	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/15/2020 14:30	09/18/2020 16:48	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/15/2020 14:30	09/18/2020 16:48	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/15/2020 14:30	09/18/2020 16:48	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/15/2020 14:30	09/18/2020 16:48	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/15/2020 14:30	09/18/2020 16:48	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/15/2020 14:30	09/18/2020 16:48	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 473154 Sample Description: 20200914.SB23.WATER Sampled: 09/14/2020 1400

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1			09/17/2020 13:40	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/17/2020 13:40	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/17/2020 13:40	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/17/2020 13:40	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/17/2020 13:40	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/17/2020 13:40	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/17/2020 13:40	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/17/2020 13:40	TMG	WDNR GRO
Toluene	**0.67**	ug/L	0.40 *	1.4	1			09/17/2020 13:40	TMG	WDNR GRO

CT LAB Sample#: 473155 Sample Description: 20200914.SB24.24 Sampled: 09/14/2020 1410

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**97.4**	%	0.1	0.1	1			09/15/2020 14:16	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/15/2020 14:30	09/18/2020 17:22	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/15/2020 14:30	09/18/2020 17:22	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/15/2020 14:30	09/18/2020 17:22	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/15/2020 14:30	09/18/2020 17:22	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/15/2020 14:30	09/18/2020 17:22	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/15/2020 14:30	09/18/2020 17:22	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 473155 Sample Description: 20200914.SB24.24 Sampled: 09/14/2020 1410

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/15/2020 14:30	09/18/2020 17:22	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/15/2020 14:30	09/18/2020 17:22	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/15/2020 14:30	09/18/2020 17:22	TMG	WDNR GRO

CT LAB Sample#: 473156 Sample Description: 20200914.SB24.WATER Sampled: 09/14/2020 1500

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1			09/17/2020 14:14	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/17/2020 14:14	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/17/2020 14:14	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/17/2020 14:14	TMG	WDNR GRO
Ethylbenzene	**0.50**	ug/L	0.40 *	1.4	1			09/17/2020 14:14	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/17/2020 14:14	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/17/2020 14:14	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/17/2020 14:14	TMG	WDNR GRO
Toluene	**1.4**	ug/L	0.40	1.4	1			09/17/2020 14:14	TMG	WDNR GRO

CT LAB Sample#: 473157 Sample Description: 20200914.SB25.13 Sampled: 09/14/2020 1520

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**90.9**	%	0.1	0.1	1			09/15/2020 14:16	BMM	EPA 8000C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 473157 Sample Description: 20200914.SB25.13 Sampled: 09/14/2020 1520

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<1.2	mg/kg	1.2	4.0	1		09/15/2020 14:30	09/18/2020 17:56	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/15/2020 14:30	09/18/2020 17:56	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/15/2020 14:30	09/18/2020 17:56	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/15/2020 14:30	09/18/2020 17:56	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/15/2020 14:30	09/18/2020 17:56	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/15/2020 14:30	09/18/2020 17:56	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/15/2020 14:30	09/18/2020 17:56	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/15/2020 14:30	09/18/2020 17:56	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/15/2020 14:30	09/18/2020 17:56	TMG	WDNR GRO

CT LAB Sample#: 473158 Sample Description: 20200914.SB25.WATER Sampled: 09/14/2020 1550

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1			09/17/2020 14:48	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/17/2020 14:48	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/17/2020 14:48	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/17/2020 14:48	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/17/2020 14:48	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/17/2020 14:48	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/17/2020 14:48	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/17/2020 14:48	TMG	WDNR GRO
Toluene	<0.40	ug/L	0.40	1.4	1			09/17/2020 14:48	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 473158 Sample Description: 20200914.SB25.WATER Sampled: 09/14/2020 1550

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method

CT LAB Sample#: 473159 Sample Description: 20200914.SB26.10 Sampled: 09/14/2020 1625

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**91.6**	%	0.1	0.1	1			09/15/2020 14:16	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.2	mg/kg	1.2	3.9	1		09/15/2020 14:30	09/18/2020 18:30	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/15/2020 14:30	09/18/2020 18:30	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/15/2020 14:30	09/18/2020 18:30	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/15/2020 14:30	09/18/2020 18:30	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/15/2020 14:30	09/18/2020 18:30	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/15/2020 14:30	09/18/2020 18:30	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/15/2020 14:30	09/18/2020 18:30	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/15/2020 14:30	09/18/2020 18:30	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/15/2020 14:30	09/18/2020 18:30	TMG	WDNR GRO

CT LAB Sample#: 473160 Sample Description: 20200914.SB26.WATER Sampled: 09/14/2020 1650

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1			09/17/2020 15:22	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/17/2020 15:22	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 473160 Sample Description: 20200914.SB26.WATER Sampled: 09/14/2020 1650

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/17/2020 15:22	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/17/2020 15:22	TMG	WDNR GRO
Ethylbenzene	<0.40	ug/L	0.40	1.4	1			09/17/2020 15:22	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/17/2020 15:22	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/17/2020 15:22	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/17/2020 15:22	TMG	WDNR GRO
Toluene	<0.40	ug/L	0.40	1.4	1			09/17/2020 15:22	TMG	WDNR GRO

CT LAB Sample#: 473161 Sample Description: 20200914.SB27.18 Sampled: 09/14/2020 1730

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**97.4**	%	0.1	0.1	1			09/15/2020 14:16	BMM	EPA 8000C
Organic Results										
Gasoline Range Organics	<1.1	mg/kg	1.1	3.7	1		09/15/2020 14:30	09/18/2020 19:04	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/15/2020 14:30	09/18/2020 19:04	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		09/15/2020 14:30	09/18/2020 19:04	TMG	WDNR GRO
Benzene	<0.0080	mg/kg	0.0080	0.025	1		09/15/2020 14:30	09/18/2020 19:04	TMG	WDNR GRO
Ethylbenzene	<0.017	mg/kg	0.017	0.058	1		09/15/2020 14:30	09/18/2020 19:04	TMG	WDNR GRO
m & p-Xylene	<0.016	mg/kg	0.016	0.054	1		09/15/2020 14:30	09/18/2020 19:04	TMG	WDNR GRO
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.058	1		09/15/2020 14:30	09/18/2020 19:04	TMG	WDNR GRO
o-Xylene	<0.018	mg/kg	0.018	0.061	1		09/15/2020 14:30	09/18/2020 19:04	TMG	WDNR GRO
Toluene	<0.018	mg/kg	0.018	0.059	1		09/15/2020 14:30	09/18/2020 19:04	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 473162 Sample Description: 20200914.SB27.WATER Sampled: 09/14/2020 1745

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
Gasoline Range Organics	<27	ug/L	27	88	1			09/18/2020 11:08	TMG	WDNR GRO
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			09/18/2020 11:08	TMG	WDNR GRO
1,3,5-Trimethylbenzene	<0.40	ug/L	0.40	1.4	1			09/18/2020 11:08	TMG	WDNR GRO
Benzene	<0.40	ug/L	0.40	1.3	1			09/18/2020 11:08	TMG	WDNR GRO
Ethylbenzene	**0.58**	ug/L	0.40 *	1.4	1			09/18/2020 11:08	TMG	WDNR GRO
m & p-Xylene	<0.80	ug/L	0.80	2.8	1			09/18/2020 11:08	TMG	WDNR GRO
Methyl tert-butyl ether	<0.40	ug/L	0.40	1.3	1			09/18/2020 11:08	TMG	WDNR GRO
o-Xylene	<0.40	ug/L	0.40	1.4	1			09/18/2020 11:08	TMG	WDNR GRO
Toluene	**1.5**	ug/L	0.40	1.4	1			09/18/2020 11:08	TMG	WDNR GRO

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

Notes regarding entire Chain of Custody:

Notes: * Indicates a value in between the LOD (limit of detection) and the LOQ (limit of quantitation). All LOD/LOQs are adjusted to reflect dilution and also any differences in the sample weight / volume as compared to standard amounts.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

Submitted by: Eric T. Korthals
Project Manager
608-356-2760

Current CT Laboratories Certifications
Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# ACC20190002
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
ISO/IEC 17025-2005 A2LA Cert # 3806.01
DoD-ELAP A2LA 3806.01
GA EPD Stipulation ID ACC20190002

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: AECOM
Project Contact: Ethan Harvey
Telephone: 218-205-6657
Project Name: Line 13 mp
Project #: 60626859
Location: Wisconsin
Sampled By: JamesMcCoy

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 156403
Company: AECOM
Project: LINE 13 MP
Logged By: ERC PM: ET

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO # 214153c

Report To:
EMAIL: ethan.harvey@aecom.com
Company: AECOM
Address: 230 W. Superior St. #400 Duluth MN 55802
Invoice To:*
EMAIL: same
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions: Rush

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: ASAP
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	BTEX/GRO	Dry Wt	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test				
9/14/20	1300				20200914.SB23.19		X	X	3		473133
9/14/20	1400				20200914.SB23.water		X		3		473154
9/14/20	1410				20200914.SB24.24		X	X	3		473155
9/14/20	1500				20200914.SB24.water		X		3		473156
9/14/20	1520				20200914.SB25.13		X	X	3		473157
9/14/20	1550				20200914.SB25.water		X		3		473158
9/14/20	1625				20200914.SB26.10		X	X	3		473159
9/14/20	1650				20200914.SB26.water		X		3		473160
9/14/20	1730				20200914.SB27.18		X	X	3		473161
9/14/20	1745				20200914.SB27.water		X		3		473162
	X				X						

Relinquished By:	Date/Time	Received By:	Date/Time
Joel Murray AECOM	9/15/20 0812	ERC	9/15/20 0815
Received by:	Date/Time	Received for Laboratory by:	Date/Time
		ERC	9/15/20 0847

Lab Use Only
Ice Present Yes No
Temp 3.5 IR Gun 28
Cooler # 5144

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

October 05, 2020

Ethan Harvey
AECOM

,

RE: Project: 60626859 LINE-13 MP
Pace Project No.: 40215845

Dear Ethan Harvey:

Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christopher Hyska

Christopher Hyska
christopher.hyska@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Joel Mackinney, AECOM

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 60626859 LINE-13 MP
Pace Project No.: 40215845

Pace Analytical Services Green Bay
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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 60626859 LINE-13 MP
Pace Project No.: 40215845

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40215845001	**MACLEOD RESIDENCE**	Water	10/02/20 12:00	10/03/20 09:35
40215845002	**MACLEOD RESIDENCE DUP**	Water	10/02/20 12:00	10/03/20 09:35

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SAMPLE ANALYTE COUNT

Project: 60626859 LINE-13 MP
Pace Project No.: 40215845

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40215845001	**MACLEOD RESIDENCE**	WI MOD GRO	ALD	8	PASI-G
40215845002	**MACLEOD RESIDENCE DUP**	WI MOD GRO	ALD	8	PASI-G

PASI-G = Pace Analytical Services - Green Bay

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ANALYTICAL RESULTS

Project: 60626859 LINE-13 MP
Pace Project No.: 40215845

Sample: MACLEOD RESIDENCE **Lab ID: 40215845001** Collected: 10/02/20 12:00 Received: 10/03/20 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Pace Analytical Services - Green Bay								
Benzene	**<0.31**	ug/L	1.0	0.31	1		10/05/20 11:58	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.1	0.33	1		10/05/20 11:58	100-41-4	
Gasoline Range Organics	**<30.5**	ug/L	100	30.5	1		10/05/20 11:58		
Toluene	**<0.16**	ug/L	1.0	0.16	1		10/05/20 11:58	108-88-3	
Xylene (Total)	**<0.47**	ug/L	3.0	0.47	1		10/05/20 11:58	1330-20-7	
m&p-Xylene	**<0.32**	ug/L	2.0	0.32	1		10/05/20 11:58	179601-23-1	
o-Xylene	**<0.15**	ug/L	1.0	0.15	1		10/05/20 11:58	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%	80-120		1		10/05/20 11:58	98-08-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 60626859 LINE-13 MP
Pace Project No.: 40215845

Sample: MACLEOD RESIDENCE DUP **Lab ID: 40215845002** Collected: 10/02/20 12:00 Received: 10/03/20 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Pace Analytical Services - Green Bay								
Benzene	**<0.31**	ug/L	1.0	0.31	1		10/05/20 12:24	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.1	0.33	1		10/05/20 12:24	100-41-4	
Gasoline Range Organics	**<30.5**	ug/L	100	30.5	1		10/05/20 12:24		
Toluene	**<0.16**	ug/L	1.0	0.16	1		10/05/20 12:24	108-88-3	
Xylene (Total)	**<0.47**	ug/L	3.0	0.47	1		10/05/20 12:24	1330-20-7	
m&p-Xylene	**<0.32**	ug/L	2.0	0.32	1		10/05/20 12:24	179601-23-1	
o-Xylene	**<0.15**	ug/L	1.0	0.15	1		10/05/20 12:24	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%	80-120		1		10/05/20 12:24	98-08-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 60626859 LINE-13 MP
Pace Project No.: 40215845

QC Batch: 367310
QC Batch Method: WI MOD GRO
Analysis Method: WI MOD GRO
Analysis Description: WIGRO GCV Water
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40215845001, 40215845002

METHOD BLANK: 2123499 Matrix: Water
Associated Lab Samples: 40215845001, 40215845002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.31	1.0	10/05/20 10:41	
Ethylbenzene	ug/L	<0.33	1.1	10/05/20 10:41	
Gasoline Range Organics	ug/L	<30.5	100	10/05/20 10:41	
m&p-Xylene	ug/L	<0.32	2.0	10/05/20 10:41	
o-Xylene	ug/L	<0.15	1.0	10/05/20 10:41	
Toluene	ug/L	<0.16	1.0	10/05/20 10:41	
Xylene (Total)	ug/L	<0.47	3.0	10/05/20 10:41	
a,a,a-Trifluorotoluene (S)	%	99	80-120	10/05/20 10:41	

LABORATORY CONTROL SAMPLE & LCSD: 2123500 2123501

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	19.8	20.6	99	103	80-120	4	20	
Ethylbenzene	ug/L	20	18.8	19.5	94	97	80-120	4	20	
Gasoline Range Organics	ug/L	200	185	196	92	98	80-120	6	20	
m&p-Xylene	ug/L	40	37.3	38.7	93	97	80-120	4	20	
o-Xylene	ug/L	20	18.6	19.2	93	96	80-120	4	20	
Toluene	ug/L	20	19.3	20.1	96	101	80-120	4	20	
Xylene (Total)	ug/L	60	55.9	58.0	93	97	80-120	4	20	
a,a,a-Trifluorotoluene (S)	%				98	98	80-120			

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

Pace Analytical Services, LLC
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QUALIFIERS

Project: 60626859 LINE-13 MP
Pace Project No.: 40215845

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, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60626859 LINE-13 MP
Pace Project No.: 40215845

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40215845001	**MACLEOD RESIDENCE**	WI MOD GRO	367310		
40215845002	**MACLEOD RESIDENCE DUP**	WI MOD GRO	367310		

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UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Page 1 of 1

COC No: 40215845

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:	AECOM
Branch/Location:	Duluth
Project Contact:	Ethan Harvey
Phone:	ethan.harvey@aecom.com
Project Number:	60626859
Project Name:	Line-13 MP
Project State:	Wisconsin
Sampled By (Print):	Joel MacKinney
Sampled By (Sign):	Joel Mac
PO #:	60626859
Regulatory Program:	

Quote #:	
Mail To Contact:	Ethan Harvey
Mail To Company:	AECOM
Mail To Address:	ethan.harvey@aecom.com
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	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

FILTERED? (YES/NO)
PRESERVATION (CODE)*

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Analyses Requested: Pick Letter	Y/N	WI GRO & (BTEX/GRO) 8021 combo							CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
						Pick Letter	B									
001	Macleod Residence	10/2/20	1200	W		N	X							★RUSH★		
002	Macleod Residence DUP	10/2/20	1200	W		N	X							★RUSH★		

(Rush) Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed: Mon 10/5/2020

Transmit Prelim Rush Results by (complete what you want):

Email #1:	ethan.harvey@aecom.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:
Joel Mac AECOM	10/2/20 1400		
Relinquished By: Fedex	Date/Time: 10/3/20 0935	Received By:	Date/Time: 10/3/20 0935
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No.
40215845

Receipt Temp = 1.0 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

Sample Preservation Receipt Form

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Client Name: Aecom Project # 40215845

All containers needing preservation have been checked and noted below: □Yes □No ☒N/A Initial when completed: Date/ Time:

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass								Plastic					Vials						Jars				General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN							
001																	3																2.5 / 5 / 10
002																	3																2.5 / 5 / 10
003																																	2.5 / 5 / 10
004																																	2.5 / 5 / 10
005																																	2.5 / 5 / 10
006																																	2.5 / 5 / 10
007																																	2.5 / 5 / 10
008																																	2.5 / 5 / 10
009																																	2.5 / 5 / 10
010																																	2.5 / 5 / 10
011																																	2.5 / 5 / 10
012																																	2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																													10/3/20 HP				2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:_____ Headspace in VOA Vials (>6mm) : □Yes ☒No □N/A ***If yes look in headspace column**

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	

Pace Analytical® 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 26Mar2020
	Document No.: ENV-FRM-GBAY-0014-Rev.00	Author: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40215845

40215845

Client Name: Aecom

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other:

Tracking #: 3944 4495 6373

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 - NA **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: Rcvd /Corr:

Person examining contents:

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Date: 10/3/20 /Initials: NP

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Labeled By Initials: SRK

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. Invoice 10/3/20 NP
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	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☒Yes ☐No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD: ☐Yes ☒No ☐N/A		8.
Correct Containers Used:	☒Yes ☐No	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No	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		
Trip Blank Present:	☐Yes ☒No ☐N/A	13.
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:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logir

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

October 15, 2020

Ethan Harvey
AECOM

,

RE: Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Dear Ethan Harvey:

Enclosed are the analytical results for sample(s) received by the laboratory on October 10, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christopher Hyska

Christopher Hyska
christopher.hyska@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Joel Mackinney, AECOM

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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CERTIFICATIONS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Pace Analytical Services Green Bay
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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40216327001	**TB20201008**	Water	10/08/20 12:00	10/10/20 09:45
40216327002	**MW-4**	Water	10/08/20 12:15	10/10/20 09:45
40216327003	**MW-5**	Water	10/08/20 13:45	10/10/20 09:45
40216327004	**MW-2**	Water	10/08/20 15:00	10/10/20 09:45
40216327005	**MW-3**	Water	10/08/20 16:10	10/10/20 09:45
40216327006	**MW-6**	Water	10/08/20 17:20	10/10/20 09:45
40216327007	**DUP20201009**	Water	10/09/20 08:00	10/10/20 09:45
40216327008	**MW-7**	Water	10/09/20 10:05	10/10/20 09:45
40216327009	**MW-8**	Water	10/09/20 11:20	10/10/20 09:45
40216327010	**MW-1**	Water	10/09/20 12:45	10/10/20 09:45

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SAMPLE ANALYTE COUNT

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40216327001	**TB20201008**	EPA 8260	LAP	64	PASI-G
40216327002	**MW-4**	EPA 8260	LAP	64	PASI-G
40216327003	**MW-5**	EPA 8260	LAP	64	PASI-G
40216327004	**MW-2**	EPA 8260	LAP	64	PASI-G
40216327005	**MW-3**	EPA 8260	LAP	64	PASI-G
40216327006	**MW-6**	EPA 8260	LAP	64	PASI-G
40216327007	**DUP20201009**	EPA 8260	LAP	64	PASI-G
40216327008	**MW-7**	EPA 8260	LAP	64	PASI-G
40216327009	**MW-8**	EPA 8260	LAP	64	PASI-G
40216327010	**MW-1**	EPA 8260	LAP	64	PASI-G

PASI-G = Pace Analytical Services - Green Bay

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SUMMARY OF DETECTION

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40216327006	**MW-6**					
EPA 8260	Trichloroethene	1.0	ug/L	1.0	10/13/20 19:01	
40216327010	**MW-1**					
EPA 8260	Benzene	23700	ug/L	200	10/14/20 07:37	
EPA 8260	Ethylbenzene	222	ug/L	212	10/14/20 07:37	
EPA 8260	Toluene	7650	ug/L	200	10/14/20 07:37	
EPA 8260	m&p-Xylene	412	ug/L	400	10/14/20 07:37	
EPA 8260	o-Xylene	316	ug/L	200	10/14/20 07:37	

