

Sent via E-Mail and Overnight Courier

Mr. Trevor Nobile, PG, CPG
Wisconsin Department of Natural Resources
2300 North Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212

**REMEDIAL DESIGN REPORT
FORMER ONE-HOUR VALET DRY CLEANERS PROPERTY
1214 WEST WELLS STREET, MILWAUKEE, WISCONSIN
BRRTS NO. 02-41-152248 AND FID NO. 241086120**

Dear Mr. Nobile:

On behalf of the Marquette University, Ramboll US Corporation¹ (Ramboll) has prepared the attached Remedial Design (RD) report for the for the Former One-Hour Valet Dry Cleaners property located at 1214 West Wells Street in Milwaukee, Wisconsin (Site) in accordance with the requirements of Wisconsin Administrative Code (WAC) Chapter NR 724. The enclosed RD report presents details on the implementation of the enhanced reductive dechlorination remedy which utilizes a combined *in-situ* chemical and biological reduction approach through *in-situ* blending of zero-valent iron (ZVI) and carbon amendment followed by natural attenuation monitoring of groundwater. The soil blending activities are scheduled to begin in April 2018.

February 12, 2018

Ramboll
175 N. Corporate Drive
Brookfield, WI 53045
USA

T +1 262 901 0099
F +1 262 901 0079
www.ramboll.com

Please note that the Infiltration Approval Request is being submitted concurrently to Mr. Binyoti Amungwafor with a check for \$700.00 to cover the associated technical review fee.

Ref. 1690005819

Should you have any questions or comments, please do not hesitate to contact us.

Yours sincerely,



Susan Petrofske
Managing Consultant

D 262.901.3501
spetrofske@ramboll.com



Jeanne M. Tarvin, PG,
Principal

D 262.901.0085
jtarvin@ramboll.com

cc: Mr. Joel Smullen, Marquette

Attachments

¹ Effective on December 28, 2017, the legal corporate name of Ramboll Environ US Corporation (formerly ENVIRON International Corporation) was changed to Ramboll US Corporation.

Prepared for:

Marquette University
517 North 14th Street
Milwaukee, Wisconsin

Date:

February 2018

Project Number:

1690005819

FORMER ONE-HOUR VALET DRY CLEANERS SITE

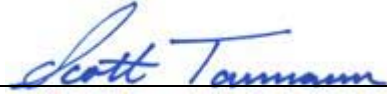
BRRTS NO. 02-41-152248

FID NO. 241086120

REMEDIAL DESIGN REPORT

CERTIFICATIONS

I, Scott W. Tarmann, hereby certify that I am a Professional Engineer as that term is defined in s. NR 712.03(2), 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 chs. NR 700 to 726, Wis. Adm. Code.

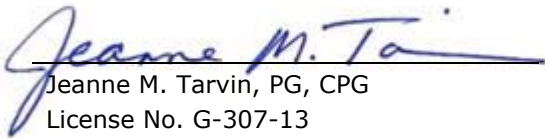


Scott W. Tarmann, PE
License No. 33530-006

February 12, 2018

Date

I, Jeanne Tarvin, hereby certify that I am a Hydrogeologist as that term is defined in s. NR 712.03(1), 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 chs. NR 700 to 726, Wis. Adm. Code.



Jeanne M. Tarvin, PG, CPG
License No. G-307-13

February 12, 2018

Date

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1. INTRODUCTION

Ramboll US Corporation¹ (Ramboll) has prepared the following Remedial Design Report for the Former One-Hour Valet Cleaners Site in Milwaukee, Wisconsin (the "Site"), on behalf of Marquette University (Marquette). Parties currently involved with this project include the following:

Responsible Party/Site Owner:	Marquette University Joel Smullen, AIA 517 North 14 th Street Milwaukee, Wisconsin 53233 (414) 288-