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ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: TB20201008 **Lab ID: 40216327001** Collected: 10/08/20 12:00 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 16:52	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/13/20 16:52	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 16:52	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		10/13/20 16:52	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 16:52	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 16:52	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		10/13/20 16:52	563-58-6	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		10/13/20 16:52	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		10/13/20 16:52	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		10/13/20 16:52	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		10/13/20 16:52	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		10/13/20 16:52	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		10/13/20 16:52	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 16:52	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 16:52	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 16:52	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		10/13/20 16:52	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		10/13/20 16:52	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		10/13/20 16:52	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		10/13/20 16:52	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		10/13/20 16:52	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		10/13/20 16:52	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		10/13/20 16:52	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		10/13/20 16:52	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 16:52	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		10/13/20 16:52	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		10/13/20 16:52	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		10/13/20 16:52	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		10/13/20 16:52	74-83-9	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		10/13/20 16:52	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 16:52	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		10/13/20 16:52	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		10/13/20 16:52	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		10/13/20 16:52	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		10/13/20 16:52	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		10/13/20 16:52	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		10/13/20 16:52	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		10/13/20 16:52	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		10/13/20 16:52	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		10/13/20 16:52	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		10/13/20 16:52	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		10/13/20 16:52	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		10/13/20 16:52	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		10/13/20 16:52	91-20-3	
Styrene	**<3.0**	ug/L	10.0	3.0	1		10/13/20 16:52	100-42-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: TB20201008 **Lab ID: 40216327001** Collected: 10/08/20 12:00 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		10/13/20 16:52	127-18-4	
Toluene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 16:52	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 16:52	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		10/13/20 16:52	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		10/13/20 16:52	75-01-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 16:52	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		10/13/20 16:52	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		10/13/20 16:52	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 16:52	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		10/13/20 16:52	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 16:52	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		10/13/20 16:52	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		10/13/20 16:52	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		10/13/20 16:52	98-06-6	
trans-1,2-Dichloroethene	**<0.46**	ug/L	1.5	0.46	1		10/13/20 16:52	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		10/13/20 16:52	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		10/13/20 16:52	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		1		10/13/20 16:52	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		10/13/20 16:52	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-4 **Lab ID: 40216327002** Collected: 10/08/20 12:15 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 17:35	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/13/20 17:35	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 17:35	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		10/13/20 17:35	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 17:35	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 17:35	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		10/13/20 17:35	563-58-6	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		10/13/20 17:35	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		10/13/20 17:35	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		10/13/20 17:35	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		10/13/20 17:35	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		10/13/20 17:35	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		10/13/20 17:35	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 17:35	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 17:35	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 17:35	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		10/13/20 17:35	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		10/13/20 17:35	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		10/13/20 17:35	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		10/13/20 17:35	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		10/13/20 17:35	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		10/13/20 17:35	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		10/13/20 17:35	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		10/13/20 17:35	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 17:35	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		10/13/20 17:35	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		10/13/20 17:35	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		10/13/20 17:35	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		10/13/20 17:35	74-83-9	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		10/13/20 17:35	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 17:35	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		10/13/20 17:35	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		10/13/20 17:35	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		10/13/20 17:35	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		10/13/20 17:35	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		10/13/20 17:35	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		10/13/20 17:35	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		10/13/20 17:35	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		10/13/20 17:35	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		10/13/20 17:35	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		10/13/20 17:35	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		10/13/20 17:35	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		10/13/20 17:35	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		10/13/20 17:35	91-20-3	
Styrene	**<3.0**	ug/L	10.0	3.0	1		10/13/20 17:35	100-42-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-4 **Lab ID: 40216327002** Collected: 10/08/20 12:15 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		10/13/20 17:35	127-18-4	
Toluene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 17:35	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 17:35	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		10/13/20 17:35	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		10/13/20 17:35	75-01-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 17:35	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		10/13/20 17:35	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		10/13/20 17:35	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 17:35	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		10/13/20 17:35	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 17:35	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		10/13/20 17:35	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		10/13/20 17:35	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		10/13/20 17:35	98-06-6	
trans-1,2-Dichloroethene	**<0.46**	ug/L	1.5	0.46	1		10/13/20 17:35	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		10/13/20 17:35	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		10/13/20 17:35	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		1		10/13/20 17:35	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		10/13/20 17:35	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-5 **Lab ID: 40216327003** Collected: 10/08/20 13:45 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 17:56	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/13/20 17:56	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 17:56	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		10/13/20 17:56	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 17:56	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 17:56	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		10/13/20 17:56	563-58-6	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		10/13/20 17:56	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		10/13/20 17:56	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		10/13/20 17:56	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		10/13/20 17:56	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		10/13/20 17:56	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		10/13/20 17:56	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 17:56	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 17:56	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 17:56	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		10/13/20 17:56	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		10/13/20 17:56	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		10/13/20 17:56	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		10/13/20 17:56	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		10/13/20 17:56	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		10/13/20 17:56	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		10/13/20 17:56	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		10/13/20 17:56	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 17:56	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		10/13/20 17:56	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		10/13/20 17:56	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		10/13/20 17:56	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		10/13/20 17:56	74-83-9	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		10/13/20 17:56	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 17:56	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		10/13/20 17:56	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		10/13/20 17:56	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		10/13/20 17:56	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		10/13/20 17:56	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		10/13/20 17:56	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		10/13/20 17:56	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		10/13/20 17:56	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		10/13/20 17:56	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		10/13/20 17:56	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		10/13/20 17:56	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		10/13/20 17:56	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		10/13/20 17:56	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		10/13/20 17:56	91-20-3	
Styrene	**<3.0**	ug/L	10.0	3.0	1		10/13/20 17:56	100-42-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-5 **Lab ID: 40216327003** Collected: 10/08/20 13:45 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		10/13/20 17:56	127-18-4	
Toluene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 17:56	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 17:56	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		10/13/20 17:56	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		10/13/20 17:56	75-01-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 17:56	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		10/13/20 17:56	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		10/13/20 17:56	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 17:56	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		10/13/20 17:56	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 17:56	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		10/13/20 17:56	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		10/13/20 17:56	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		10/13/20 17:56	98-06-6	
trans-1,2-Dichloroethene	**<0.46**	ug/L	1.5	0.46	1		10/13/20 17:56	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		10/13/20 17:56	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		10/13/20 17:56	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		10/13/20 17:56	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		10/13/20 17:56	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-2 **Lab ID: 40216327004** Collected: 10/08/20 15:00 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 18:18	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/13/20 18:18	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 18:18	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		10/13/20 18:18	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 18:18	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 18:18	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		10/13/20 18:18	563-58-6	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		10/13/20 18:18	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		10/13/20 18:18	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		10/13/20 18:18	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		10/13/20 18:18	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		10/13/20 18:18	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		10/13/20 18:18	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 18:18	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 18:18	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 18:18	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		10/13/20 18:18	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		10/13/20 18:18	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		10/13/20 18:18	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		10/13/20 18:18	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		10/13/20 18:18	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		10/13/20 18:18	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		10/13/20 18:18	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		10/13/20 18:18	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 18:18	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		10/13/20 18:18	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		10/13/20 18:18	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		10/13/20 18:18	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		10/13/20 18:18	74-83-9	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		10/13/20 18:18	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 18:18	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		10/13/20 18:18	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		10/13/20 18:18	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		10/13/20 18:18	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		10/13/20 18:18	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		10/13/20 18:18	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		10/13/20 18:18	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		10/13/20 18:18	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		10/13/20 18:18	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		10/13/20 18:18	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		10/13/20 18:18	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		10/13/20 18:18	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		10/13/20 18:18	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		10/13/20 18:18	91-20-3	
Styrene	**<3.0**	ug/L	10.0	3.0	1		10/13/20 18:18	100-42-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-2 **Lab ID: 40216327004** Collected: 10/08/20 15:00 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		10/13/20 18:18	127-18-4	
Toluene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 18:18	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 18:18	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		10/13/20 18:18	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		10/13/20 18:18	75-01-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 18:18	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		10/13/20 18:18	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		10/13/20 18:18	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 18:18	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		10/13/20 18:18	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 18:18	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		10/13/20 18:18	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		10/13/20 18:18	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		10/13/20 18:18	98-06-6	
trans-1,2-Dichloroethene	**<0.46**	ug/L	1.5	0.46	1		10/13/20 18:18	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		10/13/20 18:18	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		10/13/20 18:18	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		1		10/13/20 18:18	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		10/13/20 18:18	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-3 **Lab ID: 40216327005** Collected: 10/08/20 16:10 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 18:39	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/13/20 18:39	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 18:39	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		10/13/20 18:39	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 18:39	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 18:39	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		10/13/20 18:39	563-58-6	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		10/13/20 18:39	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		10/13/20 18:39	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		10/13/20 18:39	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		10/13/20 18:39	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		10/13/20 18:39	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		10/13/20 18:39	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 18:39	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 18:39	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 18:39	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		10/13/20 18:39	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		10/13/20 18:39	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		10/13/20 18:39	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		10/13/20 18:39	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		10/13/20 18:39	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		10/13/20 18:39	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		10/13/20 18:39	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		10/13/20 18:39	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 18:39	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		10/13/20 18:39	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		10/13/20 18:39	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		10/13/20 18:39	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		10/13/20 18:39	74-83-9	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		10/13/20 18:39	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 18:39	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		10/13/20 18:39	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		10/13/20 18:39	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		10/13/20 18:39	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		10/13/20 18:39	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		10/13/20 18:39	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		10/13/20 18:39	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		10/13/20 18:39	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		10/13/20 18:39	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		10/13/20 18:39	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		10/13/20 18:39	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		10/13/20 18:39	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		10/13/20 18:39	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		10/13/20 18:39	91-20-3	
Styrene	**<3.0**	ug/L	10.0	3.0	1		10/13/20 18:39	100-42-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-3 **Lab ID: 40216327005** Collected: 10/08/20 16:10 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		10/13/20 18:39	127-18-4	
Toluene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 18:39	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 18:39	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		10/13/20 18:39	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		10/13/20 18:39	75-01-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 18:39	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		10/13/20 18:39	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		10/13/20 18:39	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 18:39	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		10/13/20 18:39	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 18:39	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		10/13/20 18:39	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		10/13/20 18:39	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		10/13/20 18:39	98-06-6	
trans-1,2-Dichloroethene	**<0.46**	ug/L	1.5	0.46	1		10/13/20 18:39	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		10/13/20 18:39	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		10/13/20 18:39	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		10/13/20 18:39	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		10/13/20 18:39	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-6 **Lab ID: 40216327006** Collected: 10/08/20 17:20 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 19:01	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/13/20 19:01	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 19:01	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		10/13/20 19:01	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 19:01	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 19:01	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		10/13/20 19:01	563-58-6	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		10/13/20 19:01	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		10/13/20 19:01	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		10/13/20 19:01	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		10/13/20 19:01	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		10/13/20 19:01	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		10/13/20 19:01	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 19:01	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 19:01	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 19:01	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		10/13/20 19:01	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		10/13/20 19:01	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		10/13/20 19:01	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		10/13/20 19:01	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		10/13/20 19:01	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		10/13/20 19:01	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		10/13/20 19:01	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		10/13/20 19:01	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 19:01	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		10/13/20 19:01	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		10/13/20 19:01	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		10/13/20 19:01	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		10/13/20 19:01	74-83-9	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		10/13/20 19:01	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 19:01	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		10/13/20 19:01	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		10/13/20 19:01	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		10/13/20 19:01	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		10/13/20 19:01	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		10/13/20 19:01	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		10/13/20 19:01	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		10/13/20 19:01	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		10/13/20 19:01	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		10/13/20 19:01	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		10/13/20 19:01	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		10/13/20 19:01	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		10/13/20 19:01	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		10/13/20 19:01	91-20-3	
Styrene	**<3.0**	ug/L	10.0	3.0	1		10/13/20 19:01	100-42-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-6 **Lab ID: 40216327006** Collected: 10/08/20 17:20 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		10/13/20 19:01	127-18-4	
Toluene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 19:01	108-88-3	
Trichloroethene	**1.0**	ug/L	1.0	0.26	1		10/13/20 19:01	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		10/13/20 19:01	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		10/13/20 19:01	75-01-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 19:01	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		10/13/20 19:01	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		10/13/20 19:01	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 19:01	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		10/13/20 19:01	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 19:01	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		10/13/20 19:01	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		10/13/20 19:01	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		10/13/20 19:01	98-06-6	
trans-1,2-Dichloroethene	**<0.46**	ug/L	1.5	0.46	1		10/13/20 19:01	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		10/13/20 19:01	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		10/13/20 19:01	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		1		10/13/20 19:01	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		10/13/20 19:01	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: DUP20201009 **Lab ID: 40216327007** Collected: 10/09/20 08:00 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 19:22	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/13/20 19:22	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 19:22	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		10/13/20 19:22	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 19:22	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 19:22	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		10/13/20 19:22	563-58-6	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		10/13/20 19:22	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		10/13/20 19:22	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		10/13/20 19:22	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		10/13/20 19:22	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		10/13/20 19:22	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		10/13/20 19:22	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 19:22	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 19:22	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 19:22	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		10/13/20 19:22	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		10/13/20 19:22	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		10/13/20 19:22	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		10/13/20 19:22	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		10/13/20 19:22	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		10/13/20 19:22	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		10/13/20 19:22	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		10/13/20 19:22	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 19:22	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		10/13/20 19:22	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		10/13/20 19:22	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		10/13/20 19:22	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		10/13/20 19:22	74-83-9	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		10/13/20 19:22	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 19:22	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		10/13/20 19:22	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		10/13/20 19:22	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		10/13/20 19:22	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		10/13/20 19:22	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		10/13/20 19:22	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		10/13/20 19:22	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		10/13/20 19:22	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		10/13/20 19:22	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		10/13/20 19:22	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		10/13/20 19:22	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		10/13/20 19:22	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		10/13/20 19:22	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		10/13/20 19:22	91-20-3	
Styrene	**<3.0**	ug/L	10.0	3.0	1		10/13/20 19:22	100-42-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: DUP20201009 **Lab ID: 40216327007** Collected: 10/09/20 08:00 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		10/13/20 19:22	127-18-4	
Toluene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 19:22	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 19:22	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		10/13/20 19:22	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		10/13/20 19:22	75-01-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 19:22	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		10/13/20 19:22	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		10/13/20 19:22	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 19:22	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		10/13/20 19:22	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 19:22	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		10/13/20 19:22	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		10/13/20 19:22	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		10/13/20 19:22	98-06-6	
trans-1,2-Dichloroethene	**<0.46**	ug/L	1.5	0.46	1		10/13/20 19:22	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		10/13/20 19:22	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		10/13/20 19:22	460-00-4	
Dibromofluoromethane (S)	115	%	70-130		1		10/13/20 19:22	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		10/13/20 19:22	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-7 **Lab ID: 40216327008** Collected: 10/09/20 10:05 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 19:44	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/13/20 19:44	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 19:44	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		10/13/20 19:44	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 19:44	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 19:44	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		10/13/20 19:44	563-58-6	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		10/13/20 19:44	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		10/13/20 19:44	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		10/13/20 19:44	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		10/13/20 19:44	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		10/13/20 19:44	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		10/13/20 19:44	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 19:44	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 19:44	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 19:44	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		10/13/20 19:44	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		10/13/20 19:44	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		10/13/20 19:44	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		10/13/20 19:44	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		10/13/20 19:44	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		10/13/20 19:44	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		10/13/20 19:44	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		10/13/20 19:44	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 19:44	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		10/13/20 19:44	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		10/13/20 19:44	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		10/13/20 19:44	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		10/13/20 19:44	74-83-9	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		10/13/20 19:44	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 19:44	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		10/13/20 19:44	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		10/13/20 19:44	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		10/13/20 19:44	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		10/13/20 19:44	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		10/13/20 19:44	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		10/13/20 19:44	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		10/13/20 19:44	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		10/13/20 19:44	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		10/13/20 19:44	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		10/13/20 19:44	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		10/13/20 19:44	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		10/13/20 19:44	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		10/13/20 19:44	91-20-3	
Styrene	**<3.0**	ug/L	10.0	3.0	1		10/13/20 19:44	100-42-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-7 **Lab ID: 40216327008** Collected: 10/09/20 10:05 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		10/13/20 19:44	127-18-4	
Toluene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 19:44	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 19:44	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		10/13/20 19:44	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		10/13/20 19:44	75-01-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 19:44	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		10/13/20 19:44	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		10/13/20 19:44	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 19:44	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		10/13/20 19:44	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 19:44	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		10/13/20 19:44	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		10/13/20 19:44	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		10/13/20 19:44	98-06-6	
trans-1,2-Dichloroethene	**<0.46**	ug/L	1.5	0.46	1		10/13/20 19:44	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		10/13/20 19:44	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		10/13/20 19:44	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		10/13/20 19:44	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		10/13/20 19:44	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-8 **Lab ID: 40216327009** Collected: 10/09/20 11:20 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 20:05	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/13/20 20:05	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 20:05	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		10/13/20 20:05	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		10/13/20 20:05	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 20:05	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		10/13/20 20:05	563-58-6	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		10/13/20 20:05	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		10/13/20 20:05	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		10/13/20 20:05	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		10/13/20 20:05	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		10/13/20 20:05	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		10/13/20 20:05	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 20:05	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 20:05	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		10/13/20 20:05	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		10/13/20 20:05	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		10/13/20 20:05	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		10/13/20 20:05	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		10/13/20 20:05	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		10/13/20 20:05	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		10/13/20 20:05	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		10/13/20 20:05	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		10/13/20 20:05	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		10/13/20 20:05	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		10/13/20 20:05	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		10/13/20 20:05	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		10/13/20 20:05	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		10/13/20 20:05	74-83-9	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		10/13/20 20:05	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 20:05	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		10/13/20 20:05	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		10/13/20 20:05	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		10/13/20 20:05	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		10/13/20 20:05	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		10/13/20 20:05	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		10/13/20 20:05	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		10/13/20 20:05	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		10/13/20 20:05	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		10/13/20 20:05	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		10/13/20 20:05	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		10/13/20 20:05	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		10/13/20 20:05	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		10/13/20 20:05	91-20-3	
Styrene	**<3.0**	ug/L	10.0	3.0	1		10/13/20 20:05	100-42-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-8 **Lab ID: 40216327009** Collected: 10/09/20 11:20 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		10/13/20 20:05	127-18-4	
Toluene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 20:05	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 20:05	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		10/13/20 20:05	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		10/13/20 20:05	75-01-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		10/13/20 20:05	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		10/13/20 20:05	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		10/13/20 20:05	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		10/13/20 20:05	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		10/13/20 20:05	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		10/13/20 20:05	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		10/13/20 20:05	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		10/13/20 20:05	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		10/13/20 20:05	98-06-6	
trans-1,2-Dichloroethene	**<0.46**	ug/L	1.5	0.46	1		10/13/20 20:05	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		10/13/20 20:05	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	70-130		1		10/13/20 20:05	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		10/13/20 20:05	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		10/13/20 20:05	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-1 **Lab ID: 40216327010** Collected: 10/09/20 12:45 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<53.8**	ug/L	200	53.8	200		10/14/20 07:37	630-20-6	
1,1,1-Trichloroethane	**<49.0**	ug/L	200	49.0	200		10/14/20 07:37	71-55-6	
1,1,2,2-Tetrachloroethane	**<55.1**	ug/L	200	55.1	200		10/14/20 07:37	79-34-5	
1,1,2-Trichloroethane	**<110**	ug/L	1000	110	200		10/14/20 07:37	79-00-5	
1,1-Dichloroethane	**<54.5**	ug/L	200	54.5	200		10/14/20 07:37	75-34-3	
1,1-Dichloroethene	**<49.0**	ug/L	200	49.0	200		10/14/20 07:37	75-35-4	
1,1-Dichloropropene	**<108**	ug/L	360	108	200		10/14/20 07:37	563-58-6	
1,2,3-Trichlorobenzene	**<442**	ug/L	1470	442	200		10/14/20 07:37	87-61-6	
1,2,3-Trichloropropane	**<118**	ug/L	1000	118	200		10/14/20 07:37	96-18-4	
1,2,4-Trichlorobenzene	**<190**	ug/L	1000	190	200		10/14/20 07:37	120-82-1	
1,2,4-Trimethylbenzene	**<168**	ug/L	560	168	200		10/14/20 07:37	95-63-6	
1,2-Dibromo-3-chloropropane	**<353**	ug/L	1180	353	200		10/14/20 07:37	96-12-8	
1,2-Dibromoethane (EDB)	**<166**	ug/L	553	166	200		10/14/20 07:37	106-93-4	
1,2-Dichlorobenzene	**<141**	ug/L	470	141	200		10/14/20 07:37	95-50-1	
1,2-Dichloroethane	**<56.0**	ug/L	200	56.0	200		10/14/20 07:37	107-06-2	
1,2-Dichloropropane	**<56.6**	ug/L	200	56.6	200		10/14/20 07:37	78-87-5	
1,3,5-Trimethylbenzene	**<175**	ug/L	582	175	200		10/14/20 07:37	108-67-8	
1,3-Dichlorobenzene	**<126**	ug/L	419	126	200		10/14/20 07:37	541-73-1	
1,3-Dichloropropane	**<165**	ug/L	551	165	200		10/14/20 07:37	142-28-9	
1,4-Dichlorobenzene	**<189**	ug/L	629	189	200		10/14/20 07:37	106-46-7	
2,2-Dichloropropane	**<453**	ug/L	1510	453	200		10/14/20 07:37	594-20-7	
2-Chlorotoluene	**<185**	ug/L	1000	185	200		10/14/20 07:37	95-49-8	
4-Chlorotoluene	**<151**	ug/L	504	151	200		10/14/20 07:37	106-43-4	
Benzene	**23700**	ug/L	200	49.3	200		10/14/20 07:37	71-43-2	
Bromobenzene	**<48.2**	ug/L	200	48.2	200		10/14/20 07:37	108-86-1	
Bromochloromethane	**<72.4**	ug/L	1000	72.4	200		10/14/20 07:37	74-97-5	
Bromodichloromethane	**<72.7**	ug/L	242	72.7	200		10/14/20 07:37	75-27-4	
Bromoform	**<794**	ug/L	2650	794	200		10/14/20 07:37	75-25-2	
Bromomethane	**<194**	ug/L	1000	194	200		10/14/20 07:37	74-83-9	
Carbon tetrachloride	**<215**	ug/L	718	215	200		10/14/20 07:37	56-23-5	
Chlorobenzene	**<142**	ug/L	474	142	200		10/14/20 07:37	108-90-7	
Chloroethane	**<268**	ug/L	1000	268	200		10/14/20 07:37	75-00-3	
Chloroform	**<255**	ug/L	1000	255	200		10/14/20 07:37	67-66-3	
Chloromethane	**<438**	ug/L	1460	438	200		10/14/20 07:37	74-87-3	
Dibromochloromethane	**<520**	ug/L	1730	520	200		10/14/20 07:37	124-48-1	
Dibromomethane	**<187**	ug/L	625	187	200		10/14/20 07:37	74-95-3	
Dichlorodifluoromethane	**<99.9**	ug/L	1000	99.9	200		10/14/20 07:37	75-71-8	
Diisopropyl ether	**<378**	ug/L	1260	378	200		10/14/20 07:37	108-20-3	
Ethylbenzene	**222**	ug/L	212	63.7	200		10/14/20 07:37	100-41-4	
Hexachloro-1,3-butadiene	**<293**	ug/L	976	293	200		10/14/20 07:37	87-68-3	
Isopropylbenzene (Cumene)	**<337**	ug/L	1120	337	200		10/14/20 07:37	98-82-8	
Methyl-tert-butyl ether	**<249**	ug/L	831	249	200		10/14/20 07:37	1634-04-4	
Methylene Chloride	**<116**	ug/L	1000	116	200		10/14/20 07:37	75-09-2	
Naphthalene	**<235**	ug/L	1000	235	200		10/14/20 07:37	91-20-3	
Styrene	**<602**	ug/L	2010	602	200		10/14/20 07:37	100-42-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Sample: MW-1 **Lab ID: 40216327010** Collected: 10/09/20 12:45 Received: 10/10/20 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Tetrachloroethene	**<65.3**	ug/L	218	65.3	200		10/14/20 07:37	127-18-4	
Toluene	**7650**	ug/L	200	53.9	200		10/14/20 07:37	108-88-3	
Trichloroethene	**<51.0**	ug/L	200	51.0	200		10/14/20 07:37	79-01-6	
Trichlorofluoromethane	**<43.0**	ug/L	200	43.0	200		10/14/20 07:37	75-69-4	
Vinyl chloride	**<34.9**	ug/L	200	34.9	200		10/14/20 07:37	75-01-4	
cis-1,2-Dichloroethene	**<54.2**	ug/L	200	54.2	200		10/14/20 07:37	156-59-2	
cis-1,3-Dichloropropene	**<726**	ug/L	2420	726	200		10/14/20 07:37	10061-01-5	
m&p-Xylene	**412**	ug/L	400	93.1	200		10/14/20 07:37	179601-23-1	
n-Butylbenzene	**<142**	ug/L	472	142	200		10/14/20 07:37	104-51-8	
n-Propylbenzene	**<162**	ug/L	1000	162	200		10/14/20 07:37	103-65-1	
o-Xylene	**316**	ug/L	200	52.4	200		10/14/20 07:37	95-47-6	
p-Isopropyltoluene	**<160**	ug/L	533	160	200		10/14/20 07:37	99-87-6	
sec-Butylbenzene	**<170**	ug/L	1000	170	200		10/14/20 07:37	135-98-8	
tert-Butylbenzene	**<60.8**	ug/L	203	60.8	200		10/14/20 07:37	98-06-6	
trans-1,2-Dichloroethene	**<92.8**	ug/L	309	92.8	200		10/14/20 07:37	156-60-5	
trans-1,3-Dichloropropene	**<874**	ug/L	2910	874	200		10/14/20 07:37	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		200		10/14/20 07:37	460-00-4	
Dibromofluoromethane (S)	114	%	70-130		200		10/14/20 07:37	1868-53-7	
Toluene-d8 (S)	100	%	70-130		200		10/14/20 07:37	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

QC Batch: 367984
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40216327001, 40216327002, 40216327003, 40216327004, 40216327005, 40216327006, 40216327007, 40216327008, 40216327009, 40216327010

METHOD BLANK: 2127389
Matrix: Water
Associated Lab Samples: 40216327001, 40216327002, 40216327003, 40216327004, 40216327005, 40216327006, 40216327007, 40216327008, 40216327009, 40216327010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	10/13/20 14:22	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	10/13/20 14:22	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	10/13/20 14:22	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	10/13/20 14:22	
1,1-Dichloroethane	ug/L	<0.27	1.0	10/13/20 14:22	
1,1-Dichloroethene	ug/L	<0.24	1.0	10/13/20 14:22	
1,1-Dichloropropene	ug/L	<0.54	1.8	10/13/20 14:22	
1,2,3-Trichlorobenzene	ug/L	<2.2	7.4	10/13/20 14:22	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	10/13/20 14:22	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	10/13/20 14:22	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	10/13/20 14:22	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	10/13/20 14:22	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	10/13/20 14:22	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	10/13/20 14:22	
1,2-Dichloroethane	ug/L	<0.28	1.0	10/13/20 14:22	
1,2-Dichloropropane	ug/L	<0.28	1.0	10/13/20 14:22	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	10/13/20 14:22	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	10/13/20 14:22	
1,3-Dichloropropane	ug/L	<0.83	2.8	10/13/20 14:22	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	10/13/20 14:22	
2,2-Dichloropropane	ug/L	<2.3	7.6	10/13/20 14:22	
2-Chlorotoluene	ug/L	<0.93	5.0	10/13/20 14:22	
4-Chlorotoluene	ug/L	<0.76	2.5	10/13/20 14:22	
Benzene	ug/L	<0.25	1.0	10/13/20 14:22	
Bromobenzene	ug/L	<0.24	1.0	10/13/20 14:22	
Bromochloromethane	ug/L	<0.36	5.0	10/13/20 14:22	
Bromodichloromethane	ug/L	<0.36	1.2	10/13/20 14:22	
Bromoform	ug/L	<4.0	13.2	10/13/20 14:22	
Bromomethane	ug/L	<0.97	5.0	10/13/20 14:22	
Carbon tetrachloride	ug/L	<1.1	3.6	10/13/20 14:22	
Chlorobenzene	ug/L	<0.71	2.4	10/13/20 14:22	
Chloroethane	ug/L	<1.3	5.0	10/13/20 14:22	
Chloroform	ug/L	<1.3	5.0	10/13/20 14:22	
Chloromethane	ug/L	<2.2	7.3	10/13/20 14:22	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	10/13/20 14:22	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	10/13/20 14:22	
Dibromochloromethane	ug/L	<2.6	8.7	10/13/20 14:22	
Dibromomethane	ug/L	<0.94	3.1	10/13/20 14:22	
Dichlorodifluoromethane	ug/L	<0.50	5.0	10/13/20 14:22	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

METHOD BLANK: 2127389 Matrix: Water

Associated Lab Samples: 40216327001, 40216327002, 40216327003, 40216327004, 40216327005, 40216327006, 40216327007, 40216327008, 40216327009, 40216327010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	<1.9	6.3	10/13/20 14:22	
Ethylbenzene	ug/L	<0.32	1.1	10/13/20 14:22	
Hexachloro-1,3-butadiene	ug/L	<1.5	4.9	10/13/20 14:22	
Isopropylbenzene (Cumene)	ug/L	<1.7	5.6	10/13/20 14:22	
m&p-Xylene	ug/L	<0.47	2.0	10/13/20 14:22	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	10/13/20 14:22	
Methylene Chloride	ug/L	<0.58	5.0	10/13/20 14:22	
n-Butylbenzene	ug/L	<0.71	2.4	10/13/20 14:22	
n-Propylbenzene	ug/L	<0.81	5.0	10/13/20 14:22	
Naphthalene	ug/L	<1.2	5.0	10/13/20 14:22	
o-Xylene	ug/L	<0.26	1.0	10/13/20 14:22	
p-Isopropyltoluene	ug/L	<0.80	2.7	10/13/20 14:22	
sec-Butylbenzene	ug/L	<0.85	5.0	10/13/20 14:22	
Styrene	ug/L	<3.0	10.0	10/13/20 14:22	
tert-Butylbenzene	ug/L	<0.30	1.0	10/13/20 14:22	
Tetrachloroethene	ug/L	<0.33	1.1	10/13/20 14:22	
Toluene	ug/L	<0.27	1.0	10/13/20 14:22	
trans-1,2-Dichloroethene	ug/L	<0.46	1.5	10/13/20 14:22	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	10/13/20 14:22	
Trichloroethene	ug/L	<0.26	1.0	10/13/20 14:22	
Trichlorofluoromethane	ug/L	<0.21	1.0	10/13/20 14:22	
Vinyl chloride	ug/L	<0.17	1.0	10/13/20 14:22	
4-Bromofluorobenzene (S)	%	93	70-130	10/13/20 14:22	
Dibromofluoromethane (S)	%	98	70-130	10/13/20 14:22	
Toluene-d8 (S)	%	98	70-130	10/13/20 14:22	

LABORATORY CONTROL SAMPLE: 2127390

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	56.6	113	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	50.4	101	64-131	
1,1,2-Trichloroethane	ug/L	50	51.8	104	70-130	
1,1-Dichloroethane	ug/L	50	53.4	107	69-163	
1,1-Dichloroethene	ug/L	50	52.1	104	77-123	
1,2,4-Trichlorobenzene	ug/L	50	54.3	109	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	45.0	90	63-130	
1,2-Dibromoethane (EDB)	ug/L	50	52.5	105	70-130	
1,2-Dichlorobenzene	ug/L	50	54.5	109	70-130	
1,2-Dichloroethane	ug/L	50	52.9	106	78-142	
1,2-Dichloropropane	ug/L	50	52.7	105	86-134	
1,3-Dichlorobenzene	ug/L	50	56.1	112	70-130	
1,4-Dichlorobenzene	ug/L	50	54.5	109	70-130	
Benzene	ug/L	50	56.1	112	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

LABORATORY CONTROL SAMPLE: 2127390

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	50	53.8	108	70-130	
Bromoform	ug/L	50	49.2	98	70-130	
Bromomethane	ug/L	50	37.9	76	39-129	
Carbon tetrachloride	ug/L	50	58.3	117	70-132	
Chlorobenzene	ug/L	50	56.1	112	70-130	
Chloroethane	ug/L	50	50.7	101	66-140	
Chloroform	ug/L	50	52.5	105	75-132	
Chloromethane	ug/L	50	43.4	87	32-143	
cis-1,2-Dichloroethene	ug/L	50	43.7	87	70-130	
cis-1,3-Dichloropropene	ug/L	50	54.9	110	70-130	
Dibromochloromethane	ug/L	50	56.4	113	70-130	
Dichlorodifluoromethane	ug/L	50	39.3	79	10-141	
Ethylbenzene	ug/L	50	58.9	118	80-120	
Isopropylbenzene (Cumene)	ug/L	50	60.4	121	70-130	
m&p-Xylene	ug/L	100	117	117	70-130	
Methyl-tert-butyl ether	ug/L	50	49.9	100	61-129	
Methylene Chloride	ug/L	50	52.2	104	70-130	
o-Xylene	ug/L	50	57.9	116	70-130	
Styrene	ug/L	50	58.9	118	70-130	
Tetrachloroethene	ug/L	50	54.8	110	70-130	
Toluene	ug/L	50	56.1	112	80-120	
trans-1,2-Dichloroethene	ug/L	50	54.8	110	70-130	
trans-1,3-Dichloropropene	ug/L	50	47.5	95	69-130	
Trichloroethene	ug/L	50	56.1	112	70-130	
Trichlorofluoromethane	ug/L	50	56.1	112	75-145	
Vinyl chloride	ug/L	50	48.8	98	51-140	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			98	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2128304 2128305

Parameter	Units	40216318001 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/L	<0.24	50	50	55.2	55.8	110	112	70-130	1	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	50.2	50.7	100	101	64-137	1	20	
1,1,2-Trichloroethane	ug/L	<0.55	50	50	50.2	52.0	100	104	70-137	4	20	
1,1-Dichloroethane	ug/L	<0.27	50	50	51.7	52.5	103	105	69-163	2	20	
1,1-Dichloroethene	ug/L	<0.24	50	50	50.1	50.3	100	101	77-129	1	20	
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	53.1	53.4	106	107	68-130	1	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	45.5	45.2	91	90	60-130	1	20	
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	51.5	52.4	103	105	70-130	2	20	
1,2-Dichlorobenzene	ug/L	<0.71	50	50	54.7	54.4	109	109	70-130	1	20	
1,2-Dichloroethane	ug/L	<0.28	50	50	50.0	52.1	100	104	78-145	4	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2128304 2128305

Parameter	Units	40216318001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloropropane	ug/L	<0.28	50	50	51.7	52.8	103	106	86-135	2	20	
1,3-Dichlorobenzene	ug/L	<0.63	50	50	55.0	54.3	110	109	70-130	1	20	
1,4-Dichlorobenzene	ug/L	<0.94	50	50	53.9	52.3	108	105	70-130	3	20	
Benzene	ug/L	<0.25	50	50	53.6	54.9	107	110	70-136	3	20	
Bromodichloromethane	ug/L	<0.36	50	50	52.1	54.3	104	109	70-130	4	20	
Bromoform	ug/L	<4.0	50	50	47.3	48.4	95	97	69-130	2	20	
Bromomethane	ug/L	<0.97	50	50	38.6	38.1	77	76	39-138	1	20	
Carbon tetrachloride	ug/L	<1.1	50	50	55.8	57.6	112	115	70-142	3	20	
Chlorobenzene	ug/L	<0.71	50	50	54.6	55.9	109	112	70-130	2	20	
Chloroethane	ug/L	<1.3	50	50	47.0	48.1	94	96	61-149	2	20	
Chloroform	ug/L	<1.3	50	50	49.8	51.4	100	103	75-133	3	20	
Chloromethane	ug/L	<2.2	50	50	41.1	42.8	82	86	32-143	4	20	
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	51.5	52.7	103	105	70-130	2	20	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	52.9	54.4	106	109	70-130	3	20	
Dibromochloromethane	ug/L	<2.6	50	50	53.8	55.3	108	111	70-130	3	20	
Dichlorodifluoromethane	ug/L	<0.50	50	50	38.5	38.7	77	77	10-141	0	20	
Ethylbenzene	ug/L	<0.32	50	50	56.1	57.6	112	115	80-120	3	20	
Isopropylbenzene (Cumene)	ug/L	<1.7	50	50	58.1	59.0	116	118	70-130	2	20	
m&p-Xylene	ug/L	<0.47	100	100	113	115	113	115	70-130	2	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	47.2	49.6	94	99	61-136	5	20	
Methylene Chloride	ug/L	<0.58	50	50	49.4	50.6	99	101	68-137	2	20	
o-Xylene	ug/L	<0.26	50	50	55.5	57.0	111	114	70-130	3	20	
Styrene	ug/L	<3.0	50	50	56.7	57.5	113	115	70-130	1	20	
Tetrachloroethene	ug/L	<0.33	50	50	53.0	53.5	106	107	70-130	1	20	
Toluene	ug/L	<0.27	50	50	54.0	54.7	108	109	80-120	1	20	
trans-1,2-Dichloroethene	ug/L	<0.46	50	50	52.6	54.2	105	108	70-130	3	20	
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	46.1	47.9	92	96	69-130	4	20	
Trichloroethene	ug/L	<0.26	50	50	54.6	56.5	109	113	70-130	3	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	54.3	56.2	109	112	74-157	4	20	
Vinyl chloride	ug/L	<0.17	50	50	45.9	47.3	92	95	51-140	3	20	
4-Bromofluorobenzene (S)	%						100	100	70-130			
Dibromofluoromethane (S)	%						96	99	70-130			
Toluene-d8 (S)	%						99	98	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

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, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

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.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60623859 LINE 13 MP312
Pace Project No.: 40216327

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40216327001	**TB20201008**	EPA 8260	367984		
40216327002	**MW-4**	EPA 8260	367984		
40216327003	**MW-5**	EPA 8260	367984		
40216327004	**MW-2**	EPA 8260	367984		
40216327005	**MW-3**	EPA 8260	367984		
40216327006	**MW-6**	EPA 8260	367984		
40216327007	**DUP20201009**	EPA 8260	367984		
40216327008	**MW-7**	EPA 8260	367984		
40216327009	**MW-8**	EPA 8260	367984		
40216327010	**MW-1**	EPA 8260	367984		

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

4021632 7

(Please Print Clearly)	
Company Name:	AECOM
Branch/Location:	Duluth
Project Contact:	Ethan Harvey
Phone:	2182056657
Project Number:	60626859
Project Name:	Line 13 MP312
Project State:	Wisconsin
Sampled By (Print):	Joel Mackinney
Sampled By (Sign):	Joel Mackinney
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:	Ethan Harvey
Mail To Company:	AECOM
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, Sl = 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: VOC 8260	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	TB20201008	10/8/20	1200	W	N	B	X			
002	MW-4		1215	GW			X			
003	MW-5		1345				X			
004	MW-2		1500				X			
005	MW-3		1610				X			
006	MW-6		1720				X			
007	DUP20201009	10/9/20	0800	GW			X			
008	MW-7		1005				X			
009	MW-8		1120				X			
010	MW-1		1245				X			

(Rush) Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed: 10/15/20

Transmit Prelim Rush Results by (complete what you want):
Email #1: ethan.harvey@aecom.com
Email #2: joel.mackinney@aecom.com
Telephone:
Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: Joel Mackinney	Date/Time: 10/9/20 1440	Received By:
Relinquished By: Fedex	Date/Time: 10/10/20 0945	Received By: Jane
Relinquished By:	Date/Time:	Received By:
Relinquished By:	Date/Time:	Received By:
Relinquished By:	Date/Time:	Received By:

Date/Time: 10/10/20 0945

PACE Project No. 4021632 7

Receipt Temp = 1.0T °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

ORIGINAL

Sample Preservation Receipt Form

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Client Name: Aecom Project # 40216327

All containers needing preservation have been checked and noted below: □Yes □No ☒N/A Initial when completed: Date/ Time:

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted):

	Glass								Plastic					Vials						Jars				General							
Pace Lab #	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																	2																2.5 / 5 / 10
002																	3																2.5 / 5 / 10
003																	3																2.5 / 5 / 10
004																	3																2.5 / 5 / 10
005																	3																2.5 / 5 / 10
006																	3																2.5 / 5 / 10
007																	3																2.5 / 5 / 10
008																	3																2.5 / 5 / 10
009																	3																2.5 / 5 / 10
010																	3																2.5 / 5 / 10
011																																	2.5 / 5 / 10
012																																	2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																												10/10/20					2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:_____ Headspace in VOA Vials (>6mm) : □Yes ☒No □N/A ***If yes look in headspace column**

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	

Pace Analytical® 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 26Mar2020
	Document No.: ENV-FRM-GBAY-0014-Rev.00	Author: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO#: 40216327

40216327

Client Name: Aecom

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other:

Tracking #: 3976 7950 7190

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 - NA **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROI /Corr:

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 10/10/20 /Initials: VP

Labeled By Initials: SRK

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. Invoice 10/10/20 VP
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	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD:	☐Yes ☒No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☒Yes ☐No ☐N/A	10/10/20 VP
Trip Blank Present:	☒Yes ☐No ☐N/A	13.
Trip Blank Custody Seals Present	☒Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 449		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

APPENDIX B

WASTE MANIFESTS

SPECIAL WASTE MANIFEST DISPOSAL TICKET

ADVANCED DISPOSAL SERVICES MALLARD RIDGE LANDFILL, INC.

Advanced Disposal

BILL TO: ENBRIDGE ENERGY LP

TRANSPORTER: ADVANCED DISPOSAL - FORT ATKINSON

GENERATOR: ENBRIDGE ENERGY LP

GENERATOR'S SIGNATURE: _____ 6 / 3 / 2019
Date

WASTE DESCRIPTION HYDROVAC SLURRY

PROFILE #: MMRL2019-019

ACCEPTED BY: _____ / ____ / ____
Date

DRIVER'S SIGNATURE: _____ / ____ / ____ TRUCK NO. _____ _____ TONS/YARDS
Date

WHITE & YELLOW - TRANSPORTER COPY / PINK - DISPOSAL SITE COPY / GOLD - GENERATOR COPY

EPI-001-94

SPECIAL WASTE MANIFEST DISPOSAL TICKET

ADVANCED DISPOSAL SERVICES MALLARD RIDGE LANDFILL, INC.

Advanced Disposal

BILL TO: ENBRIDGE ENERGY LP

TRANSPORTER: ADVANCED DISPOSAL - FORT ATKINSON

GENERATOR: ENBRIDGE ENERGY LP

GENERATOR'S SIGNATURE: _____ 6/3/2019
Date

WASTE DESCRIPTION SOLIDIFIED SLURRY & MECHANICALLY EXCAVATED SOILS

PROFILE #: MMRL2019-020

ACCEPTED BY: _____ / ____ / ____
Date

DRIVER'S SIGNATURE: _____ / ____ / ____ TRUCK NO. _____ _____ TONS/YARDS
Date

WHITE & YELLOW - TRANSPORTER COPY / PINK - DISPOSAL SITE COPY / GOLD - GENERATOR COPY

EPI-001-94

APPENDIX C

SOIL BORING LOGS, BORING ABANDONMENT FORMS, WELL CONSTRUCTION AND DEVELOPMENT FORMS

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		B-1

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	7/21/2020	7/21/2020	1.5" Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			24.3 Feet bgs		1.5 inches

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat 42 ° 54 ' 37.7 " Long -88 ° 52 ' 29.3 "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0.0	Gravel FILL										
	NA		2.5	Lean clay with sand, dark dellowish brown (10YR 4/4), dry, low plasticity, cohesive, FILL	CL			0.0						
	NA		5.0	Lean clay, dark yellowish brown (10YR 4/4), dry, low plasticity, cohesive, FILL	CL			0.0						
	NA		7.5	Sand, brown (10YR 5/3), poorly graded, dry, non-plastic, non-cohesive, FILL	SP			0.0						
	NA		10.0	Sandy lean clay, dark yellowish brown (10YR 4/4), moist, low plasticity, cohesive, sand content varies with depth, FILL	CL			100.1						
	60		12.5	Clayey sand, dark yellowish brown (10YR 4/4), moist, non to low plasticity, cohesive	SC			193.0						Boring advanced with hand auger to 10 feet
	60		15.0	Sand, brown (10YR 5/3), poorly graded, moist to wet, nonplastic, non-cohesive	SP			218.0						
	60		17.5	Clayey sand, dark yellowish brown (10YR 4/4), moist, non to low plasticity, cohesive	SC			177.0						
	60		20.0	Sand, brown (10YR 5/3), poorly graded, moist to wet, nonplastic, non-cohesive, OUTWASH	SP			177.0						
B1-22	55		22.5	Sand with silt, brown (10YR 5/3), poorly graded, dry, non-plastic, non-cohesive, OUTWASH.				283.0						
	60		25.0					401.0						Sampled B-1 22 feet at 1100 Collected B-1 water sample at 1230
	60		27.5		SP-SM			200.0						
	60		30.0					NA						
	60		32.5					NA						
			35.0					NA						

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

Signature	Firm	Tel:
William J Monty	AECOM 230 W Superior Street, Suite 400 Duluth, MN 55802	Fax:

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-1

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	8/27/2020	8/27/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			23.00 Feet	97.38 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9106528"
Long ° -88.8747164"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60			Organic topsoil	SW									
	60			Sand, brown (7.5YR 5/3), fine to coarse, well graded,	SW									
			2.5	angular gravel, dry Rock clasts in linear	SC			0.0						
				Sandy clay, brown (7.5YR 5/3), low plasticity, fine to	CL									
			5.0	medium sand, some rounded to angular gravel, no odor, dry										
	60													
	60			Clay, brown (7.5YR 5/3), low plasticity, some sand, fine to				0.0						
			7.5	medium, trace rounded gravel, no odor, moist, 2-inch rock at bottom of linear	SP-CL									
				Sand, light brown (7.5YR 6/3), fine to medium, poorly										
			10.0	graded, some clay, cohesive, some rounded gravel, no odor, dry, trace rock clasts	SP			0.0						
	60													
	60			Sand, light brown (7.5YR 6/3), fine to coarse, well graded										
			12.5	with sub-rounded gravel, no odor, dry	SP-CL			0.0						
				Sand, light brown (7.5YR 6/3), fine to medium, poorly										
				graded with clay, cohesive, some subrounded gravel, trace										
			15.0	rock clasts, no odor, dry Black 2-inch stain with no odor at 13 feet bgs	SW									
	60													
	60			Sand, light brown (7.5YR 6/3), fine to coarse, well graded				1.4						
			17.5	with subrounded gravel, moist, no odor	SP									
				Sand, light brown (7.5YR 6/3), fine to medium, poorly				4.3						
				graded traced coarse sand, trace rounded gravel, moist, no										
			20.0	odor 2-inch rock clasts at 15.5 feet bgs										
	60													
	60			Sand, light brown (7.5YR 6/3), fine to medium, poorly										Sampled SB-1
			22.5	graded, trace rounded gravel, odor, moist	SP			59.1						21 feet at 1130
								48.1						Collected SB-1
								12.4						water sample
			25.0											
	60			Sand, light brown (7.5YR 6/3), fine to medium, poorly										
	60			graded, trace silt, no odor, moist to wet				0.0						
			27.5		SP									
								0.0						
			30.0	End of boring at 30 feet bgs Temporary well screened 20-30 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in 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 be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-2

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	8/27/2020	8/27/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			21.00 Feet	95.70 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9108068"
Long ° -88.874647"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60			Topsoil, organic	Topsoil									
	60		2.5	Clay, dark brown (7.5YR 3/3), low plasticity, firm, trace fine sand, trace rounded gravel, no odor, dry	CL			0.0						
	60		5.0	Sandy clay, light brown (7.5YR 6/3), low plasticity, firm, fine sand, trace gravel, round, trace rock clast, no odor, dry	SC			0.0						
	60		7.5	Clay, light brown (7.5YR 6/3), low plasticity, firm, some fine sand, no odor, dry	CL			0.0						
	36		10.0	Sandy clay, light brown (7.5YR 6/3), cohesive, fine sand, trace rounded gravel	CL									
	36		12.5	Clay, brown (7.5YR 5/3), low plasticity, firm, trace sand, trace rounded gravel, no odor, dry	CL									
	24			Clay, brown (7.5YR 5/3), medium plasticity firm trace sand, trance rounded gravel, no odor, dry 2-inch black (7.5YR 2.5/1) staining at 14 feet bgs	CL			0.0						
	24		15.0					0.0						
	36			Sand, light brown (7.5YR 6/3), fine to medium, poorly graded, trace coarse rounded gravel, no odor, dry	SP			2.5						
	36		17.5	Sand, brown (7.5YR 5/3), fine to medium, poorly graded some rounded gravel, trace rock clasts, no odor, moist	SP			8.1						Sampled SB-2 20 feet at 1300 Collected water sample for SB-2 at 21 feet
			20.0					11.2						
			22.5											
				Sand, light brown (7.5YR 6/3),fine to medium, poorly graded, trace rounded gravel, no odor, wet	SP			0.0						
			25.0	End of boring at 25 feet bgs Temporary well screened 20-25 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-3

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	8/27/2020	8/27/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			25.05 Feet	99.54 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9102624"
Long ° -88.8748827"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60			Topsoil, organic	Topsoil									
	54		2.5	Clay, dark brown (7.5YR 3/3), medium plasticity, stiff, trace gravel, no odor, dry	CL			0.0						
			5.0	Sand, brown (7.5YR 5/3), fine to medium, poorly graded, some silt, cohesive, no odor, dry	SP			0.0						
	60			Sand, brown (7.5YR 5/3), fine to medium, poorly graded,										
	30		7.5	trace rounded gravel, no odor, dry, trace silt 2-inch black (7.5YR 2.5/1) staining at 6 feet bgs	SP			0.0						
			10.0											
	48			Sand, brown (7.5YR 5/3), fine to medium, poorly graded,										
	36		12.5	trace coarse sand, trace rounded gravel, no odor 1-inch rock clasts at 11 feet bgs 1-inch rock clasts at 12 feet bgs 1-inch rock clasts at 13 feet bgs	SP			0.5						
	12							7.0						
	0.5		15.0	Sand, brown (7.5YR 5/3), fine to medium, poorly graded				10.3						
	60													
	54		17.5		SP			10.7						
			20.0					5.7						
	60			Sand, brown (7.5YR 5/3), fine to medium, poorly graded,										
	48			trace rounded gravel, moist, odor										
			22.5		SP			10.2						
			25.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded, moist to wet, odor	SW			44.8						Sampled SB-3 23 feet at 1530 Collected water sample for SB-2
	60			Sand, brown (7.5YR 5/3), fine to coarse, well graded,										
	42		27.5	moist to wet, odor, saturated	SW			55.2						
			30.0	Sand, brown (7.5YR 5/3), fine to medium, poorly graded, saturated	SW			7.3						
				End of boring at 30 feet bgs Temporary well screened 20-30 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in 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 be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-4

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	8/27/2020	8/27/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			22.60 Feet	96.48 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9102496"
Long ° -88.8750728"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60			Topsoil	Topsoil									
	54		2.5	Clay, light brown (7.5YR 3/3), medium plasticity, soft, no odor, moist	CL			0.0						
				Clay, light brown (7.5YR 3/3), medium plasticity, stiff, no odor, moist	CL			0.0						
	60		5.0	Sand, light brown (7.5YR 3/3), fine to coarse, well graded, some rounded gravel, trace rock clasts, no odor, moist	SW			0.0						
	48		7.5	Sand, light brown (7.5YR 3/3), fine to medium, poorly graded, trace rounded gravel, no odor, moist *Hit rock in linear and started getting off center, pulled rods and stepped back 2 feet north	SP									
	48		10.0	Sand, light brown (7.5YR 3/3), fine to medium, poorly graded, some rounded gravel, trace silt, moist, no odor Rock clasts in linear at 11 feet bgs	SP			0.0						
	48		12.5					0.0						
				Rock clasts in linear at 14 feet bgs										
	60		15.0	Sand, brown (7.5YR 5/3), fine to medium, poorly graded, some subangular gravel, no odor, moist	SP			0.0						
	48		17.5					6.4						
	60		20.0	Clayey sand, brown (7.5YR 5/3), fine to medium poorly graded, cohesive, wet to saturated, no odor	SC			0.8						Sampled SB-4 19 feet at 1630 Collected water sample for SB-4
	60		22.5											
	36		25.0	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, saturated, no odor	SW									
	36		27.5											
				End of boring at 28 feet bgs Temporary well screened 23-28 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-5

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	8/28/2020	8/28/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			25.41 Feet	100.38 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9103198"
Long ° -88.8745682"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			2.5	No recovery, hydrovec to 10 feet bgs										
			5.0											
			7.5											
			10.0											
	60 48		12.5	Sand, light brown (7.5YR 6/3), fine to medium, poorly graded, trace coarse sand, no odor, dry, trace rounded gravel	SP			5.2						
			15.0					10.8						
	60 48		17.5	Sand, light brown (7.5YR 6/3), fine to coarse, well graded with rounded gravel, odor, dry	SW			34.4						
				Sand, brown (7.5YR 5/3), fine to medium, poorly graded, odor, dry	SP			46.6						
	60 48		20.0	Sand, brown (7.5YR 5/3), fine, poorly graded, moist, no odor	SP			14.8						Sampled SB-5 19 feet at 0905 Collected water sample for SB-5
			22.5											
			25.0	Sand, light brown (7.5YR 6/3), fine to coarse, well graded with rounded gravel, moist, no odor	SW			8.6						
	60 42		27.5	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, wet to saturated, no odor	SW									
			30.0	End of boring at 30 feet bgs Temporary well screened 20-30 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-6

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	8/28/2020	8/28/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			21.20 Feet	95.81 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9108429"
Long ° -88.8745102"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60			Topsoil, organic	Topsoil									
	60			Silty sand, brown (7.5YR 5/3), fine to coarse, cohesive with rounded gravel, dry, no odor	SW			0.0						
			2.5	Clay, light brown (7.5YR 6/3), medium plasticity, stiff, trace sand, moist, no odor 2-inch burnt wood debris at 2 feet bgs	CL			0.0						
			5.0											
	60			Silty sand, brown (7.5YR 5/3), fine to medium, poorly graded, cohesive, no odor, dry	SM									
	60			Rock clasts in linear at 6.5 feet bgs				0.0						
			7.5	Clay, light brown (7.5YR 5/3), medium plasticity, firm, some fine to medium sand, trace gravel, no odor, moist	CL									
			10.0											
	36							0.0						
	36			Clay, light brown (7.5YR 6/3), medium plasticity, stiff, trace fine sand, trace gravel, no odor, moist	CL									
			12.5	black (7.5YR 2.5/1) staining at 12-12.5 feet bgs										
	24			Clay, light brown (7.5YR 6/3), low plasticity, firm, some fine sand, rock at bottom off linear, dry, no odor	CL			0.0						
	12		15.0											
	60			Sand, brown (7.5YR 5/3), fine to coarse, well graded, some rounded gravel, no odor, moist				4.4						
	48			Rock clasts at 15, 16 and 17 feet bgs	SW									
			17.5					4.4						
			20.0											
	60			Sand, light brown (7.5YR 6/3), fine to coarse, well graded with subrounded gravel, no odor, saturated										Sampled SB-6 19 feet at 1015 Collected water sample for SB-6 at 1400
	48				SW									
			22.5											
			25.0											
				End of boring at 25 feet bgs Temporary well screened from 20-25 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-7

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	8/28/2020	8/28/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			23.70 Feet	98.28 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E

Lat ° 42.9105909"
Long ° -88.8743852"

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

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60			Topsoil	Topsoil									
	54			Silty sand, light brown (7.5YR 3/3), fine to medium, cohesive, trace gravel, no odor, dry	SM			0.0						
			2.5	Silty sand, strong brown (7.5 5/6), fine to medium cohesive, trace gravel, no odor, dry	SM			0.0						
			5.0	Clayey sand ,brown (7.5YR 5/3), fine to coarse, cohesive with angular gravel to angular rock, dry, no odor 2-inch sand seam at 6 feet bgs	SC									
	60													
	54		7.5	Clay, brown (7.5YR 5/3), low plasticity, firm, some fine to medium sand, dry, no odor	CL			0.0						
	60		10.0											
	54			Sand, brown (7.5YR 5/3), fine to medium, poorly graded, trace gravel, dry, no odor				0.0						
			12.5		SP									
			15.0					2.8						
	60													
	42							3.2						
			17.5	Sand, light brown (7.5YR 6/3), fine to medium, poorly graded, some silt, cohesive, moist, no odor	SP			5.2						
			20.0											
	60			Sand, light brown (7.5YR 6/3), fine to coarse, well graded with subrounded gravel, no odor Saturated at 23 feet bgs				7.0						Sampled SB-7 21 feet at 1105 Collected water sample for SB-7 at 1340
	48		22.5		SP									
			25.0											
	36			Sand, light brown (7.5YR 6/3), fine to coarse, well graded, saturated, no odor										
	36		27.5		SW									
				End of boring at 28 feet bgs Temporary well screened from 18-28 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-8

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	8/28/2020	8/28/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			25.97 Feet	100.62 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9101958"
Long ° -88.8746504"
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 48		0	Topsoil	Topsoil									
				Clay, light brown (7.5YR 3/3), low plasticity, firm, some fine to medium sand, trace gravel, no odor, dry	CL									
			2.5	Sand and gravel, brown (7.5YR 5/3), fine to coarse sand, well graded angular gravel, no odor, dry	SW			0.0						
			5.0	Silty sand, light brown (7.5YR 6/3), fine to medium, poorly graded, cohesive, trace ravel, dry	SM									
	60 48							0.0						
			7.5	Silty sand, light brown (7.5YR 6/3), fine to medium, poorly graded, trace angular graded, trace rounded gravel, moist, no odor	SM									
			10.0	Sand, light brown (7.5YR 6/3), fine to medium, poorly graded, trace angular gravel, trace silt, moist, dry, no odor	SP			0.0						
	60 48			Sand, light brown (7.5YR 6/3), fine to coarse, well graded, trace rounded gravel, moist, no odor	SW			0.0						
			12.5											
			15.0					1.2						
				Sand, light brown (7.5YR 6/3), fine to medium, poorly graded, odor, moist	SP			2.2						
			17.5					32.6						
	60 48		20.0	Sand light brown (7.5YR 6/3), fine to coarse, well graded, moist, no odor	SW									Sampled SB-8 19 feet at 1215 Collected water sample for SB8 at 1245
			22.5	Sand, light brown (7.5YR 6/3), fine to medium, poorly graded, moist, no odor	SP			14.4						
			25.0					27.7						
	60 48			Sand, light brown (7.5YR 6/3), fine to coarse, well graded, wet to saturated, no odor	SW									
			27.5					8.4						
			30.0	End of boring at 30 feet bgs Temporary well screened from 20-30 feet bgs 78.6 PID reading coming from casing as drillers pulled rods										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-9

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	8/31/2020	8/31/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			26.44 Feet	101.22 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.910116"
Long ° -88.8745381"
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 48		0 2.5	Topsoil, organic Clay, brown (7.5YR 5/3), low plasticity, firm, some fine to coarse sand, trace gravel, no odor, dry	Topsoil CL									
			5.0	Silty sand, light brown (7.5YR 6/3), fine to coarse, well graded, cohesive, some gravel, no odor, dry	SM			0.0						
	60 48		7.5	Clayey sand, brown (7.5YR 5/3), fine to coarse, well graded, cohesive with angular gravel, some rock clasts, no odor, dry	SC			0.0						
			10.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded with subrounded gravel, some rock clasts, no odor, dry trace silt	SP									
	60 48		12.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded with rounded gravel, trace silt, dry, no odor	SP			0.0						
	60 48		15.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace rounded gravel, trace clay, dry, no odor	SP			1.5						
			17.5	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, dry, no odor	SP			6.2						
	60 48		20.0	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, moist, no odor	SP			1.4						Sampled SB-8 19 feet at 1215 Collected water sample for SB8 at 1245
			22.5											
	60 42		25.0					13.3						Sampled SB-8 24 feet at 0920 Collected water sample for SB9 at 1435
			27.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace rounded gravel, saturated, no odor	SP									
			30.0	End of boring at 30 feet bgs Temporary well screened from 25-30 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-10

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	8/31/2020	8/31/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			26.91 Feet	101.35 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.909966"
Long ° -88.8743986"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 48		0 2.5	Topsoil, light brown (7.5YR 3/3) Clay, light brown (7.5YR 3/3), low plasticity, stiff, some sand, trace gravel, dry, no odor	Topsoil CL			0.0						
	60 48		5.0	Silty sand, light brown (7.5YR 6/3), fine to medium, poorly graded, cohesive, no odor, dry	SM			0.0 0.0						
			7.5	Clayey sand, light brown (7.5YR 6/3), fine to medium, cohesive, no odor, moist	SC									
			10.0	Sand, light brown (7.5YR 6/3)fine to medium, poorly graded, some silt, trace gravel, no odor, moist	SP			0.0						
	60 48		12.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, some silt, some subrounded gravel, some rock clasts, no odor, dry	SW			0.0						
	60 60		15.0 17.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, some silt, cohesive, trace subrounded gravel, no odor, moist Sand, light brown (7.5YR 6/3), fine to medium, poorly graded, no odor, moist	SW SP			0.0 0.0						
	60 48		20.0 22.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, some rounded gravel, no odor, moist	SW			0.0 15.2						Sampled SB-10 23 feet at 1015 Collected SB-10 water sample at 1415
	60 36		25.0 27.5	Sand, light brown (7.5YR 6/3), fine to medium, poorly graded, wet, no odor Sand, brown (7.5YR 5/3), fine to coarse, well graded, tracer rounded gravel, no odor, saturated	SP SW									
			30.0	End of boring at 30 feet bgs Temporary well screened from 20-30 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-11

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	8/31/2020	8/31/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			26.48 Feet	100.93 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E

Lat ° 42.9098881"
Long ° -88.8742661"

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

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60			Topsoil, black (7.5YR 2.5/1)/light brown (7.5YR 3/3)	Topsoil									
	60		2.5	Clay, strong brown (7.5 5/6), medium plasticity, firm, some fine sand, no odor, moist	CL			0.0						
	60		5.0	Clayey sand, light brown (7.5YR 3/3), fine to medium, poorly graded, cohesive, trace rounded gravel, no odor, moist	SC			0.0						
	48		7.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded with rounded gravel, moist, no odor Rock in linear at 7 feet bgs	SW			0.0						
	60		10.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded with subrounded gravel, some rock clasts, no odor, dry	SW			0.0						
	48		12.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, some rounded gravel, no odor, dry	SW									
	60		15.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded, some subrounded gravel trace clay, trace rock clasts, no odor, moist	SW			0.0						
	60		17.5											
	60		20.0					0.0						
	36		22.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, no odor, moist	SW			0.0						
	60		25.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded, some rounded gravel, no odor, saturated	SW			0.0						Sampled SB-11 23 feet at 1145 Collected SB-11 water sample at 1245
	30		27.5											
			30.0	End of boring at 30 feet bgs Temporary well screened from 20-30 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-12

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	8/31/2020	8/31/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			26.30 Feet	100.81 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9100559"
Long ° -88.8747456"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

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/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60			Topsoil, black (7.5YR 2.5/1)	Topsoil									
	48		2.5	Clay, light brown (7.5YR 3/3), low plasticity, firm, some fine sand, trace ravel, no odor, dry	CL			0.0						
	60		5.0	Silty sand, light brown (7.5YR 6/3), fine to medium, poorly graded, cohesive, trace gravel, no odor, dry	SM			0.0						
	48		7.5	Sand, light brown (7.5YR 6/3), fine to medium, poorly graded, trace angular gravel, trace silt, moist, no odor	SP			0.0						
	60		10.0	Sand, light brown (7.5YR 6/3), fine to coarse well graded, trace rounded gravel, moist, no odor	SW			0.0						
	48		12.5											
	60		15.0					0.0						
	48		17.5	Sand, light brown (7.5YR 6/3), fine to medium, poorly graded, no odor, moist	SP			11.4						
	60		20.0	Sand, brown (7.5YR 5/3), fine to medium, poorly graded, moist, no odor	SP			12.2						
	54		22.5					38.4						Sampled SB-12 23 feet at 1300 Collected SB-12 water sample at 1000
	60		25.0	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, saturated, no odor	SW									
	48		27.5											
			30.0	End of boring at 30 fet bgs Temporary well screened from 20-30 feet bgs Storm moved in at 25 feet, rod left in ground, waited out storm										

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

Signature James McCoy Firm AECOM Tel: Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-13

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/1/2020	9/1/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			27.30 Feet	102.39 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9099205"
Long ° -88.8745397"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 36		0 2.5	Topsoil, brown (7.5YR 5/3) Clay, light brown (7.5YR 3/3), low plasticity, firm, some fine to medium sand, dry, no odor	Topsoil CL			0.0						
			5.0	Silty sand, light brown (7.5YR 6/3), fine to medium poorly graded, cohesive, some angular gravel, moist, no odor	SM			0.0						
	60 48		7.5	Sand, brown (7.5YR 5/3), fine to coarse, trace rounded gravel, well graded, moist, no odor	SP			0.0						
			10.0	Clay, light brown (7.5YR 6/3), low plasticity, soft, trace fine sand, moist, no odor	CL			0.0						
	60 48		12.5	Silty sand, light brown (7.5YR 6/3), fine to coarse, well graded, cohesive with rounded gravel, moist, no odor	SM			0.0						
	60 48		15.0	Sand, brown (7.5YR 5/3), fine to medium, poorly graded,k some rounded gravel, moist, no odor, trace silt	SP			0.0						
			17.5	Sand, fine to coarse, well graded, some rounded gravel, moist, no odor	SW			1.8						
	60 43		20.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded, moist, no odor	SW			0.9						
			22.5					2.8						Sampled SB-13 23 feet at 0820 Collected SB-13 water sample at 1340
	60 45		25.0	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, trace rounded gravel, saturated, no odor	SW									
			27.5											
			30.0	End of boring at 30 feet bgs Temporary well screened from 20-30 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-14

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/1/2020	9/1/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			19.25 Feet	93.66 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9108802"
Long ° -88.8748764"
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60			Topsoil, black (7.5YR 2.5/1)	Topsoil									
	36		2.5	Silt, dark brown (7.5YR 3/3) to light brown (7.5YR 6/3), cohesive, some fine sand, trace rounded gravel, dry, no odor	SM			0.0						
	24		5.0	Silty sand, light brown (7.5YR 6/3), fine to medium, poorly graded, some cohesive rounded gravel, dry, no odor	SM			0.0						
	24													
	36		7.5	Silty sand, brown (7.5YR 5/3), fine to medium, cohesive, poorly graded with gravel and rock clasts, moist, no odor Rig went through rock, poor recovery	SM			0.0						
	18													
	60		10.0	Clayey sand, light brown (7.5YR 3/3), fine to medium poorly graded, cohesive, trace gravel, trace rock clasts, moist, no odor Red staining at 14.5 feet bgs	SC			0.0						
	60		12.5											
	60		15.0	Rig went through rock clasts				0.0						
	60			Clay, brown (7.5YR 5/3), medium plasticity firm, trace fine sand,trace rounded gravel, moist, no odor	CL									
			17.5	Clayey sand, light brown (7.5YR 6/3), fine to medium, poorly graded, some rounded gravel, moist to wet Black/brown (7.5YR 5/3), medium to coarse sand seam at 8 feet bgs	SC			0.0						Sampled SB-14 18 feet at 1030 Collected SB-14 water sample at 1400
	60		20.0					0.0						
	60													
			22.5					0.0						
	60		25.0	Clayey sand, light brown (7.5YR 6/3), fine to medium, poorly graded, some rounded gravel, wet to saturated	SC									
	60													
			27.5	Sand, light brown (7.5YR 6/3), fine to medium, poorly graded, some rounded gravel, saturated	SW									
			30.0	End of boring at 30 feet bgs Temporary well screened from 20-30 feet bgs										

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Signature	Firm	Tel:
James McCoy	AECOM	Fax:

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-15

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/1/2020	9/1/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			23.60 Feet	97.97 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9104394"
Long ° -88.8743386"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 54		0 2.5	Topsoil Silty sand, light brown (7.5YR 6/3), fine to medium, poorly graded, cohesive, dry, no odor	Topsoil SM			0.0						
			5.0	Clay, strong brown (7.5 5/6), medium plasticity, firm, trace fine sand moist, no odor	CL			0.0						
	60 42		7.5	Silty sand, light brown (7.5YR 3/3), fine to medium, poorly graded with rounded gravel	SM			0.0						
	60 42		10.0 12.5	Sand, brown (7.5YR 5/3), fine to medium, poorly graded, some rounded gravel, trace silt, moist, no odor	SP			0.0						
	60 48		15.0 17.5	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, moist, no odor	SW			1.1 28.7 44.4						Sampled SB-15 19 feet at 1130 Collected SB-15 water sample at 1430
	60 48		20.0 22.5	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, some rounded gravel, wet, no odor	SW			11.0						
	36 36		25.0 27.5	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, saturated, no odor	SW									
				End of boring at 28 feet bgs Temporary well screened from 18-28 feet bgs										

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Signature James McCoy Firm AECOM Tel: Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-16

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/1/2020	9/1/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			22.00 Feet	97.63 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9102499 "
Long ° -88.8741753 "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 48		0	Topsoil, black (7.5YR 2.5/1)	Topsoil									
			2.5	Clay, strong brown (7.5 5/6), medium plasticity, firm, some rock clasts, moist, no odor	CL			0.0						
	60 36		5.0	Silty sand, brown (7.5YR 5/3), fine to medium, poorly graded, some gravel, trace rock clasts, moist, no odor, cohesive	SM			0.0						
			7.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace silt, some rounded gravel, moist no odor	SW			0.0						
	60 54		10.0	Silty sand, brown (7.5YR 5/3), fine to medium, poorly graded, cohesive, trace gravel, moist, no odor	SM									
			12.5	Silty sand, fine to medium poorly graded, cohesive, trace gravel, moist, no odor				0.0						
	60 54		15.0		SW			1.9 3.7						
			17.5					13.5						
	60 60		20.0	Sand, brown (7.5YR 5/3), fine, poorly graded, wet, no odor	SP			1.1						Sampled SB-16 19 feet at 1230
			22.5											
			25.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded	SW									
				End of boring at 25 feet bgs Temporary well screened from 15-25 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-17

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/1/2020	9/1/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			21.00 Feet	97.02 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9101617"
Long ° -88.8740241"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 54		0 2.5	Topsoil Clay, strong brown (7.5 5/6), medium plasticity, trace gravel, moist, no odor	Topsoil CL			0.0						
	60 48		5.0 7.5	Clayey sand, brown (7.5YR 5/3), fine to medium trace gravel, moist, no odor 2-inch coarse sand seam at 6.5 feet bgs Sand, brown (7.5YR 5/3), fine to coarse, well graded, some rounded gravel, moist, no odor	SC SW			0.0 0.0						
	60 48		10.0 12.5											
			15.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace rounded gravel, moist, no odor	SW			0.0						
			17.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace rounded gravel, moist, no odor	SW			0.0 0.0						
	60 48		20.0 22.5	Sand, brown (7.5YR 5/3), fine to medium, poorly graded, moist, no odor Sand, fine to coarse, well graded, wet, no odor	SP SW			0.0						Sampled SB-17 20 feet at 1320 Collected SB-17 water sample at 1450
			25.0	End of boring at 25 feet bgs Temporary well screened from 20-25 feet bgs										

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James McCoy	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-18

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/2/2020	9/2/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			22.30 Feet	96.79 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9105858"
Long ° -88.8741287"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 30		0	Topsoil	Topsoil									
				Clay, strong brown (7.5 5/6), low plasticity, stiff, dry, no odor, trace fine sand	CL			0.0						
			2.5	Silt, brown (7.5YR 5/3), cohesive, some sand, dry, no odor	SM			0.0						
				Clay, light brown (7.5YR 6/3), medium plasticity, stiff, moist, no odor	CL									
	60 42		5.0	Silty sand, fine to coarse, well graded, some rounded gravel, cohesive, trace rock clasts throughout linear	SM			0.0						
			7.5											
	60 54		10.0	Clay, light brown (7.5YR 6/3), low plasticity, stiff, some fine sand, trace gravel, trace rock clasts, moist, no odor	CL			0.0						
			12.5	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, trace rounded gravel, moist, no odor	SW			17						
			15.0					0.0						
			17.5	Sand, light brown (7.5YR 6/3), fine to medium, poorly graded, trace rounded gravel, moist, slight odor	SP			16.1 17.3						Sampled SB-18 19 feet at 0815 Collected SB-18 water sample at 1140
	60 54		20.0					11.2						
			22.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, saturated, no odor	SW									
			25.0	End of boring at 25 feet bgs Temporary well screened from 15-25 feet bgs										

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Signature	Firm	Tel:
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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-19

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/2/2020	9/2/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			17.50 Feet	92.63 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9106784"
Long ° -88.8740321"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 48		0 2.5	Topsoil	Topsoil									
				Silt, strong brown (7.5 5/6), cohesive, trace fine sand, dry, no odor	ML			0.0						
				Silt, light brown (7.5YR 3/3) to black (7.5YR 2.5/1), cohesive trace fine sand, dry, no odor	CL ML			0.0						
	60 48		5.0 7.5	Clay, brown (7.5YR 5/3), low plasticity, firm, moist, no odor	SM									
				Silty sand, brown (7.5YR 5/3), fine, poorly graded, some rounded gravel, trace rock clasts, moist, no odor				0.0						
	60 48		10.0 12.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace rounded gravel, moist, no odor	SP			0.0						
			15.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded, some rounded gravel, moist, no odor	SP			0.0						
			17.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace rounded gravel, moist, no odor	SP			0.0						
				Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace rounded gravel, wet, no odor	SP			0.0						Sampled SB-19 17 feet at 0900 Collected SB-19 water sample at 1435
	60 48		20.0 22.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, some rounded gravel, wet to saturated, no odor	SP									
			25.0	End of boring at 25 feet bgs Temporary well screened from 20-25 feet bgs										

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Signature James McCoy Firm AECOM Tel: Fax:

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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-20

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/2/2020	9/2/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			22.90 Feet	96.38 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E

Lat ° 42.9103849"
Long ° -88.8739396"

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

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60		0	Topsoil	Topsoil									
	60		2.5	Blay, strong brown (7.5 5/6), medium plasticity, firm, moist, no odor	CL			0.0						
			5.0	Clayey sand, brown (7.5YR 5/3), fine to medium, poorly graded, trace rounded gravel, trace rock clasts, moist, no odor	SC									
	60				SP			0.0						
	48		7.5	Sand, brown (7.5YR 5/3), fine, poorly graded, trace rounded gravel, moist, no odor 2-inch clay seam at 6.5 feet bgs										
			10.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace rounded gravel, moist, no odor	SW			0.0						
	60			Sand, brown (7.5YR 5/3), fine to coarse, well graded, some rounded gravel, moist, no odor										
	48		12.5					0.0						
	60		15.0		SW									
	48		17.5					0.0						
	60		20.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded, some rounded gravel, saturated, no odor										Sampled SB-20 19 feet at 0940 Collected SB-20 water sample at 1450
	48		22.5		SW									
			25.0	End of boring at 25 feet bgs Temporary well screened from 15-25 feet bgs										

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

Signature	Firm	Tel:
James McCoy	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-21

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/2/2020	9/2/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			26.52 Feet	101.04 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.909949"
Long ° -88.8747496"
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60			Topsoil	Topsoil									
	60		2.5	Clay, strong brown (7.5 5/6), medium plasticity, firm, dry, no odor	CL			0.0						
	60		5.0	Silty sand, brown (7.5YR 5/3), fine to medium, poorly graded, cohesive, trace gravel, rock clasts, moist, no odor	SC			0.0						
	48		7.5					0.0						
	60		10.0	Sand, brown (7.5YR 5/3), fine to medium, poorly graded, trace coarse sand, trace rounded gravel	SP			0.0						
	30		12.5	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, grace rounded gravel, moist, no odor	SW			0.0 0.0 0.0						
	60		15.0	Sand, light brown (7.5YR 6/3)fine to coarse, well graded, some rounded gravel, moist, no odor	SW			0.0						
	48		17.5					0.0						
	60		20.0	Sand, brown (7.5YR 5/3),fine to medium, poorly graded, moist, no odor	SP			0.0						
	48		22.5					0.0						Sampled SB-21 23 feet at 1300 Collected SB-21 water sample at 1400
	60		25.0											
	48		27.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, saturated	SW									
			30.0	End of boring at 30 feet bgs Temporary well screened from 20-30 feet bgs										

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Signature James McCoy Firm AECOM Tel: Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-22

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/2/2020	9/2/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			24.40 Feet	98.91 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9100225"
Long ° -88.8748924"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60			Topsoil	Topsoil									
	54		2.5	Clayey sand, strong brown (7.5 5/6), fine, poorly graded, cohesive, moist, no odor	SC			0.0						
	60		5.0	Silty sand, brown (7.5YR 5/3), fine to medium, poorly graded, cohesive, some rounded gravel, trace rock clasts, moist, no odor	SM			0.0						
	48		7.5											
	60		10.0					0.0						
	48		12.5	Silty sand, brown (7.5YR 5/3), fine to medium, poorly graded, trace rounded gravel, moist, no odor	SP			0.0						
	60		15.0	Sand, brown (7.5YR 5/3), fine, poorly graded, trace silt, moist, no odor	SP			0.0						
	48		17.5	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, some rounded gravel, moist, no odor	SW			0.0						
	60		20.0					0.0						
	48		22.5											Sampled SB-22 22 feet at 1405 Collected SB-22 water sample at 1430
	60		25.0	Sand, brown (7.5YR 5/3), fine, poorly graded, wet, no odor	SP			0.0						
	48		27.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, some rounded gravel, saturated, no odor 2-inch coarse sand and gravel seam at 26.5 feet bgs	SW									
			30.0	Sand, brown (7.5YR 5/3), fine to medium, poorly graded, saturated, no odor	SP									
				End of boring at 30 feet bgs Temporary well screened from 20-30 feet bgs										

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Signature	Firm	Tel:
James McCoy	AECOM	Fax:

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Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-23

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/14/2020	9/14/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			20.63 Feet	95.34 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9101457"
Long ° -88.8751587"
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 54		0 2.5	Topsoil, black (7.5YR 2.5/1)	Topsoil									
				Clay, strong brown, medium plasticity firm, moist, no odor	CL			0.0						
	60 54		5.0 7.5	Clayey sand, brown (7.5YR 5/3), fine to coarse, well graded, some angular gravel, moist, no odor	SC			0.0						
			10.0	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, some round to angular gravel, some rock clasts, trace silt Rock clasts in shoes at 11 and 16 feet bgs				0.0						
	60 60		12.5		SW			0.0						
	60 48		15.0 17.5					0.0						
	60 60		20.0 22.5	Clayey sand, light brown (7.5YR 6/3), fine to medium, poorly graded, some rounded gravel, saturated	SC									Sampled SB-23 19 feet at 1300 Collected SB-23 water sample at 1400
			25.0	End of boring at 25 feet bgs Temporary well screened from 20-25 feet bgs										

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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-24

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/14/2020	9/14/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			28.26 Feet	102.94 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E

Lat ____ ° 42.9097607"
Long ____ ° -88.8746004"

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

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 36		0 2.5	Topsoil, organic, black (7.5YR 2.5/1) Clay, strong brown (7.5 5/6), medium plasticity, firm, moist, no odor	Topsoil CL									
			5.0	Sand, brown (7.5YR 5/3), fine to coarse, well graded, some rounded gravel, moist	SC			0.0						
	60 42		7.5	Clayey sand, light brown (7.5YR 6/3), fine to coarse, well graded with rounded gravel, some rock clasts, moist, no odor	SC			0.0						
			10.0	Clayey sand, light brown (7.5YR 6/3), fine to coarse, well graded, some rounded gravel, moist, no odor 2-inch Fine sand seam at 11 and 14 feet bgs				0.0						
	60 60		12.5		SC			0.0						
	60 48		15.0 17.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace rounded gravel, trace silt, moist, no odor	SW			0.0						
	60 48		20.0 22.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace rounded gravel, trace silt, moist to wet, no odor	SW			0.0						
			25.0	Sand, brown (7.5YR 5/3), fine to medium poorly graded, wet, no odor	SP									Sampled SB-24 24 feet at 1410 Collected SB-24 water sample at 1500
			27.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace rounded gravel, saturated	SW									
			30.0	End of boring at 20 feet bgs Temporary well screened from 25 to 30 feet bgs										

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Signature	Firm	Tel:
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Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-25

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/14/2020	9/14/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			11.76 Feet	86.31 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E

Lat ° 42.9107982"
Long ° -88.875335"

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

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60		0	Topsoil	Topsoil									
	60		2.5	Clay, strong brown (7.5 5/6), medium plasticity, firms, trace fine sand, moist, no odor	CL			0.0						
	60		5.0	Clayey sand, brown (7.5YR 5/3), fine to medium, poorly graded, trace rounded gravel moist, no odor	SC			0.0						
	48		7.5	Silty sand, brown (7.5YR 5/3), fine to medium, poorly graded, trace rounded gravel, moist, no odor	SM			0.0						
	60		10.0	Clayey sand, brown (7.5YR 5/3), fine to medium, trace rounded gravel, moist to wet, no odor	SC			0.0						
	48		12.5					0.0						Sampled SB-25 13 feet at 1520 Collected SB-25 water sample at 1550
	60		15.0	Clayey sand, light brown (7.5YR 6/3), fine to medium, trace rounded gravel, saturated, no odor	SC									
	60		17.5											
			20.0	End of boring at 20 feet bgs Temporary well screened from 15 to 20 feet bgs										

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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-26

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/14/2020	9/14/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			8.97 Feet	83.55 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9110536"
Long ° -88.87528"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60			Topsoil	Topsoil									
	60		2.5	Clay, strong brown (7.5 5/6), medium plasticity, stiff, moist, no odor	CL			0.0						
				Clay, brown (7.5YR 5/3), medium plasticity, stiff, trace fine sand, trace rock clasts	CL			0.0						
			5.0		CL									
	60			Clay, brown (7.5YR 5/3), medium plasticity, stiff, some rounded gravel, moist, no odor				0.0						
	36			Clayey sand, brown (7.5YR 5/3), fine to medium, poorly graded, some rounded gravel, moist, no odor Rock clasts at 6 feet bgs Pulverized rock at 8 feet bgs	SC									
			7.5					0.0						
			10.0											
	60			Clayey sand, brown (7.5YR 5/3), fine to medium, poorly graded, trace rounded gravel, moist to wet				0.0						Sampled SB-26 10 feet at 1625 Collected SB-26 water sample at 1650
	48		12.5		SC									
								0.0						
			15.0											
	60			Sand, light brown (7.5YR 6/3), fine to coarse, well graded, trace rounded gravel, saturated										
	60		17.5		SW									
			20.0											
				End of boring at 20 feet bgs Temporary well screened from 15-20 feet bgs										

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Signature	Firm	Tel:
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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Line 13- MP-312 Valve Station		SB-27

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Nick Kosinski Trimedia	9/14/2020	9/14/2020	Dual Tube

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			18.90 Feet	93.45 Feet	2.00

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NW 1/4 of SW 1/4 of Section 8, T 5 N, R 14 E
Lat ° 42.9107695"
Long ° -88.8742216"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Jefferson	28	Fort Atkinson

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 48		0 2.5	Topsoil Clay, light brown (7.5YR 3/3), low plasticity, soft, some fine sand, moist, no odor	Topsoil CL			0.0 0.0						
	60 48		5.0 7.5	Clayey sand, light brown (7.5YR 6/3), fine to medium, trace rounded gravel, moist Rock clasts at 4.5 feet bgs Silty sand, light brown (7.5YR 6/3), fine to coarse, well graded with rounded gravel, some rock clasts, moist, no odor	SC ML			0.0						
	60 42		10.0 12.5	Sand, light brown (7.5YR 6/3), fine to coarse, well graded, some rounded gravel, moist, trace silt, no odor	SP			0.0 0.0						
	60 42		15.0 17.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, trace rounded gravel, no odor	SP			0.0						
			20.0 22.5	Sand, brown (7.5YR 5/3), fine to coarse, well graded, saturated, no odor	SP			0.0						Sampled SB-27 18 feet at 1730 Collected SB-27 water sample at 1745
			25.0	End of boring at 25 feet bgs Temporary well screened 20-25 feet bgs										

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Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Line 13- MP-312 Valve Station	Local Grid Location of Well: ____ft. ☐ N. ☐ S. ____ft. ☐ E. ☐ W.	Well Name: MW-1
Facility License, Permit or Monitoring No.	Local Grid Origin ☒ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S / C / N	Date Well Installed: 09/02/2020
Type of Well: Well Code /Groundwater Monitoring Well	Section Location of Waste/Source: NW 1/4 of SW 1/4 of Sec. 8, T. 5 N, R. 14 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Nick Kosinski / Trimedia
Distance from Waste/Source: 0 ft. Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number:

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation 103.45 ft. MSL

C. Land surface elevation 100.16 ft. MSL

D. Surface seal, bottom 0.00 ft. MSL or 100.2 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☐ No

14. Drilling method used: Rotary ☐ 5 0 / Hollow Stem Auger ☐ 4 1 / ____ Other ☐ _ _

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☐ 9 9

16. Drilling additives used? ☒ Yes ☐ No

Describe No

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 98.16 ft. MSL or 2.00 ft.

F. Fine sand, top 82.16 ft. MSL or 18.00 ft.

G. Filter pack, top 80.16 ft. MSL or 20.00 ft.

H. Screen joint, top 78.16 ft. MSL or 22.00 ft.

I. Well bottom 68.16 ft. MSL or 32.00 ft.

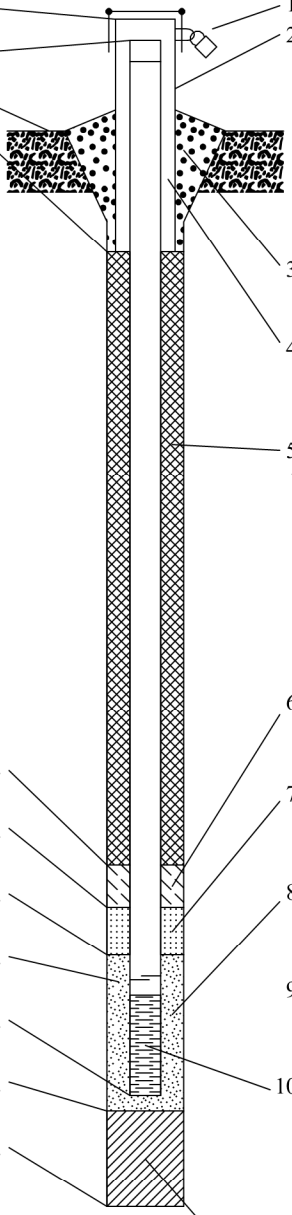
J. Filter pack, bottom 68.16 ft. MSL or 32.00 ft.

K. Borehole, bottom 68.16 ft. MSL or 32.00 ft.

L. Borehole, diameter 2.00 in.

M. O.D. well casing ____ in.

N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 2.0 in.
b. Length: ____ ft.
c. Material: Steel ☒ 0 4 / ____ Other ☐ _ _
d. Additional protection? ☒ Yes ☐ No
If yes, describe: No

3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐ _ _

4. Material between well casing and protective pipe: Bentonite ☐ 3 0 / ____ Other ☒ _ _

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. 5 bags Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8

6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. ____ Other ☐ _ _

7. Fine sand material: Manufacturer, product name & mesh size
a. Silica Sand _ _
b. Volume added 1 bag ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. #15 Red Flint _ _
b. Volume added 8 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐ _ _

10. Screen material: PVC _ _
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐ _ _
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.

11. Backfill material (below filter pack): None ☒ 1 4 / ____ Other ☐ _ _

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

Signature: James McCoy Firm: AECOM Tel: Fax:

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports 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 these forms 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 these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Line 13- MP-312 Valve Station	Local Grid Location of Well: ____ft. ☐ N. ☐ S. ____ft. ☐ E. ☐ W.	Well Name: MW-2
Facility License, Permit or Monitoring No.	Local Grid Origin ☒ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 09/03/2020
Type of Well: Well Code /Groundwater Monitoring Well	Section Location of Waste/Source: NW 1/4 of SW 1/4 of Sec. 8, T. 5 N, R. 14 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Trimedia
Distance from Waste/Source: 204 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number

A. Protective pipe, top elevation ____ ft. MSL
B. Well casing, top elevation 96.61 ft. MSL
C. Land surface elevation 93.64 ft. MSL
D. Surface seal, bottom 0.00 ft. MSL or 93.6 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☐ No

14. Drilling method used: Rotary ☐ 5 0
Hollow Stem Auger ☐ 4 1
____ Other ☐

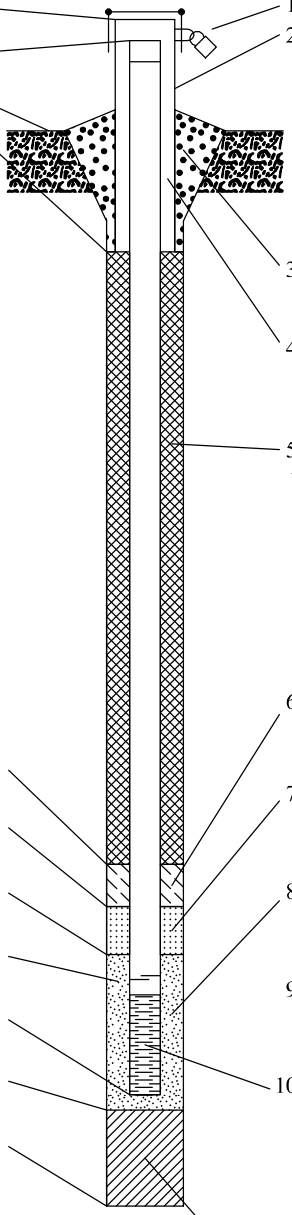
15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1
Drilling Mud ☐ 0 3 None ☐ 9 9

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 91.64 ft. MSL or 2.00 ft.
F. Fine sand, top 82.64 ft. MSL or 11.00 ft.
G. Filter pack, top 80.64 ft. MSL or 13.00 ft.
H. Screen joint, top 78.64 ft. MSL or 15.00 ft.
I. Well bottom 68.64 ft. MSL or 25.00 ft.
J. Filter pack, bottom 68.64 ft. MSL or 25.00 ft.
K. Borehole, bottom 68.64 ft. MSL or 25.00 ft.
L. Borehole, diameter 2.00 in.
M. O.D. well casing ____ in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 2.0 in.
b. Length: ____ ft.
c. Material: Steel ☒ 0 4
____ Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: No
3. Surface seal: Bentonite ☐ 3 0
Concrete ☐ 0 1
____ Other ☐
4. Material between well casing and protective pipe:
Bentonite ☐ 3 0
____ Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. 3 bags Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1
Tremie pumped ☐ 0 2
Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. ____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Silica Sand
b. Volume added 1 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. #15 Red Flint
b. Volume added 7 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3
Flush threaded PVC schedule 80 ☐ 2 4
____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1
Continuous slot ☐ 0 1
____ Other ☐
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 1 4
____ Other ☐

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

Signature: James McCoy | Firm: AECOM | Tel: | Fax:

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports 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 these forms 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 these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Line 13- MP-312 Valve Station	Local Grid Location of Well: ____ft. ☐ N. ☐ S. ____ft. ☐ E. ☐ W.	Well Name: MW-3
Facility License, Permit or Monitoring No.	Local Grid Origin ☒ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 09/15/2020
Type of Well: Well Code /Groundwater Monitoring Well	Section Location of Waste/Source: NW 1/4 of SW 1/4 of Sec. 8, T. 5 N, R. 14 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Trimedia
Distance from Waste/Source: 216 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number

A. Protective pipe, top elevation ____ ft. MSL
B. Well casing, top elevation 96.33 ft. MSL
C. Land surface elevation 93.45 ft. MSL
D. Surface seal, bottom 0.00 ft. MSL or 93.5 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☐ No

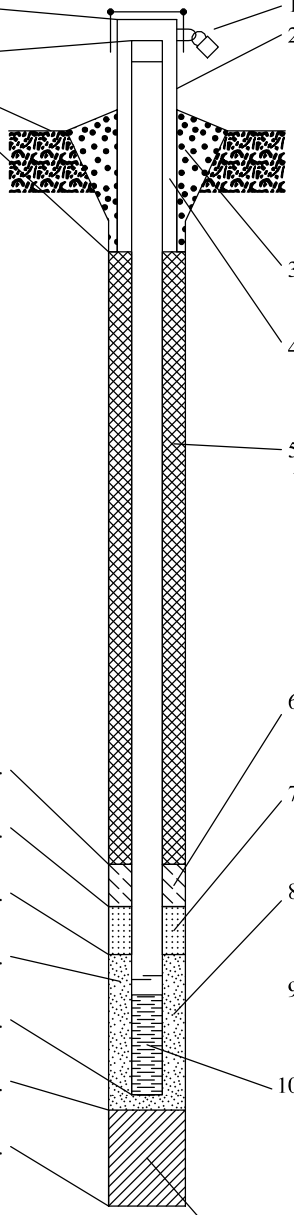
14. Drilling method used: Rotary ☐ 5 0 / Hollow Stem Auger ☐ 4 1 / ____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☐ 9 9

16. Drilling additives used? ☐ Yes ☒ No
Describe ____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 91.45 ft. MSL or 2.00 ft.
F. Fine sand, top 82.45 ft. MSL or 11.00 ft.
G. Filter pack, top 80.45 ft. MSL or 13.00 ft.
H. Screen joint, top 78.45 ft. MSL or 15.00 ft.
I. Well bottom 68.45 ft. MSL or 25.00 ft.
J. Filter pack, bottom 68.45 ft. MSL or 25.00 ft.
K. Borehole, bottom 68.45 ft. MSL or 25.00 ft.
L. Borehole, diameter 2.00 in.
M. O.D. well casing ____ in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 2.0 in.
b. Length: ____ ft.
c. Material: Steel ☒ 0 4 / ____ Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: No
3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 3 0 / ____ Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. 4 bags Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. ____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Silica Sand
b. Volume added 1 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. #15 Red Flint
b. Volume added 7 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 1 4 / ____ Other ☐

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

Signature: James McCoy | Firm: AECOM | Tel: | Fax:

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports 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 these forms 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 these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Line 13- MP-312 Valve Station	Local Grid Location of Well: ____ft. ☐ N. ☐ S. ____ft. ☐ E. ☐ W.	Well Name: MW-4
Facility License, Permit or Monitoring No.	Local Grid Origin ☒ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 09/16/2020
Type of Well: Well Code /Groundwater Monitoring Well	Section Location of Waste/Source: NW 1/4 of SW 1/4 of Sec. 8, T. 5 N, R. 14 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Trimedia
Distance from Waste/Source: 268 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number

A. Protective pipe, top elevation ____ ft. MSL
B. Well casing, top elevation 96.40 ft. MSL
C. Land surface elevation 93.58 ft. MSL
D. Surface seal, bottom 0.00 ft. MSL or 93.6 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☐ No

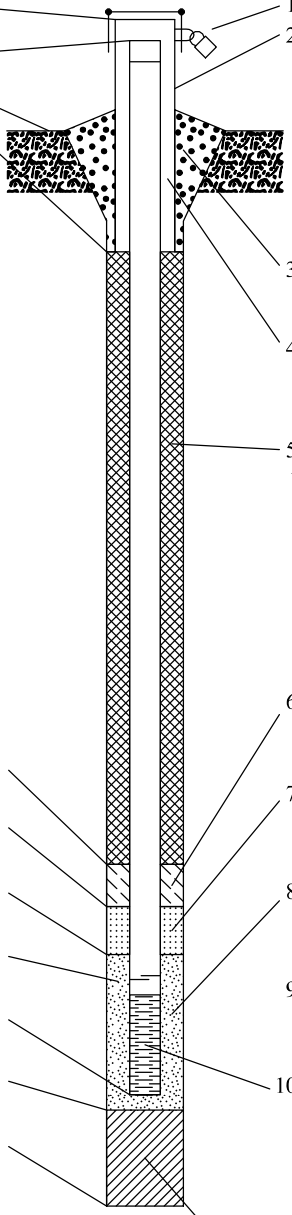
14. Drilling method used: Rotary ☐ 5 0 / Hollow Stem Auger ☐ 4 1 / ____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☐ 9 9

16. Drilling additives used? ☐ Yes ☒ No
Describe ____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 91.58 ft. MSL or 2.00 ft.
F. Fine sand, top 78.58 ft. MSL or 15.00 ft.
G. Filter pack, top 76.58 ft. MSL or 17.00 ft.
H. Screen joint, top 74.58 ft. MSL or 19.00 ft.
I. Well bottom 64.58 ft. MSL or 29.00 ft.
J. Filter pack, bottom 64.58 ft. MSL or 29.00 ft.
K. Borehole, bottom 64.58 ft. MSL or 29.00 ft.
L. Borehole, diameter 2.00 in.
M. O.D. well casing ____ in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 2.0 in.
b. Length: ____ ft.
c. Material: Steel ☒ 0 4 / ____ Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: No
3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 3 0 / ____ Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. 5 bags Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. ____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Silica Sand
b. Volume added 1 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. #15 Red Flint
b. Volume added 7 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 1 4 / ____ Other ☐

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

Signature: James McCoy | Firm: AECOM | Tel: | Fax:

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State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Line 13- MP-312 Valve Station	Local Grid Location of Well: ____ft. ☐ N. ☐ S. ____ft. ☐ E. ☐ W.	Well Name: MW-5
Facility License, Permit or Monitoring No.	Local Grid Origin ☒ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 09/15/2020
Type of Well: Well Code /Groundwater Monitoring Well	Section Location of Waste/Source: NW 1/4 of SW 1/4 of Sec. 8, T. 5 N, R. 14 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Trimedia
Distance from Waste/Source: 227 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number

A. Protective pipe, top elevation ____ ft. MSL
B. Well casing, top elevation 99.82 ft. MSL
C. Land surface elevation 96.93 ft. MSL
D. Surface seal, bottom 0.00 ft. MSL or 96.9 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☐ No

14. Drilling method used: Rotary ☐ 5 0
Hollow Stem Auger ☐ 4 1
____ Other ☐

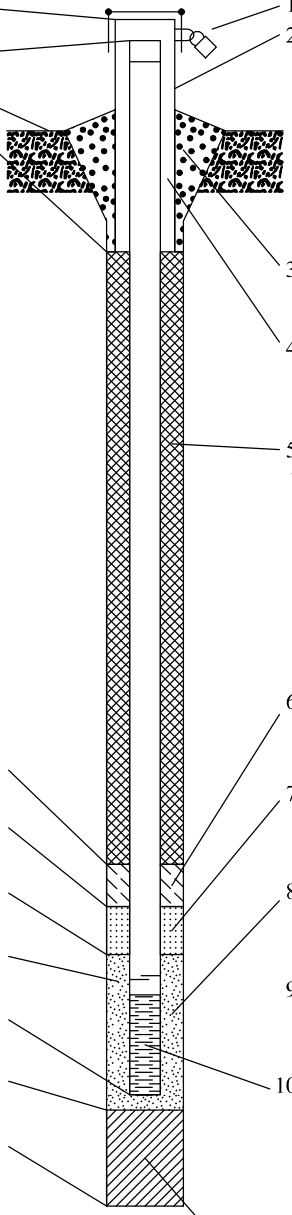
15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1
Drilling Mud ☐ 0 3 None ☐ 9 9

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 94.93 ft. MSL or 2.00 ft.
F. Fine sand, top 80.93 ft. MSL or 16.00 ft.
G. Filter pack, top 78.93 ft. MSL or 18.00 ft.
H. Screen joint, top 76.93 ft. MSL or 20.00 ft.
I. Well bottom 66.93 ft. MSL or 30.00 ft.
J. Filter pack, bottom 66.93 ft. MSL or 30.00 ft.
K. Borehole, bottom 66.93 ft. MSL or 30.00 ft.
L. Borehole, diameter 2.00 in.
M. O.D. well casing ____ in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 2.0 in.
b. Length: ____ ft.
c. Material: Steel ☒ 0 4
____ Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: No
3. Surface seal: Bentonite ☐ 3 0
Concrete ☐ 0 1
____ Other ☐
4. Material between well casing and protective pipe:
Bentonite ☐ 3 0
____ Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. 6 bags Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1
Tremie pumped ☐ 0 2
Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. ____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Silica Sand
b. Volume added 1 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. #15 Red Flint
b. Volume added 7 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3
Flush threaded PVC schedule 80 ☐ 2 4
____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1
Continuous slot ☐ 0 1
____ Other ☐
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 1 4
____ Other ☐

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

Signature: James McCoy | Firm: AECOM | Tel: | Fax:

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State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Line 13- MP-312 Valve Station	Local Grid Location of Well: ____ft. ☐ N. ☐ S. ____ft. ☐ E. ☐ W.	Well Name: MW-6
Facility License, Permit or Monitoring No.	Local Grid Origin ☒ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 09/16/2020
Type of Well: Well Code /Groundwater Monitoring Well	Section Location of Waste/Source: NW 1/4 of SW 1/4 of Sec. 8, T. 5 N, R. 14 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Trimedia
Distance from Waste/Source: 207 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number

A. Protective pipe, top elevation ____ ft. MSL
B. Well casing, top elevation 103.26 ft. MSL
C. Land surface elevation 100.24 ft. MSL
D. Surface seal, bottom 0.00 ft. MSL or 100.2 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☐ No

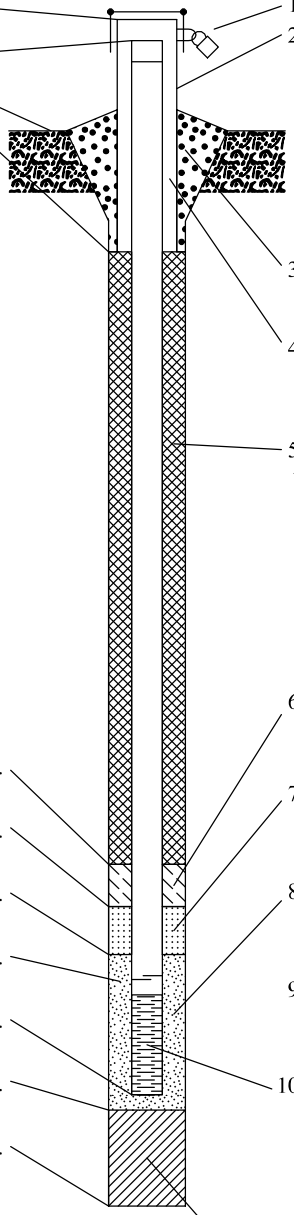
14. Drilling method used: Rotary ☐ 5 0
Hollow Stem Auger ☐ 4 1
____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1
Drilling Mud ☐ 0 3 None ☐ 9 9

16. Drilling additives used? ☐ Yes ☒ No
Describe ____

17. Source of water (attach analysis, if required):
____

E. Bentonite seal, top 98.24 ft. MSL or 2.00 ft.
F. Fine sand, top 82.24 ft. MSL or 18.00 ft.
G. Filter pack, top 80.24 ft. MSL or 20.00 ft.
H. Screen joint, top 78.24 ft. MSL or 22.00 ft.
I. Well bottom 68.24 ft. MSL or 32.00 ft.
J. Filter pack, bottom 68.24 ft. MSL or 32.00 ft.
K. Borehole, bottom 68.24 ft. MSL or 32.00 ft.
L. Borehole, diameter 2.00 in.
M. O.D. well casing ____ in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 2.0 in.
b. Length: ____ ft.
c. Material: Steel ☒ 0 4
____ Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: No
3. Surface seal: Bentonite ☐ 3 0
Concrete ☐ 0 1
____ Other ☐
4. Material between well casing and protective pipe:
Bentonite ☐ 3 0
____ Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. 7 bags Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1
Tremie pumped ☐ 0 2
Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. ____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Silica Sand
b. Volume added 1 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. #15 Red Flint
b. Volume added 7.5 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3
Flush threaded PVC schedule 80 ☐ 2 4
____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1
Continuous slot ☐ 0 1
____ Other ☐
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 1 4
____ Other ☐

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

Signature: James McCoy | Firm: AECOM | Tel: | Fax:

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports 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 these forms 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 these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Line 13- MP-312 Valve Station	Local Grid Location of Well: ____ft. ☐ N. ☐ S. ____ft. ☐ E. ☐ W.	Well Name: MW-7
Facility License, Permit or Monitoring No.	Local Grid Origin ☒ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 09/16/2020
Type of Well: Well Code /Groundwater Monitoring Well	Section Location of Waste/Source: NW 1/4 of SW 1/4 of Sec. 8, T. 5 N, R. 14 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Trimedia
Distance from Waste/Source: 181 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number

A. Protective pipe, top elevation ____ ft. MSL
B. Well casing, top elevation 103.07 ft. MSL
C. Land surface elevation 100.19 ft. MSL
D. Surface seal, bottom 0.00 ft. MSL or 100.2 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☐ No

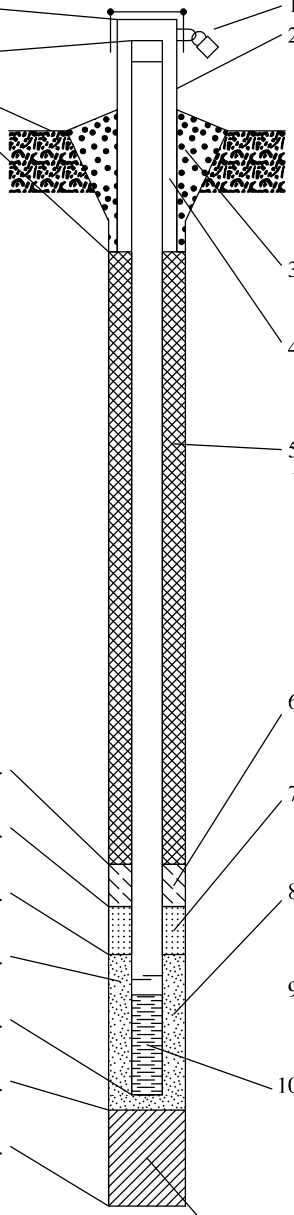
14. Drilling method used: Rotary ☐ 5 0 / Hollow Stem Auger ☐ 4 1 / ____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☐ 9 9

16. Drilling additives used? ☐ Yes ☒ No
Describe ____

17. Source of water (attach analysis, if required):
____

E. Bentonite seal, top 98.19 ft. MSL or 2.00 ft.
F. Fine sand, top 82.19 ft. MSL or 18.00 ft.
G. Filter pack, top 80.19 ft. MSL or 20.00 ft.
H. Screen joint, top 78.19 ft. MSL or 22.00 ft.
I. Well bottom 68.19 ft. MSL or 32.00 ft.
J. Filter pack, bottom 68.19 ft. MSL or 32.00 ft.
K. Borehole, bottom 68.19 ft. MSL or 32.00 ft.
L. Borehole, diameter 2.00 in.
M. O.D. well casing ____ in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 2.0 in.
b. Length: ____ ft.
c. Material: Steel ☒ 0 4 / ____ Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: No
3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 3 0 / ____ Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. 7 bags Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. ____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Silica Sand
b. Volume added 1 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. #15 Red Flint
b. Volume added 7 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 1 4 / ____ Other ☐

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

Signature: James McCoy Firm: AECOM Tel: Fax:

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports 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 these forms 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 these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Line 13- MP-312 Valve Station	Local Grid Location of Well: ____ft. ☐ N. ☐ S. ____ft. ☐ E. ☐ W.	Well Name: MW-8
Facility License, Permit or Monitoring No.	Local Grid Origin ☒ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 09/15/2020
Type of Well: Well Code /Groundwater Monitoring Well	Section Location of Waste/Source: NW 1/4 of SW 1/4 of Sec. 8, T. 5 N, R. 14 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Trimedia
Distance from Waste/Source: 129 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number

A. Protective pipe, top elevation ____ ft. MSL
B. Well casing, top elevation 98.24 ft. MSL
C. Land surface elevation 95.34 ft. MSL
D. Surface seal, bottom 0.00 ft. MSL or 95.3 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☐ No

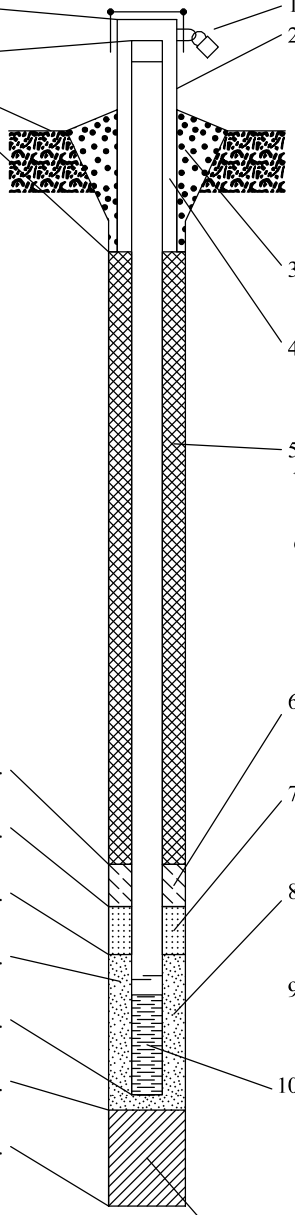
14. Drilling method used: Rotary ☐ 5 0 / Hollow Stem Auger ☐ 4 1 / ____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☐ 9 9

16. Drilling additives used? ☐ Yes ☒ No
Describe ____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 93.34 ft. MSL or 2.00 ft.
F. Fine sand, top 82.34 ft. MSL or 13.00 ft.
G. Filter pack, top 80.34 ft. MSL or 15.00 ft.
H. Screen joint, top 78.34 ft. MSL or 17.00 ft.
I. Well bottom 68.34 ft. MSL or 27.00 ft.
J. Filter pack, bottom 68.34 ft. MSL or 27.00 ft.
K. Borehole, bottom 68.34 ft. MSL or 27.00 ft.
L. Borehole, diameter 2.00 in.
M. O.D. well casing ____ in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 2.0 in.
b. Length: ____ ft.
c. Material: Steel ☒ 0 4 / ____ Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: No
3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 3 0 / ____ Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. 5 bags Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. ____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Silica Sand
b. Volume added 1 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. #15 Red Flint
b. Volume added 7 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 1 4 / ____ Other ☐

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

Signature: James McCoy | Firm: AECOM | Tel: | Fax:

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports 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 these forms 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 these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-1	

Lattitude / Longitude (Degrees and Minutes): 42.9106528 ' W / -88.8747164 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date: 8/27/2020
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	23.0

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		8/27/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-2	

Lattitude / Longitude (Degrees and Minutes): 42.9108068 ' W / -88.8746470 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
26	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	26

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	21.0

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	26.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		8/27/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-3	

Lattitude / Longitude (Degrees and Minutes): 42.9102624 ' W / -88.8748827 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	25.1

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		8/27/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-4	

Lattitude / Longitude (Degrees and Minutes): 42.9102496 ' W / -88.8750728 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name: Lot #:

Reason For Removal From Service: Temporary Well Abandonment
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
28	1
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2.00	28

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	22.6

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	28.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		8/27/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-5	

Lattitude / Longitude (Degrees and Minutes): 42.9103198 ' W / -88.8745682 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	25.4

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		8/28/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-6	

Lattitude / Longitude (Degrees and Minutes): 42.9108429 ' W / -88.8745102 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
25	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	25

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	21.2

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured ☐ Other (Explain)
(Bentonite Chips)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	25.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		8/28/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-7	

Lattitude / Longitude (Degrees and Minutes): 42.9105909 ' W / -88.8743852 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
28	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	28

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	23.7

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	28.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		8/28/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-8	

Lattitude / Longitude (Degrees and Minutes): 42.9101958 ' W / -88.8746504 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	26.0

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		8/28/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-9	

Lattitude / Longitude (Degrees and Minutes): 42.9101160 ' W / -88.8745381 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	26.4

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		8/31/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-10	

Lattitude / Longitude (Degrees and Minutes): 42.9099660 ' W / -88.8743986 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	26.9

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		8/31/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-11	

Lattitude / Longitude (Degrees and Minutes): 42.9098881 ' W / -88.8742661 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	26.5

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		8/31/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-12	

Lattitude / Longitude (Degrees and Minutes): 42.9100559 ' W / -88.8747456 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	26.3

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		8/31/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-13	

Lattitude / Longitude (Degrees and Minutes): 42.9099205 ' W / -88.8745397 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	27.3

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/1/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-14	

Lattitude / Longitude (Degrees and Minutes): 42.9108802 ' W / -88.8748764 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	19.3

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/1/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-15	

Lattitude / Longitude (Degrees and Minutes): 42.9104394 ' W / -88.8743386 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
28	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	28

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	23.6

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured ☐ Other (Explain)
(Bentonite Chips)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	28.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/1/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-16	

Lattitude / Longitude (Degrees and Minutes): 42.9102499 ' W / -88.8741753 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
25	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	25

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	22.0

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	25.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/1/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-17	

Lattitude / Longitude (Degrees and Minutes): 42.9101617 ' W / -88.8740241 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
25	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	25

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	21.0

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	25.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/1/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-18	

Lattitude / Longitude (Degrees and Minutes): 42.9105858 ' W / -88.8741287 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
25	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	25

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	22.3

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured ☐ Other (Explain)
(Bentonite Chips)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	25.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/2/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-19	

Lattitude / Longitude (Degrees and Minutes): 42.9106784 ' W / -88.8740321 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
25	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	25

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	17.5

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	25.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/2/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-20	

Lattitude / Longitude (Degrees and Minutes): 42.9103849 ' W / -88.8739396 ' N

Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #:

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station

Facility ID (FID or PWS):

License/Permit/Monitoring #:

Original Well Owner: Enbridge

Present Well Owner:

Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
25	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	25

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	22.9

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	25.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/2/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:

Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-21	

Lattitude / Longitude (Degrees and Minutes): 42.9099490 ' W / -88.8747496 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	26.5

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/2/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-22	

Lattitude / Longitude (Degrees and Minutes): 42.9100225 ' W / -88.8748924 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	24.4

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/2/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-23	

Lattitude / Longitude (Degrees and Minutes): 42.9101457 ' W / -88.8751587 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
25	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	25

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	20.6

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	25.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/14/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-24	

Lattitude / Longitude (Degrees and Minutes): 42.9097607 ' W / -88.8746004 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
30	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	30

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	28.3

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/14/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-25	

Lattitude / Longitude (Degrees and Minutes): 42.9107982 ' W / -88.8753350 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
20	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	20

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	11.8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured ☐ Other (Explain)
(Bentonite Chips)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	20.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/14/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-26	

Lattitude / Longitude (Degrees and Minutes): 42.9110536 ' W / -88.8752800 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
20	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	20

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	9.0

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	20.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/14/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-5 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Jefferson	SB-27	

Lattitude / Longitude (Degrees and Minutes): 42.9107695 ' W / -88.8742216 ' N
Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range
NW	SW	8	5	14 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Fort Atkinson	

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Temporary Well Abandonment	

2. Facility / Owner Information

Facility Name: Line 13- MP-312 Valve Station
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Enbridge
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Geoprobe

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
25	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.00	25

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	18.9

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☒ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	25.0	1	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Trimedia		9/14/2020

Street or Route	Telephone Number
830 W Washington Street	(906) 228-5125

City	State	ZIP Code
Marquette	MI	49855

Signature of Person Doing Work:
Date Signed:

DNR Use Only

Date Received	Noted By

Comments:

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	County	Well Name
Line 13- MP-312 Valve Station	Jefferson	MW-1

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	28		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	

3. Time spent developing well: min.

4. Depth of well (from top of well casing): 30 ft.

5. Inside diameter of well: 35.2 in.

6. Volume of water in filter pack and well casing: 0.6 gal.

7. Volume of water removed from well: 35.0 gal.

8. Volume of water added (if any): 0.0 gal.

9. Source of water added: _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	25.57 ft.	28.80 ft.
Date b.	9/17/2020	9/17/2020
Time c.	08:00 ☒ a.m. ☐ p.m.	08:30 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	inches	0.0 inches
13. Water clarity	Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) brown, silty	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Nick Kosinski
Trimedia

17. Additional comments on development:
Wells cleared up quickly and produced water readily

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: Enbridge

Street: _____

City/State/Zip: , _____

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

Signature: _____

Print Name: James McCoy

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	County	Well Name
Line 13- MP-312 Valve Station	Jefferson	MW-2

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	28		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 30 ft.

5. Inside diameter of well 27.9 in.

6. Volume of water in filter pack and well casing 0.5 gal.

7. Volume of water removed from well 11.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	19.04 ft.	22.03 ft.
Date b.	9/17/2020	9/17/2020
Time c.	08:40 ☒ a.m. ☐ p.m.	09:10 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	inches	0.0 inches
13. Water clarity	Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) brown, silty	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Nick Kosinski
Trimedia

17. Additional comments on development:
Wells cleared up quickly and produced water readily

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: Enbridge

Street: _____

City/State/Zip: , _____

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

Signature: _____

Print Name: James McCoy

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	County	Well Name
Line 13- MP-312 Valve Station	Jefferson	MW-3

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	28		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 30 ft.

5. Inside diameter of well 28.1 in.

6. Volume of water in filter pack and well casing 0.6 gal.

7. Volume of water removed from well 20.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	18.85 ft.	21.83 ft.
Date b.	9/17/2020	9/17/2020
Time c.	☒ a.m. 09:20 ☐ p.m.	☒ a.m. 09:50 ☐ p.m.
12. Sediment in well bottom	inches	0.0 inches
13. Water clarity	Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) brown, silty	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Nick Kosinski
Trimedia

17. Additional comments on development:
Wells cleared up quickly and produced water readily

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: Enbridge

Street: _____

City/State/Zip: , _____

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

Signature: _____

Print Name: James McCoy

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	County	Well Name
Line 13- MP-312 Valve Station	Jefferson	MW-4

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	28		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 30 ft.

5. Inside diameter of well 31.6 in.

6. Volume of water in filter pack and well casing 1.2 gal.

7. Volume of water removed from well 20.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	19.01 ft.	21.85 ft.
Date b.	9/17/2020	9/17/2020
Time c.	☒ a.m. 10:00 ☐ p.m.	☒ a.m. 10:30 ☐ p.m.
12. Sediment in well bottom	inches	0.0 inches

13. Water clarity

Before Development	After Development
Clear ☐ 1 0	Clear ☒ 2 0
Turbid ☒ 1 5	Turbid ☐ 2 5
(Describe)	(Describe)
brown, silty	

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Nick Kosinski
Trimedia

17. Additional comments on development:
Wells cleared up quickly and produced water readily

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: Enbridge

Street: _____

City/State/Zip: , _____

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

Signature: _____

Print Name: James McCoy

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	County	Well Name
Line 13- MP-312 Valve Station	Jefferson	MW-5

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	28		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 30 ft.

5. Inside diameter of well 33.1 in.

6. Volume of water in filter pack and well casing 4.6 gal.

7. Volume of water removed from well 43.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	22.36 ft.	22.30 ft.
Date b.	9/17/2020	9/17/2020
Time c.	☒ a.m. 10:40 ☐ p.m.	☒ a.m. 11:10 ☐ p.m.
12. Sediment in well bottom	inches	0.0 inches
13. Water clarity	Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) brown, silty	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Nick Kosinski
Trimedia

17. Additional comments on development:
Wells cleared up quickly and produced water readily

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: Enbridge

Street: _____

City/State/Zip: , _____

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

Signature: _____

Print Name: James McCoy

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	County	Well Name
Line 13- MP-312 Valve Station	Jefferson	MW-6

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	28		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 30 ft.

5. Inside diameter of well 35.1 in.

6. Volume of water in filter pack and well casing 1.1 gal.

7. Volume of water removed from well 25.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	25.70 ft.	25.68 ft.
Date b.	9/17/2020	9/17/2020
Time c.	☒ a.m. 11:20 ☐ p.m.	☒ a.m. 11:50 ☐ p.m.
12. Sediment in well bottom	inches	0.0 inches
13. Water clarity	Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) brown, silty	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Nick Kosinski
Trimedia

17. Additional comments on development:
Wells cleared up quickly and produced water readily

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: Enbridge

Street: _____

City/State/Zip: , _____

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

Signature: _____

Print Name: James McCoy

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	County	Well Name
Line 13- MP-312 Valve Station	Jefferson	MW-7

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	28		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 30 ft.

5. Inside diameter of well 35.0 in.

6. Volume of water in filter pack and well casing 0.6 gal.

7. Volume of water removed from well 20.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	25.62 ft.	28.51 ft.
Date b.	9/17/2020	9/17/2020
Time c.	☐ a.m. 12:00 ☒ p.m.	☐ a.m. 12:30 ☒ p.m.
12. Sediment in well bottom	inches	0.0 inches
13. Water clarity	Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) brown, silty	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Nick Kosinski
Trimedia

17. Additional comments on development:
Wells cleared up quickly and produced water readily

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: Enbridge

Street: _____

City/State/Zip: , _____

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

Signature: _____

Print Name: James McCoy

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	County	Well Name
Line 13- MP-312 Valve Station	Jefferson	MW-8

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	28		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 30 ft.

5. Inside diameter of well 30.0 in.

6. Volume of water in filter pack and well casing ____ gal.

7. Volume of water removed from well 35.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	20.75 ft.	ft.
Date b.	9/17/2020	9/17/2020
Time c.	01:40 ☐ a.m. ☒ p.m.	02:10 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	inches	0.0 inches
13. Water clarity	Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) brown, silty	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe)
14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Well developed by: Person's Name and Firm
Nick Kosinski
Trimedia

17. Additional comments on development:
Wells cleared up quickly and produced water readily

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: Enbridge

Street: _____

City/State/Zip: , _____

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

Signature: _____

Print Name: James McCoy

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

APPENDIX D

PUBLIC WELL RECORDS

Box 54

WELL CONSTRUCTOR'S REPORT — WISCONSIN STATE BOARD OF HEALTH — Wel 6

1. COUNTY: Jefferson — CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Koshkonong

RECEIVED
FEB 11 1965
SANITARY ENGINEERING

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.): Sec 8 T 3 N R 14 E

3. OWNER AT TIME OF DRILLING: Hank Helling

4. OWNER'S COMPLETE MAIL ADDRESS: R 3 Fort Atkinson Wis

5. Distance in feet from well to nearest: (Record answer in appropriate block)

BUILDING	SANITARY SEWER C. I.	SANITARY SEWER TILE	FLOOR DRAIN C. I.	FLOOR DRAIN TILE	FOUNDATION DRAIN SEWER CONNECTED	FOUNDATION DRAIN INDEPENDENT	WASTE WATER DRAIN C. I.	WASTE WATER DRAIN TILE
90								

CLEAR WATER DRAIN C. I.	CLEAR WATER DRAIN TILE	SEPTIC TANK	PRIVY	SEEPAGE PIT	ABSORPTION FIELD	BARN	SILO	ABANDONED WELL	SINK HOLE
		110		120					

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for:

7. DRILLHOLE

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
Dug	Surface	95			
~~6~~ 5	25	91			

8. CASING, LINER, CURBING, AND SCREEN

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
6	Steel	Surface	80

9. GROUT OR OTHER SEALING MATERIAL

Kind	From (ft.)	To (ft.)
Cuttings	Surface	25

10. FORMATIONS

Kind	From (ft.)	To (ft.)
Dug hole	Surface	25
Sand	25	79
Gravel	79	84

11. MISCELLANEOUS DATA

Yield test: 10 Hrs. at 20 GPM

Depth from surface to normal water level 18 ft.

Depth to water level when pumping 20 ft.

Well construction completed on 6/2/64 19

Well is terminated 3 ft. inches ☐ above ☒ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison WSK laboratory on: 19

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: James Perry — Registered Well Driller

COMPLETE MAIL ADDRESS: R 1 Johnson Creek Wis

Please do not write in space below

COLIFORM TEST RESULT	GAS — 24 HRS.	GAS — 48 HRS.	CONFIRMED	REMARKS
1034				

WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

RECEIVED
MAY 24 1949
BUREAU
SAN. ENG.

1. County Jefferson { Town ☑ / Village ☐ / City ☐ } MacKenzie
   Check one and give name

2. Location North Sec 2 T5N R14E
   Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Harold Leslie
   Name of individual, partnership or firm

4. Mail Address Ft. Atkinson, Wisconsin
   Complete address required

5. From well to nearest: Building 10 ft; sewer ____ ft; drain 25 ft; septic tank 50 ft; dry well or filter bed ____ ft; abandoned well ____ ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
4	0	234			

8. CASING AND LINER PIPE OR CURBING:

Dia. (in.)	Kind	From (ft.)	To (ft.)
4	Standard Wt.	0	234

9. GROUT:

Kind	From (ft.)	To (ft.)

10. FORMATIONS:

Kind	From (ft.)	To (ft.)
Sand & clay	0	32
Gravel	32	35
Sand	35	40
Clay	40	42
Sand	42	62
Gray clay	62	180
Sand	180	197
Sand and gravel	197	234

Construction of the well was completed on:

May 4th 19 49

The well is terminated 24 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion?

Yes ____ No X

Was the well sealed watertight upon completion?

Yes ____ No X

11. MISCELLANEOUS DATA:

Yield test: ____ Hrs. at ____ GPM.

Depth from surface to water-level: flow ft.

Water-level when pumping: ____ ft.

Water sample was sent to the state laboratory at:

____ City on ____ 19____

Signature W. H. Hardt
Registered Well Driller

Jefferson, Wisconsin
Complete Mail Address

Please do not write in space below

Rec'd ____ No. ____

Ans'd ____

Interpretation ____

	10 ml	10 ml	10 ml	10 ml	10 ml
Gas—24 hrs.					
48 hrs.					
Confirm					
B. Coli					

Examiner ____

1035

WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

Vol. 6

MAR 25 1965

SANITARY ENGINEERING

1. County Jefferson — Town ☑ / Village ☐ / City ☐ Koshkonong (Check one and give name)

2. Location AA Sec. 8 T5N R14E
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Charles McKinnie
Name of individual, partnership or firm

4. Mail Address R.R. Foet Jefferson
Complete address required

5. From well to nearest: Building 10 ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed ____ ft; abandoned well ____ ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
10	0	20			
6	20	83			

8. CASING AND LINER PIPE OR CURBING:

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
6	STANDARD	0	83

9. GROUT:

Kind	From (ft.)	To (ft.)
Cuttings	0	20

10. FORMATIONS:

Kind	From (ft.)	To (ft.)
Hardpan	0	20
Sand	20	82
Gravel	82	83

Construction of the well was completed on:

12 1964

The well is terminated 12 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion?

Yes X No

Was the well sealed watertight upon completion?

Yes X No

11. MISCELLANEOUS DATA:

Yield test: 2 Hrs. at 10 GPM.

Depth from surface to water-level: 53 ft.

Water-level when pumping: 53 ft.

Water sample was sent to the state laboratory at: Madison City on 3/24 1965

Signature E. W. Putnam
Registered Well Driller

1207 S Main Jefferson
Complete Mail Address

Please do not write in space below

Rec'd ____ No. ____

Ans'd ____

Interpretation ____

1036

	10 ml	10 ml	10 ml	10 ml	10 ml
Gas—24 hrs.					
48 hrs.					
Confirm					
B. Coli					

Examiner ____

Wel 6

WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Jefferson — Town ☒ Village ☐ City ☐ Koshkonong — Check one and give name

2. Location Section 8 T5N - R14E
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Harold Frayer
Name of individual, partnership or firm

4. Mail Address R # 1 Fort Atkinson, Wisconsin
Complete address required

5. From well to nearest: Building____ft; sewer____ft; drain____ft; septic tank____ft;
dry well or filter bed____ft; abandoned well____ft.

RECEIVED
MAR 12 1959
ENVIRONMENTAL SANITATION

6. Well is intended to supply water for: family use.

7. **DRILLHOLE:**

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
5	0	271			

8. **CASING AND LINER PIPE OR CURBING:**

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
5	steel	0	265

9. **GROUT:**

Kind	From (ft.)	To (ft.)
none		

10. **FORMATIONS:**

Kind	From (ft.)	To (ft.)
top soil	0	2
sand, grave, clay	2	25
fine sand	25	130
clay	130	140
fine sand	140	175
clay	175	252
sand gravel	252	253
sandy clay, gravel	253	260
sandstone	260	271

11. **MISCELLANEOUS DATA:**

Yield test: 3 Hrs. at 32 GPM.

Depth from surface to water-level: 0 ft.

Water-level when pumping: 0 ft.

Water sample was sent to the state laboratory at:
Beloit, Wis. (City) on Mar. 2, 1959 19____

Construction of the well was completed on:
January 8, 1959 19____

The well is terminated 8 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion?
Yes X No____

Was the well sealed watertight upon completion?
Yes X No____

Signature Douglas Halgen
Registered Well Driller

1975 Prairie Avenue, Beloit, Wis.
Complete Mail Address

Please do not write in space below

Rec'd MAR 3 - 1959 No. 375

Ans'd

Interpretation

SAFE

	10 ml	10 ml	10 ml	10 ml	10 ml
Gas—24 hrs.					
48 hrs.	+	7	0	0	0
Confirm		0	0		
B. Coli	0/5				

Examiner____

1039

Wel 6

WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Jefferson — Town ☑ Village ☐ City ☐ Koshkonong (Check one and give name)

2. Location Sec. 8, T 5 N, R 14 E
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☑ or Agent ☐ H. E. Holling
Name of individual, partnership or firm

4. Mail Address R# 3, Fort Atkinson, Wis.
Complete address required

5. From well to nearest: Building 35 ft; sewer — ft; drain — ft; septic tank 60 ft; dry well or filter bed 80 ft; abandoned well — ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
6	25	81			

8. CASING AND LINER PIPE OR CURBING:

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
6	Steel	0	80

9. GROUT:

Kind	From (ft.)	To (ft.)
~~Drill Cuttings~~	~~25~~	~~80~~
" "	5	25

10. FORMATIONS:

Kind	From (ft.)	To (ft.)
Dug Hole	0	25
Sand	25	79
Water bearing Gravel	79	81

RECEIVED
SEP 8 1961
GEOLOGICAL ENGINEERING

11. MISCELLANEOUS DATA:

Yield test: 2 Hrs. at 20 GPM.

Depth from surface to water-level: 18 ft.

Water-level when pumping: 24 ft.

Water sample was sent to the state laboratory at: ——— City on ——— 19——

Construction of the well was completed on: 5/26 19 61

The well is terminated 6 2 inches ☐ above, below ☑ the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No ———

Was the well sealed watertight upon completion? Yes ✓ No ———

Signature J. F. Verner (Registered Well Driller) — R 3 Jefferson Wis. (Complete Mail Address)

Please do not write in space below

Rec'd ——— No. ———

Ans'd ———

Interpretation ———

	10 ml	10 ml	10 ml	10 ml	10 ml
Gas—24 hrs.					
48 hrs.					
Confirm					
B. Coli					

Examiner ———

10-38

WELL CONSTRUCTOR'S REPORT

Wel–6

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Jefferson

CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Koshkonong

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
NW 1/4 Sec 8, Tn 5N, R 14E

3. OWNER AT TIME OF DRILLING
William Jackl

4. OWNER'S COMPLETE MAIL ADDRESS
R. 3, Fort Atkinson, Wis

5. Distance in feet from well to nearest: (Record answer in appropriate block)

BUILDING	SANITARY SEWER C. I.	SANITARY SEWER TILE	FLOOR DRAIN C. I.	FLOOR DRAIN TILE	FOUNDATION DRAIN SEWER CONNECTED	FOUNDATION DRAIN INDEPENDENT	WASTE WATER DRAIN C. I.	WASTE WATER DRAIN TILE
15								

CLEAR WATER DRAIN C. I.	CLEAR WATER DRAIN TILE	SEPTIC TANK	PRIVY	SEEPAGE PIT	ABSORPTION FIELD	BARN	SILO	ABANDONED WELL	SINK HOLE
		55			65				

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for:
Home

7. DRILLHOLE

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
10	Surface	24			
6	24	132			

8. CASING, LINER, CURBING, AND SCREEN

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
5	Gr A Jap bl steel	Surface	131
	T&C 19.45 # ASTM A53		

9. GROUT OR OTHER SEALING MATERIAL

Kind	From (ft.)	To (ft.)
Cuttings	Surface	24

10. FORMATIONS

Kind	From (ft.)	To (ft.)
Hard pan	Surface	24
Sand	24	130
Water bearing gravel	130	132

11. MISCELLANEOUS DATA

Yield test: 3 Hrs. at 25 GPM

Depth from surface to normal water level 11 ft.

Depth to water level when pumping 16 ft.

Well construction completed on Jul 21 19 73

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon compietion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: Jul 29 1973

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Jim Werner Registered Well Driller

COMPLETE MAIL ADDRESS: R. 1, Jefferson

Please do not write in space below

COLIFORM TEST RESULT	GAS — 24 HRS.	GAS — 48 HRS.	CONFIRMED	REMARKS
1073				

JE-296-U

WELL CONSTRUCTOR'S REPORT

Wel-6

MAR -4 1971

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Jefferson

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Koshkonong

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
NW¼-NW¼-SW¼-NW¼-SEC 8-R14E-T5N

3. OWNER AT TIME OF DRILLING
Hartwig's Egg & Poultry Market

4. OWNER'S COMPLETE MAIL ADDRESS
107 Sherman West Fort Atkinson, Wis. 53538

5. Distance in feet from well to nearest: (Record answer in appropriate block)
x means none

BUILDING	SANITARY SEWER C. I.	SANITARY SEWER TILE	FLOOR DRAIN C. I.	FLOOR DRAIN TILE	FOUNDATION DRAIN SEWER CONNECTED	FOUNDATION DRAIN INDEPENDENT	WASTE WATER DRAIN C. I.	WASTE WATER DRAIN TILE
60	65	x	x	x	x	x	x	x

CLEAR WATER DRAIN C. I.	CLEAR WATER DRAIN TILE	SEPTIC TANK	PRIVY	SEEPAGE PIT	ABSORPTION FIELD	BARN	SILO	ABANDONED WELL	SINK HOLE
x	x	65	x	x	75	x	x	x	x

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)
x

6. Well is intended to supply water for:
Chickens

7. DRILLHOLE

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
10	Surface	20	6	20	298

8. CASING, LINER, CURBING, AND SCREEN

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
6	T & C New Black Steel 19.45 #'	Surface	267'7"

9. GROUT OR OTHER SEALING MATERIAL

Kind	From (ft.)	To (ft.)
Drill cuttings	Surface	20

10. FORMATIONS

Kind	From (ft.)	To (ft.)
Top Soil	Surface	1
Hardpan	1	20
Sand	20	59
Hardpan	59	135
Sand & Gravel	135	173
Sand	173	225
Sandy Clay	225	263
Red Sandstone & Shale	263	266
Red Sandstone	266	288
White Sandstone	288	298

Well construction completed on February 12 19 71

11. MISCELLANEOUS DATA

Yield test: 4 Hrs. at 40 GPM

Depth from surface to normal water level 14 ft.

Depth to water level when pumping 18 ft.

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison #41798 laboratory on: February 16 19 71

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE

Marvin A. Mollenhauer Registered Well Driller

COMPLETE MAIL ADDRESS Jefferson Well Drilling Co.
1207 So. Main
Jefferson, Wis. 53549

Please do not write in space below

COLIFORM TEST RESULT	GAS — 24 HRS.	GAS — 48 HRS.	CONFIRMED	REMARKS
1040				

REV. 11-68

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

OCT 7 1974

SEP 16 1974

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

JE-309-G

1. COUNTY Jefferson

CHECK ONE: ☐ Town ☐ Village ☒ City

NAME: Fort Atkinson

2. LOCATION – ¼ Section✓: SW¼ of NE¼ | Section: 8 | Township: 5N | Range: 14E

OR Grid or street no. | Street name

AND If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING
City of Fort Atkinson
ADDRESS

POST OFFICE
Fort Atkinson, Wisconsin 53538

4. Distance in feet from well to nearest: (Record answer in appropriate block)

BUILDING	SANITARY SEWER C. I.	SANITARY SEWER TILE	FLOOR DRAIN C. I.	FOUNDATION DRAIN SEWER CONNECTED	FOUNDATION DRAIN INDEPENDENT	WASTE WATER DRAIN C. I.	WASTE WATER DRAIN TILE
107' MAIN			~~FLOOR~~ ROOF 96'				

CLEAR WATER DRAIN C. I.	CLEAR WATER DRAIN TILE	SEPTIC TANK	PRIVY	SEEPAGE PIT	~~ABSORPTION FIELD~~	BARN	SILO	~~ABANDONED WELL~~	~~SINK HOLE~~
					SLUDGE PIPING 295'			NON-POTABLE WATER MAIN 190'	NEAREST TREATMENT UNIT 256'

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for:
Sewage Treatment

6. DRILLHOLE

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
16"	Surface 0'	50'-3"	10-3/4"	50'-3"	276'-8"
8-5/8"	276'-8"	310'	8"	310'	410'

7. CASING, LINER, CURBING, AND SCREEN

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
10-3/4	A53B Welded .365 WALL	Surface	276'-8"
8-5/8 O.D.	A53B 322 wall welded	183'-4⅓"	310'
16"	A53B welded	0'	50'-3"

8. GROUT OR OTHER SEALING MATERIAL

Kind	From (ft.)	To (ft.)
Neat Cement-between 10 & 16" pipe	Surface	50'

9. FORMATIONS

Kind	From (ft.)	To (ft.)
Sand and clay	Surface 0'	5'
Sand gravel and streaks of clay	5'	101'
Sticky gray clay	101'	149'
Clay with streaks of sand	149'	153'
Gray clay	153'	255'
Sand	255'	283'
Hardpan	283'	286'
Sand with small gravel	286'	305'
Broken sandstone	305'	310'
Sandstone	310'	410'

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on JULY 1974

Well is terminated 8 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 3 Hrs. at 350 GPM

Depth from surface to normal water level well flowing (Swl) approx. 5 ft. above ground level

Depth to water level when pumping 25 ft.

Water sample sent to State laboratory on: July 30, 1974

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE T. E. Leicht

LAYNE-NORTHWEST Registered Well Driller

COMPLETE MAIL ADDRESS
6005 West Martin Drive
Milwaukee, Wisconsin 53213

Please do not write in space below

T. E. LEICHT/ls 9-13-74

COLIFORM TEST RESULT	GAS - 24 HRS.	GAS – 48 HRS.	CONFIRMED	REMARKS

REV. 3–71

Well Construction Report
WISCONSIN UNIQUE WELL NUMBER AAB420

Drinking Water and Groundwater - DG/5
Department of Natural Resources, Box 7921
Madison WI 53707

Form 3300-077A

Property Owner: REEGA-DANZER, KAREN	Phone #: (262)758-4029
Mailing Address: N1859 BLACKHAWK ISLAND ROAD	
City: FORT ATKINSON	State: WI / Zip Code: 53538
County: Jefferson	Co. Permit #:
Notification #: 7973296305	Completed: 05-07-2020
Well Constructor (Business Name): SAM'S WELL DRILLING INC	Lic. #: 370
Facility ID # (Public Wells):	
Address: PO BOX 150 N9935 PLEASANT RD RANDOLPH WI 53956	
Well Plan Approval #:	
Approval Date (mm-dd-yyyy):	
Hicap Permanent Well #:	Common Well #:
Specific Capacity: 1.4	

1. Well Location

Town of KOSHKONONG	Fire # (if avail.): N1859
Street Address or Road Name and Number: BLACKHAWK ISLAND ROAD	
Subdivision Name:	Lot #: / Block #:
Latitude / Longitude in Decimal Degree (DD): 42.9094 °N -88.8759 °W	Method Code: GPS008
NW SW or Govt Lot #:	Section: 8 / Township: 5 N / Range: 14 E

2. Well Type Replacement

of previous unique well #: constructed in:

Reason for replaced or reconstructed well ?: POINT WELL

Construction Type: Drilled

3. Well serves 1 # of HOME

Private,potable

Heat Exchange____# of drillholes

Hicap Well ? No

Hicap Property ? No

Hicap Potable ? No

4. Potential Contamination Sources - ON REVERSE SIDE

5. Drillhole Dimensions and Construction Method

Dia. (in.)	From (ft.)	To (ft.)
6	Surface	64

Upper Enlarged Drillhole		Lower Open Bedrock
No	Rotary - Mud Circulation	No
No	Rotary - Air	No
No	Rotary - Air & Foam	No
Yes	Drill-Through Casing Hammer	
No	Reverse Rotary	
No	Cable-tool Bit ____in. dia...	No
No	Dual Rotary	No
No	Temp. Outer Casing ____in. dia	
No	Removed? ____depth ft. (If NO explain on back side)	

Geology Codes				8. Geology Type, Caving/Noncaving, Color, Hardness, etc...	From (ft.)	To (ft.)
		S	C	S-SAND C-CLAYEY	Surface	15
		S	G	S-SAND G-W/GRAVEL/STONES	15	30
		Y	M	Y-SAND & GRAVEL M-SILTY	30	45
	A	S		A-COARSE S-SAND	45	59
		Y		Y-SAND & GRAVEL	59	64

6. Casing, Liner, Screen

Dia. (in.)	Material, Weight, Specification Manufacturer & Method of Assembly	From (ft.)	To (ft.)
6	STD, BLK, PIPE, .280 WALL, P.E., A53B, WHEATLAND	Surface	60
Dia. (in.)	Screen type, material & slot size	From (ft.)	To (ft.)
5	#15 SLOTTED STAINLESS STEEL TELESCOPING SCREEN WITH K-PACKER	59	64

7. Grout or Other Sealing Material

Method MOUNDED

Kind of Sealing Material	From (ft.)	To (ft.)	# Sacks Cement
GRANULAR BENTONITE	Surface		

9. Static Water Level

16 ft. below ground surface

10. Pump Test

Pumping level 45 ft. below surface

Pumping at 40 GP M for 1 Hrs.

Pumping Method ? Airlift

11. Well Is

22 in. above grade

Developed ? Yes

Disinfected ? Yes

Capped ? Yes

12. Notified Owner of need to fill & seal ? Yes

Filled & Sealed Well(s) as needed? No

PUMP INSTALLER TO ABANDON WELL

13. Constructor / Supervisory Driller	Lic #	Date Signed
JVG	6026	05-08-2020
Drill Rig Operator	**Lic or Reg #**	**Date Signed**
KB	7372	05-07-2020

4a. Potential Contamination Sources Is the well located in floodplain ? No

Comment:

Water Quality Text:

Water Quantity Text:

Difficulty Text:

Created On: 05-08-2020 Created by: swdlabs Updated On: 05-11-2020 Updated by: WELL PROCESS

Well Construction Report
WISCONSIN UNIQUE WELL NUMBER LL177

Drinking Water and Groundwater - DG/5
Department of Natural Resources, Box 7921
Madison WI 53707

Form 3300-077A

Property Owner: PUNDSACK, KENNETH	Phone #: (414)563-4745
Mailing Address: N1811 BLACKHAWK ISLA	
City: FORT ATKINSON	State: WI — Zip Code: 53538
County: Jefferson	Co. Permit #: — Notification #: — Completed: 11-22-1996
Well Constructor (Business Name): HERR WELL DRILLING INC	Lic. #: 672 — Facility ID # (Public Wells):
Address: W295 HERR RD, DOUSMAN WI 53118-9407	Well Plan Approval #: — Approval Date (mm-dd-yyyy):
Hicap Permanent Well #: — Common Well #: — Specific Capacity: 1	

1. Well Location

Town of KOSHKONONG

Fire # (if avail.):

Street Address or Road Name and Number: N1811 BLACKHAWK ISLAND RD

Subdivision Name: — Lot #: — Block #:

Latitude / Longitude in Decimal Degree (DD): 42.9085 °N -88.8768 °W — Method Code: GCD013

NE SE or Govt Lot #: — Section: 7 — Township: 5 N — Range: 14 E

2. Well Type Replacement

of previous unique well #: — constructed in:

Reason for replaced or reconstructed well ?: REPLACING OLD WELL

Construction Type: Drilled

3. Well serves 1 # of

Private,potable

Heat Exchange____# of drillholes

Hicap Well ? No

Hicap Property ? No

Hicap Potable ?

4. Potential Contamination Sources - ON REVERSE SIDE

5. Drillhole Dimensions and Construction Method

Dia. (in.)	From (ft.)	To (ft.)
6	Surface	78

Upper Enlarged Drillhole — Lower Open Bedrock

- Rotary - Mud Circulation .....
- Rotary - Air .....
- Rotary - Air & Foam .....
- Drill-Through Casing Hammer
- Reverse Rotary
- Cable-tool Bit ____in. dia...
- Dual Rotary .....
- Temp. Outer Casing ____in. dia
  - Removed? ____depth ft. (If NO explain on back side)

Geology Codes				8. Geology Type, Caving/Noncaving, Color, Hardness, etc...	From (ft.)	To (ft.)
		Y		SAND @ GRAVEL	Surface	31
		Y	C	SAND GRAVEL @ CLAY	31	63
		S		SAND	63	70
		Y		SAND @ GRAVEL	70	78

6. Casing, Liner, Screen

Dia. (in.)	Material, Weight, Specification Manufacturer & Method of Assembly	From (ft.)	To (ft.)
6	18 97 LBS PER FOOT NEW STEEL PLAIN END ASTM A53GRADE B SAWHILL TUBULAR 2660 LBS PSI	Surface	75
Dia. (in.)	Screen type, material & slot size	From (ft.)	To (ft.)
6	TELE SS SCREEN 25 SLOT W PACK @ NIPPLE INSTALLED	75	78

7. Grout or Other Sealing Material

Method

Kind of Sealing Material	From (ft.)	To (ft.)	# Sacks Cement
GRANULAR 8 MESH	Surface	0	

9. Static Water Level

20 ft. below ground surface

10. Pump Test

Pumping level 45 ft. below surface

Pumping at 25 GP M for 2 Hrs.

Pumping Method ?

11. Well Is

12 in. above grade

Developed ? Yes

Disinfected ? Yes

Capped ? Yes

12. Notified Owner of need to fill & seal ?

Filled & Sealed Well(s) as needed? No

NOT CONTRACTED TO DO IT

13. Constructor / Supervisory Driller	Lic #	Date Signed
JH		12-18-1996
Drill Rig Operator	**Lic or Reg #**	**Date Signed**
SB		12-18-1996

4a. Potential Contamination Sources Is the well located in floodplain ? No

Type	Qualifier	Distance
POWTS dispersal component (soil absorption unit or mound)		120

Type	Qualifier	Distance
Building Overhang		15
Septic or Holding, or POWTS Tank		93

Comment:

Water Quality Text:

Water Quantity Text:

Difficulty Text:

Created On: 03-26-1997 Created by: HFRC LOAD Updated On: 09-26-2019 Updated by: PARCEL_MATCH

Well Construction Report
WISCONSIN UNIQUE WELL NUMBER LN369

Drinking Water and Groundwater - DG/5
Department of Natural Resources, Box 7921
Madison WI 53707

Form 3300-077A

Property Owner: PUNDSACK, KENNETH	Phone #: (414)563-4745
Mailing Address: W6855 CHRISTIE CT	
City: FORT ATKINSON	State: WI — Zip Code: 53538
County: Jefferson	Co. Permit #: — Notification #: — Completed: 02-12-1997
Well Constructor (Business Name): HERR WELL DRILLING INC	Lic. #: 672 — Facility ID # (Public Wells):
Address: W295 HERR RD, DOUSMAN WI 53118-9407	Well Plan Approval #: — Approval Date (mm-dd-yyyy):
Hicap Permanent Well #: — Common Well #: — Specific Capacity: 0.8	

1. Well Location

Town of KOSHKONONG

Fire # (if avail.):

Street Address or Road Name and Number: W6855 CHRISTIE CT

Subdivision Name: — Lot #: — Block #:

Latitude / Longitude in Decimal Degree (DD): 42.9066 °N -88.8739 °W — Method Code: GCD013

SW SW or Govt Lot #: — Section: 8 — Township: 5 N — Range: 14 E

2. Well Type New Well

of previous unique well #: — constructed in:

Reason for replaced or reconstructed well ?: WATER SUPPLY FOR NEW HOME

Construction Type: Drilled

3. Well serves 1 # of

Private,potable

Heat Exchange____# of drillholes

Hicap Well ? No

Hicap Property ? No

Hicap Potable ?

4. Potential Contamination Sources - ON REVERSE SIDE

5. Drillhole Dimensions and Construction Method

Dia. (in.)	From (ft.)	To (ft.)
6	Surface	93

Upper Enlarged Drillhole — Lower Open Bedrock

- Rotary - Mud Circulation .....
- Rotary - Air .....
- Rotary - Air & Foam .....
- Drill-Through Casing Hammer
- Reverse Rotary
- Cable-tool Bit ____in. dia...
- Dual Rotary .....
- Temp. Outer Casing ____in. dia
  - Removed? ____depth ft. (If NO explain on back side)

Geology Codes				8. Geology Type, Caving/Noncaving, Color, Hardness, etc...	From (ft.)	To (ft.)
		Z		GRAVEL @ CLAY	Surface	11
		Y		SAND @ GRAVEL	11	47
		Y	C	SAND GRAVEL @ CLAY	47	72
		Y		SAND @ GRAVEL	72	93

6. Casing, Liner, Screen

Dia. (in.)	Material, Weight, Specification Manufacturer & Method of Assembly	From (ft.)	To (ft.)
6	1897 LBS PER FT NEW STEEL PLAIN END ASTMA 53 GRB SAWHILL TUBULAR 2660 LBS FT	Surface	90
Dia. (in.)	**Screen type, material & slot size**	**From (ft.)**	**To (ft.)**
6	TELE SS SCREEN 35 SLOT W PACKER @ NIPPLE INSTALLED	90	93

7. Grout or Other Sealing Material

Method

Kind of Sealing Material	From (ft.)	To (ft.)	# Sacks Cement
GRANULAR 8 MESH BENTONITE	Surface	0	

9. Static Water Level

25 ft. below ground surface

10. Pump Test

Pumping level 50 ft. below surface

Pumping at 20 GP M for 2 Hrs.

Pumping Method ?

11. Well Is

12 in. above grade

Developed ? Yes

Disinfected ?

Capped ? Yes

12. Notified Owner of need to fill & seal ?

Filled & Sealed Well(s) as needed?

NONE

13. Constructor / Supervisory Driller	Lic #	Date Signed
JH		02-22-1997
Drill Rig Operator	**Lic or Reg #**	**Date Signed**
SB		02-22-1997

4a. Potential Contamination Sources Is the well located in floodplain ? No

Type	Qualifier	Distance
POWTS dispersal component (soil absorption unit or mound)		55

Type	Qualifier	Distance
Building Overhang		15
Septic or Holding, or POWTS Tank		37

Comment:

Water Quality Text:

Water Quantity Text:

Difficulty Text:

Created On: 03-26-1997 Created by: HFRC LOAD Updated On: 09-26-2019 Updated by: PARCEL_MATCH

Well Construction Report
WISCONSIN UNIQUE WELL NUMBER NC813

Drinking Water and Groundwater - DG/5
Department of Natural Resources, Box 7921
Madison WI 53707

Form 3300-077A

Property Owner: HARTWIG, RUSS	Phone #: (414)563-1015
Mailing Address: W6847 HWY 106	
City: FORT ATKINSON	State: WI — Zip Code: 53538
County: Jefferson	Co. Permit #: — Notification #: — Completed: 02-16-1999
Well Constructor (Business Name): HERR WELL DRILLING INC	Lic. #: 672 — Facility ID # (Public Wells):
Address: W295 HERR RD, DOUSMAN WI 53118-9407	Well Plan Approval #: — Approval Date (mm-dd-yyyy):
Hicap Permanent Well #:	Common Well #: — Specific Capacity: 1

1. Well Location

Town of KOSHKONONG

Fire # (if avail.):

Street Address or Road Name and Number: 1975 BLACKHAWK ISLAND DR

Subdivision Name: — Lot #: — Block #:

Latitude / Longitude in Decimal Degree (DD): 42.9139 °N -88.8742 °W — Method Code: GCD013

SW	NW	Section	Township	Range
or Govt Lot #		8	5 N	14 E

2. Well Type Replacement

of previous unique well # — constructed in

Reason for replaced or reconstructed well ?: REPLACING OLD POINT

Construction Type: Drilled

3. Well serves 1 # of

Private,potable

Heat Exchange____# of drillholes

Hicap Well ? No

Hicap Property ? No

Hicap Potable ?

4. Potential Contamination Sources - ON REVERSE SIDE

5. Drillhole Dimensions and Construction Method

Dia. (in.)	From (ft.)	To (ft.)
6	Surface	61

Upper Enlarged Drillhole — Lower Open Bedrock

- Rotary - Mud Circulation .....
- Rotary - Air .....
- Rotary - Air & Foam .....
- Drill-Through Casing Hammer
- Reverse Rotary
- Cable-tool Bit ____in. dia...
- Dual Rotary .....
- Temp. Outer Casing ____in. dia
  - Removed? ____depth ft. (If NO explain on back side)

Geology Codes				8. Geology Type, Caving/Noncaving, Color, Hardness, etc...	From (ft.)	To (ft.)
		Y	C	SAND, GRAVEL & CLAY	Surface	13
		Y		SAND & GRAVEL	13	32
		Y	C	SAND, GRAVEL & CLAY	32	51
		Y		SAND & GRAVEL	51	61

6. Casing, Liner, Screen

Dia. (in.)	Material, Weight, Specification Manufacturer & Method of Assembly	From (ft.)	To (ft.)
6	18.97# PER FOOT NEW STEEL PLAIN END ASTM A53 GRADE B SAWHILL TUBULAR 2660# PSI	Surface	58
Dia. (in.)	Screen type, material & slot size	From (ft.)	To (ft.)
6	TELESCOPIC STAINLESS STEEL SCREEN, 12 SLOT, WITH P	58	61

7. Grout or Other Sealing Material

Method

Kind of Sealing Material	From (ft.)	To (ft.)	# Sacks Cement
GRANULAR 8 MESH BENTONITE	Surface		

9. Static Water Level

16 ft. below ground surface

10. Pump Test

Pumping level 40 ft. below surface

Pumping at 25 GP M for 2 Hrs.

Pumping Method ?

11. Well Is

12 in. above grade

Developed ? Yes

Disinfected ? Yes

Capped ? Yes

12. Notified Owner of need to fill & seal ?

Filled & Sealed Well(s) as needed? No

NOT CONTRACTED TO DO IT

13. Constructor / Supervisory Driller	Lic #	Date Signed
JH		04-06-1999
Drill Rig Operator	**Lic or Reg #**	**Date Signed**
SB		04-06-1999

4a. Potential Contamination Sources Is the well located in floodplain ? No

Type	Qualifier	Distance
POWTS dispersal component (soil absorption unit or mound)		90

Type	Qualifier	Distance
Building Overhang		10
Septic or Holding, or POWTS Tank		57

Comment:

Water Quality Text:

Water Quantity Text:

Difficulty Text:

Created On: 05-27-1999 Created by: WELL CONST LOAD Updated On: 09-26-2019 Updated by: PARCEL_MATCH

Well Construction Report
WISCONSIN UNIQUE WELL NUMBER NV713

Drinking Water and Groundwater - DG/5
Department of Natural Resources, Box 7921
Madison WI 53707

Form 3300-077A

Property Owner: HARTWIG, RUSSELL		Phone #: (920)563-1015
Mailing Address: W6847 HWY 106		
City: FORT ATKINSON	State: WI	Zip Code: 53538

County	Co. Permit #	Notification #	Completed
Jefferson			12-10-1999

Well Constructor (Business Name)	Lic. #	Facility ID # (Public Wells)
HERR WELL DRILLING INC	672	

Address: W295 HERR RD
DOUSMAN WI 53118-9407

Well Plan Approval #:

Approval Date (mm-dd-yyyy):

Hicap Permanent Well #	Common Well #	Specific Capacity
		1

3. Well serves 1 # of CHICKEN
Private,potable
Heat Exchange____# of drillholes

Hicap Well ? No
Hicap Property ? No
Hicap Potable ?

1. Well Location
Town of KOSHKONONG

Fire # (if avail.):

Street Address or Road Name and Number
W1975 BLACKHAWK ISLAND DR

Subdivision Name	Lot #	Block #

Latitude / Longitude in Decimal Degree (DD)		Method Code
°N	°W	GPS008

SW	NW	Section	Township	Range
or Govt Lot #		8	5 N	14 E

2. Well Type New Well
of previous unique well # constructed in

Reason for replaced or reconstructed well ?
WATER SUPPLY FOR CHICKEN

Construction Type: Drilled

4. Potential Contamination Sources - ON REVERSE SIDE

5. Drillhole Dimensions and Construction Method

Dia. (in.)	From (ft.)	To (ft.)
6	Surface	57

Upper Enlarged Drillhole
Lower Open Bedrock
Rotary - Mud Circulation .....
Rotary - Air .....
Rotary - Air & Foam .....
Drill-Through Casing Hammer
Reverse Rotary
Cable-tool Bit ____in. dia...
Dual Rotary .....
Temp. Outer Casing ____in. dia
Removed? ____depth ft. (If NO explain on back side)

Geology Codes	8. Geology Type, Caving/Noncaving, Color, Hardness, etc...	From (ft.)	To (ft.)
Z	GRAVEL & CLAY	Surface	3
Y	SAND & GRAVEL	3	57

6. Casing, Liner, Screen

Dia. (in.)	Material, Weight, Specification Manufacturer & Method of Assembly	From (ft.)	To (ft.)
6	18.97 LBS. PER FOOT NEW STEEL PLAIN END ASTM A53 GRADE B SAWHILL TUBULAR 2660 LBS. PSI	Surface	54
Dia. (in.)	Screen type, material & slot size	From (ft.)	To (ft.)
6	TELESCOPIC STAINLESS STEEL SCREEN, 25 SLOT, WITH P	54	57

7. Grout or Other Sealing Material

Method

Kind of Sealing Material	From (ft.)	To (ft.)	# Sacks Cement
GRANULAR 8 MESH BENTONITE	Surface		

9. Static Water Level
10 ft. below ground surface

10. Pump Test
Pumping level 30 ft. below surface
Pumping at 20 GP M for 2 Hrs.
Pumping Method ?

11. Well Is
12 in. above grade
Developed ? Yes
Disinfected ? Yes
Capped ? Yes

12. Notified Owner of need to fill & seal ?

Filled & Sealed Well(s) as needed? No
NONE

13. Constructor / Supervisory Driller	Lic #	Date Signed
JH		12-27-1999
Drill Rig Operator	**Lic or Reg #**	**Date Signed**
RAD		01-20-2000

4a. Potential Contamination Sources Is the well located in floodplain ? No

Type	Qualifier	Distance	Type	Qualifier	Distance
Building Overhang		7	Septic or Holding, or POWTS Tank		55

Comment:

Water Quality Text:

Water Quantity Text:

Difficulty Text:

Created On: 02-29-2000 Created by: WELL CONST LOAD Updated On: 02-29-2000 Updated by: WELL PROCESS

Well Construction Report
WISCONSIN UNIQUE WELL NUMBER QI965

Drinking Water and Groundwater - DG/5
Department of Natural Resources, Box 7921
Madison WI 53707

Form 3300-077A

Property Owner: CAROTHERS, ROLAND	Phone #
Mailing Address: N1828 BLACKHAWK ISLA	
City: FORT ATKINSON	State: WI — Zip Code: 53538
County: Jefferson	Co. Permit #	Notification #	Completed: 08-01-2001
Well Constructor (Business Name): HERR WELL DRILLING INC	Lic. #: 672	Facility ID # (Public Wells)
Address: W295 HERR RD DOUSMAN WI 53118-9407	Well Plan Approval #	Approval Date (mm-dd-yyyy)
Hicap Permanent Well #	Common Well #	Specific Capacity: 1.2

1. Well Location

Town of KOSHKONONG

Fire # (if avail.)

Street Address or Road Name and Number: W1828 BLACKHAWK ISLAND RD

Subdivision Name	Lot #	Block #

Latitude / Longitude in Decimal Degree (DD)	Method Code
42.9086 °N -88.876 °W	GCD013

NW SW or Govt Lot #	Section	Township	Range
	8	5 N	14 E

2. Well Type New Well

of previous unique well # constructed in

Reason for replaced or reconstructed well ?: HAD SHARED WELL - NO WATER PRESSURE

Construction Type: Drilled

3. Well serves 1 # of

Private,potable

Heat Exchange____# of drillholes

Hicap Well ? No

Hicap Property ? No

Hicap Potable ?

4. Potential Contamination Sources - ON REVERSE SIDE

5. Drillhole Dimensions and Construction Method

Dia. (in.)	From (ft.)	To (ft.)
6	Surface	81

Upper Enlarged Drillhole — Lower Open Bedrock

Rotary - Mud Circulation .....
Rotary - Air .....
Rotary - Air & Foam .....
Drill-Through Casing Hammer
Reverse Rotary
Cable-tool Bit ____in. dia...
Dual Rotary .....
Temp. Outer Casing ____in. dia
Removed? ____depth ft. (If NO explain on back side)

Geology Codes				**8. Geology** Type, Caving/Noncaving, Color, Hardness, etc...	From (ft.)	To (ft.)
-	-	C	-	CLAY	Surface	3
-	-	Y	-	SAND & GRAVEL	3	36
-	-	S	-	SAND	36	74
-	-	Y	-	SAND & GRAVEL	74	81

6. Casing, Liner, Screen

Dia. (in.)	Material, Weight, Specification Manufacturer & Method of Assembly	From (ft.)	To (ft.)
6	18.97 LBS. PER FOOT NEW STEEL PLAIN END ASTM A53 GRADE B SAWHILL 2660 PSI	Surface	78
Dia. (in.)	Screen type, material & slot size	From (ft.)	To (ft.)
6	TELESCOPIC STAINLESS STEEL SCREEN, 18 SLOT, WITH P	78	81

7. Grout or Other Sealing Material

Method

Kind of Sealing Material	From (ft.)	To (ft.)	# Sacks Cement
GRANULAR 8 MESH BENTONITE	Surface		

9. Static Water Level

29 ft. below ground surface

10. Pump Test

Pumping level 50 ft. below surface

Pumping at 25 GP M for 3 Hrs.

Pumping Method ?

11. Well Is

12 in. above grade

Developed ? Yes

Disinfected ? Yes

Capped ? Yes

12. Notified Owner of need to fill & seal ?

Filled & Sealed Well(s) as needed? No

SOMEONE ELSE DOING JOB

13. Constructor / Supervisory Driller	Lic #	Date Signed
JH		08-07-2001
Drill Rig Operator	Lic or Reg #	Date Signed
RAD		08-07-2001

4a. Potential Contamination Sources Is the well located in floodplain ? No

Type	Qualifier	Distance
POWTS dispersal component (soil absorption unit or mound)		94

Type	Qualifier	Distance
Building Overhang		12
Septic or Holding, or POWTS Tank		74

Comment:

Water Quality Text:

Water Quantity Text:

Difficulty Text:

Created On: 08-27-2001 Created by: WELL CONST LOAD Updated On: 09-26-2019 Updated by: PARCEL_MATCH

Well Construction Report
WISCONSIN UNIQUE WELL NUMBER SB164

Drinking Water and Groundwater - DG/5
Department of Natural Resources, Box 7921
Madison WI 53707

Form 3300-077A

Property Owner: HACHTL, RON	Phone #: (920)885-6720
Mailing Address: W6876 HARTWIG LANE	
City: FORT ATKINSON	State: WI — Zip Code: 53538
County: Jefferson	Co. Permit #: — Notification #: — Completed: 08-01-2003
Well Constructor (Business Name): SAMS ROTARY DRILLERS INC	Lic. #: 370 — Facility ID # (Public Wells):
Address: PO BOX 150 RANDOLPH WI 53956-0150	Well Plan Approval #: — Approval Date (mm-dd-yyyy):
Hicap Permanent Well #:	Common Well #: — Specific Capacity: 0.9

1. Well Location

Town of KOSHKONONG

Fire # (if avail.):

Street Address or Road Name and Number: W6876 HARTWIG LANE

Subdivision Name	Lot #	Block #

Latitude / Longitude in Decimal Degree (DD)	Method Code
42.9085 °N -88.8746 °W	GCD013

NW SW or Govt Lot #	Section	Township	Range
	8	5 N	14 E

2. Well Type Replacement

of previous unique well # — constructed in

Reason for replaced or reconstructed well ?: OLD WELL WAS UNSAFE

Construction Type: Drilled

3. Well serves 1 # of

Private,potable

Heat Exchange____# of drillholes

Hicap Well ? No

Hicap Property ? No

Hicap Potable ?

4. Potential Contamination Sources - ON REVERSE SIDE

5. Drillhole Dimensions and Construction Method

Dia. (in.)	From (ft.)	To (ft.)
6	Surface	61

Upper Enlarged Drillhole		Lower Open Bedrock
No	Rotary - Mud Circulation	No
No	Rotary - Air	No
No	Rotary - Air & Foam	No
Yes	Drill-Through Casing Hammer	
No	Reverse Rotary	
No	Cable-tool Bit ____in. dia...	No
	Dual Rotary	
No	Temp. Outer Casing ____in. dia	
No	Removed? ____depth ft. (If NO explain on back side)	

Geology Codes				8. Geology Type, Caving/Noncaving, Color, Hardness, etc...	From (ft.)	To (ft.)
-	-	Y	C	Sand & Gravel, Clayey	Surface	46
-	-	Y	-	Sand & Gravel	46	61

6. Casing, Liner, Screen

Dia. (in.)	Material, Weight, Specification Manufacturer & Method of Assembly	From (ft.)	To (ft.)
6	STD. BLK. PIPE,.280 WALL, WLD., JNTS. A 53 SAWHILL	Surface	58
5	STD BLK PIPE, .258 WALL, RISER, T&C WHEATLAND, W/K-PACKER	54	58
Dia. (in.)	Screen type, material & slot size	From (ft.)	To (ft.)
5	SS # 20 SLOT	58	61

7. Grout or Other Sealing Material

Method

Kind of Sealing Material	From (ft.)	To (ft.)	# Sacks Cement
Granular bentonite	Surface		

9. Static Water Level

33 ft. below ground surface

10. Pump Test

Pumping level 55 ft. below surface

Pumping at 20 GP M for 1 Hrs.

Pumping Method ?

11. Well Is

18 in. above grade

Developed ? Yes

Disinfected ? Yes

Capped ? Yes

12. Notified Owner of need to fill & seal ?

Filled & Sealed Well(s) as needed?

13. Constructor / Supervisory Driller	Lic #	Date Signed
JVG		08-04-2003
Drill Rig Operator	**Lic or Reg #**	**Date Signed**
SUK		08-04-2003

4a. Potential Contamination Sources Is the well located in floodplain ? No

Type	Qualifier	Distance	Type	Qualifier	Distance
POWTS dispersal component (soil absorption unit or mound)		120	Building Overhang		25
			Septic or Holding, or POWTS Tank		80

Comment:

Water Quality Text:

Water Quantity Text:

Difficulty Text:

Created On: 09-05-2003 Created by: WELL CONST LOAD Updated On: 09-26-2019 Updated by: PARCEL_MATCH

Well Construction Report
WISCONSIN UNIQUE WELL NUMBER TS593

Drinking Water and Groundwater - DG/5
Department of Natural Resources, Box 7921
Madison WI 53707
Form 3300-077A

Property Owner: BOUND, JIM	Phone #: (920)568-7000
Mailing Address: W6856 CHRISTIE CRT	
City: FT ATKINSON	State: WI — Zip Code: 53538
County: Jefferson	Co. Permit #: — Notification #: — Completed: 08-18-2004
Well Constructor (Business Name): SAMS ROTARY DRILLERS INC	Lic. #: 370 — Facility ID # (Public Wells):
Address: PO BOX 150, RANDOLPH WI 53956-0150	Well Plan Approval #: — Approval Date (mm-dd-yyyy):
Hicap Permanent Well #:	Common Well #: — Specific Capacity: 0.8

1. Well Location

Town of KOSHKONONG				Fire # (if avail.): W6856
Street Address or Road Name and Number: CHRISTIE CRT				
Subdivision Name:	Lot #:	Block #:		
Latitude / Longitude in Decimal Degree (DD): 42.9074 °N -88.8724 °W				Method Code: GCD013
SW SW or Govt Lot #	Section: 8	Township: 5 N	Range: 14 E	

2. Well Type New Well
of previous unique well # — constructed in
Reason for replaced or reconstructed well ?
Construction Type: Drilled

3. Well serves 1 # of
Private,potable
Heat Exchange____# of drillholes
Hicap Well ? No
Hicap Property ? No
Hicap Potable ?

4. Potential Contamination Sources - ON REVERSE SIDE

5. Drillhole Dimensions and Construction Method

Dia. (in.)	From (ft.)	To (ft.)
6	Surface	80

Upper Enlarged Drillhole		Lower Open Bedrock
No	Rotary - Mud Circulation	No
No	Rotary - Air	No
No	Rotary - Air & Foam	No
Yes	Drill-Through Casing Hammer	
No	Reverse Rotary	
No	Cable-tool Bit ____in. dia...	No
	Dual Rotary	
No	Temp. Outer Casing ____in. dia	
No	Removed? ____depth ft. (If NO explain on back side)	

Geology Codes				8. Geology Type, Caving/Noncaving, Color, Hardness, etc...	From (ft.)	To (ft.)
-	-	Y	C	Sand & Gravel, Clayey	Surface	18
-	-	S	-	Sand	18	47
-	-	Y	-	Sand & Gravel	47	80

6. Casing, Liner, Screen

Dia. (in.)	Material, Weight, Specification Manufacturer & Method of Assembly	From (ft.)	To (ft.)
6	STD BLK, PIPE, .280 WALL, P.E., A53B WHEATLAND	Surface	77
5	STD BLK PIPE, .258 WALL, T&C WHEATLAND, WK-PACK	73	77
Dia. (in.)	Screen type, material & slot size	From (ft.)	To (ft.)
5	.020 SLOTTED STAINLESS	77	80

7. Grout or Other Sealing Material
Method

Kind of Sealing Material	From (ft.)	To (ft.)	# Sacks Cement
Granular bentonite	Surface		

9. Static Water Level
33 ft. below ground surface

10. Pump Test
Pumping level 65 ft. below surface
Pumping at 25 GP M for 1 Hrs.
Pumping Method ?

11. Well Is
18 in. above grade
Developed ? Yes
Disinfected ? Yes
Capped ? Yes

12. Notified Owner of need to fill & seal ?
Filled & Sealed Well(s) as needed?

13. Constructor / Supervisory Driller	Lic #	Date Signed
JVG		08-18-2004
Drill Rig Operator	**Lic or Reg #**	**Date Signed**
SUK		08-18-2004

4a. Potential Contamination Sources Is the well located in floodplain ? No

Type	Qualifier	Distance
Building Overhang		6

Comment:

Water Quality Text:

Water Quantity Text:

Difficulty Text:

Created On: 09-02-2004 Created by: WELL CONST LOAD Updated On: 09-26-2019 Updated by: PARCEL_MATCH

Well Construction Report
WISCONSIN UNIQUE WELL NUMBER YE929

Drinking Water and Groundwater - DG/5
Department of Natural Resources, Box 7921
Madison WI 53707
Form 3300-077A

Property Owner: BEEBE, MARJORIE	Phone #: (262)853-2717
Mailing Address: W6871 HARTWIG LN	
City: FORT ATKINSON	State: WI — Zip Code: 53538
County: Jefferson	Co. Permit #:
Notification #: 38654518	Completed: 11-03-2010
Well Constructor (Business Name): SAM'S WELL DRILLING INC	Lic. #: 370
Facility ID # (Public Wells):	
Address: PO BOX 150 RANDOLPH WI 53956-0150	
Well Plan Approval #:	
Approval Date (mm-dd-yyyy):	
Hicap Permanent Well #:	Common Well #:
Specific Capacity: 1.1	

1. Well Location

Town of KOSHKONONG	Fire # (if avail.): W6871
Street Address or Road Name and Number: HARTWIG CT	
Subdivision Name:	Lot #: — Block #:
Latitude / Longitude in Decimal Degree (DD): 42.90822 °N -88.87512 °W	Method Code: GPS008
NW SW or Govt Lot #:	Section: 8 — Township: 5 N — Range: 14 E

2. Well Type Replacement
of previous unique well # constructed in
Reason for replaced or reconstructed well ?: POINT WELL OUT OF WATER
Construction Type: Drilled

3. Well serves 1 # of
Private,potable
Heat Exchange____# of drillholes
Hicap Well ? No
Hicap Property ? No
Hicap Potable ?

4. Potential Contamination Sources - ON REVERSE SIDE

5. Drillhole Dimensions and Construction Method

Dia. (in.)	From (ft.)	To (ft.)
6	Surface	60

Upper Enlarged Drillhole		Lower Open Bedrock
No	Rotary - Mud Circulation	No
No	Rotary - Air	Yes
No	Rotary - Air & Foam	No
Yes	Drill-Through Casing Hammer	
No	Reverse Rotary	
No	Cable-tool Bit ____in. dia...	No
	Dual Rotary	
No	Temp. Outer Casing ____in. dia	
No	Removed? ____depth ft. (If NO explain on back side)	

Geology Codes				8. Geology Type, Caving/Noncaving, Color, Hardness, etc...	From (ft.)	To (ft.)
-	-	Z	S	Clay & Gravel, Sandy	Surface	40
-	-	Y	-	Sand & Gravel	40	60

6. Casing, Liner, Screen

Dia. (in.)	Material, Weight, Specification Manufacturer & Method of Assembly	From (ft.)	To (ft.)
6	STD BLK, PIPE, .280 WALL, P.E., A53B WHEATLAND	Surface	57
5	STD BLK PIPE, 258 WALL, RISER, T&C, IPSCO, W-K/PACK, A53B	53	57
Dia. (in.)	Screen type, material & slot size	From (ft.)	To (ft.)
5	#20 SLOTTED STAINLESS	57	60

7. Grout or Other Sealing Material
Method

Kind of Sealing Material	From (ft.)	To (ft.)	# Sacks Cement
Granular bentonite	Surface		

9. Static Water Level
32 ft. below ground surface

10. Pump Test
Pumping level 50 ft. below surface
Pumping at 20 GP M for 1 Hrs.
Pumping Method ?

11. Well Is
26 in. above grade
Developed ? Yes
Disinfected ? Yes
Capped ? Yes

12. Notified Owner of need to fill & seal ?
Filled & Sealed Well(s) as needed? Yes

13. Constructor / Supervisory Driller	Lic #	Date Signed
JVG		11-03-2010
Drill Rig Operator	**Lic or Reg #**	**Date Signed**
KB		11-03-2010

4a. Potential Contamination Sources Is the well located in floodplain ? No

Type	Qualifier	Distance	Type	Qualifier	Distance
POWTS dispersal component (soil absorption unit or mound)		85	Building Overhang		17
			Septic or Holding, or POWTS Tank		60

Comment:

Water Quality Text:

Water Quantity Text:

Difficulty Text:

Created On: 11-12-2010 Created by: WELL CONST LOAD Updated On: 09-26-2019 Updated by: PARCEL_MATCH_LL_OK

Well Construction Report
WISCONSIN UNIQUE WELL NUMBER YI815

Drinking Water and Groundwater - DG/5
Department of Natural Resources, Box 7921
Madison WI 53707
Form 3300-077A

Property Owner: HEIMAN, JIM	Phone #: (920)563-6708
Mailing Address: N1962 BLACKHAWK ISLAND DR	
City: FORT ATKINSON	State: WI — Zip Code: 53538
County: Jefferson	Co. Permit #:
Notification #: 46873786	Completed: 02-21-2013
Well Constructor (Business Name): SAM'S WELL DRILLING INC	Lic. #: 370
Facility ID # (Public Wells):	
Address: PO BOX 150 RANDOLPH WI 53956-0150	
Well Plan Approval #:	
Approval Date (mm-dd-yyyy):	
Hicap Permanent Well #:	Common Well #:
Specific Capacity: 0.7	

1. Well Location

Town of KOSHKONONG	Fire # (if avail.): N1926
Street Address or Road Name and Number: BLACKHAWK ISLAND DR	
Subdivision Name:	Lot #: — Block #:
Latitude / Longitude in Decimal Degree (DD): 42.91353 °N -88.87353 °W	Method Code: GPS008
SW NW or Govt Lot #:	Section: 8 — Township: 5 N — Range: 14 E

2. Well Type Replacement
of previous unique well #: — constructed in:
Reason for replaced or reconstructed well ?: POINT WELL IN BASEMENT
Construction Type: Drilled

3. Well serves 1 # of HOME
Private,potable
Heat Exchange____# of drillholes
Hicap Well ? No
Hicap Property ? No
Hicap Potable ?

4. Potential Contamination Sources - ON REVERSE SIDE

5. Drillhole Dimensions and Construction Method

Dia. (in.)	From (ft.)	To (ft.)
6	Surface	60

Upper Enlarged Drillhole		Lower Open Bedrock
No	Rotary - Mud Circulation	No
No	Rotary - Air	No
No	Rotary - Air & Foam	No
Yes	Drill-Through Casing Hammer	
No	Reverse Rotary	
No	Cable-tool Bit ____in. dia...	No
No	Dual Rotary	No
No	Temp. Outer Casing ____in. dia	
No	Removed? ____depth ft. (If NO explain on back side)	

Geology Codes				8. Geology Type, Caving/Noncaving, Color, Hardness, etc...	From (ft.)	To (ft.)
-	X	X	-	Lensed/Streaked/Layered, Sand & Clay	Surface	15
-	-	Y	-	Sand & Gravel	15	60

6. Casing, Liner, Screen

Dia. (in.)	Material, Weight, Specification Manufacturer & Method of Assembly	From (ft.)	To (ft.)
6	STD BLK, PIPE, .280 WALL, P.E., A53B EXLTUBE	Surface	57
5	STD BLK PIPE, 258 WALL, RISER, T&C, IPSCO, W-K/PACK, A53B	56	57
Dia. (in.)	Screen type, material & slot size	From (ft.)	To (ft.)
5	#20 SLOTTED STAINLESS	57	60

7. Grout or Other Sealing Material
Method

Kind of Sealing Material	From (ft.)	To (ft.)	# Sacks Cement
Granular bentonite	Surface		

9. Static Water Level
16 ft. below ground surface

10. Pump Test
Pumping level 50 ft. below surface
Pumping at 25 GP M for 1 Hrs.
Pumping Method ?

11. Well Is
24 in. above grade
Developed ? Yes
Disinfected ? Yes
Capped ? Yes

12. Notified Owner of need to fill & seal ?
Filled & Sealed Well(s) as needed? Yes

13. Constructor / Supervisory Driller	Lic #	Date Signed
JVG		02-21-2013
Drill Rig Operator	**Lic or Reg #**	**Date Signed**
KB		02-21-2013

4a. Potential Contamination Sources Is the well located in floodplain ? No

Comment: PUMP INSTALLATION BY HACHTEL PLUMBING 920.563.7517 PHONE CALL FROM HACHTEL 06/21/2013,WILL BE A LITTLE LATE FOR JULY 1 DUE DATE OF WAR - WORKING ON IT NOW. JG

Water Quality Text:

Water Quantity Text:

Difficulty Text:

Created On: 02-25-2013 Created by: WELL CONST LOAD Updated On: 06-27-2013 Updated by: HERSHS

APPENDIX E

VOLUME OF RELEASE CALCULATION

Appendix E
Release Volume Calculation
Line 13 MP312 Valve Station
Fort Atkinson, Wisconsin
AECOM Project No. 60626859

	Area	Cumulative Area (feet^2)	Contoured Area (feet^2)	Area assumptions	Depth/ thickness of impacts (feet)		Thickness assumptions	Volume of Impacts (feet^3)		Representative Soil Sample	Reasoning for selecting soil sample	LNAPL Saturation	LNAPL Volume (gallons)	
					Min	Max		Min	Max				Min	Max
1	*Excavation 5/17/19*	360	360	From field notes	10	10	From field notes	3600	3600	13V-E(6)	Sample with the highest cumulative TPH concentration from excavation areas.	3.17%	341	341
2	*Excavation 8/2/19*	491	131	From field notes; appears to be reexcavation of original location plus additional area	10	10	From field notes	1309	1309			3.17%	124	124
3	*Excavation 10/9/19*	32	32	From field notes; appears to be additional excavation to southeast.	8.25	8.25	From field notes	264	264			3.17%	25	25
4	*Area Below Excavation*	491	491	DTW is approximately 24 feet bgs; assumed impacts extend from release to water	14	14	From B-1 boring log	6874	6874			3.17%	652	652
5	*Non-excavated impacted area*	1266	743	Estimated outline around valve station based on soil gas and PID results	5	10	Assumed range	3716	7431	WC-1	Waste characterization sample representative of concentration of fringe LNAPL migration in the vadose zone.	0.50%	55	111
6	*Benzene impacts >5 ug/L*	40317	39051	>5 ug/L groundwater contour	1	5	Assumed range	39051	195255	SW-3 (9)	Sample with cumulative TPH concentration less than soil saturation concentration (Csat; approximately 100 mg/kg) to represent elevated benzene in groundwater.	0.02%	27	133
												Range of Estimated Release Volume (gallons)	**1,225**	**1,386**
												Range of Estimated Release Volume (barrels)	**29**	**33**

General Notes:
LNAPL Volume was calculated using the following equation:

$$Volume_{LNAPL} = Volume_{impac} \quad * n * LNAPL\ Saturation * 7.48\ \frac{gallons}{cubic\ foot}$$

Acronyms and Abbreviations:
min = minimum
max = maximum
feet^2 = square feet
feet^3 = cubic feet
n = porosity, 0.4
LNAPL = light nonaqueous phase liquid

Section 6. Other Information Submitted

Identify all materials that are included with this request.

Send both a paper copy of the signed form and all reports and supporting materials, and an electronic copy of the form and all reports, including Environmental Site Assessment Reports, and supporting materials on a compact disk.

Include one copy of any document from any state agency files that you want the Department to review as part of this request. The person submitting this request is responsible for contacting other state agencies to obtain appropriate reports or information.

- ☐ Phase I Environmental Site Assessment Report - Date: _____
- ☐ Phase II Environmental Site Assessment Report - Date: _____
- ☐ Legal Description of Property (required for all liability requests and specialized agreements)
- ☐ Map of the Property (required for all liability requests and specialized agreements)

Analytical results of the following sampled media: Select all that apply and include date of collection.

☐ Groundwater ☐ Soil ☐ Sediment ☐ Other medium - Describe: _____

Date of Collection: _____

- ☐ A copy of the closure letter and submittal materials
- ☐ Draft tax cancellation agreement
- ☐ Draft agreement for assignment of tax foreclosure judgment
- ☒ Other report(s) or information - Describe: Site Investigation Report - submitted via portal

For Property with newly identified discharges of hazardous substances only: Has a notification of a discharge of a hazardous substance been sent to the DNR as required by s. NR 708.05(1)(b), Wis. Adm. Code?

- ◉ Yes - Date (if known): 07/31/2020
- ○ No

Note: The Notification for Hazardous Substance Discharge (non-emergency) form is available at dnr.wi.gov/files/PDF/forms/4400/4400-225.pdf.

Section 7. Certification by the Person who completed this form

- ☒ I am the person submitting this request (requester)
- ☐ I prepared this request for: _____
  Requester Name

I certify that I am familiar with the information submitted on this request, and that the information on and included with this request is true, accurate and complete to the best of my knowledge. I also certify I have the legal authority and the applicant's permission to make this request.

Signature _____ Date Signed 01/29/2021

Sr. Environment Advisor
Title

(715) 718-1040
Telephone Number (include area code)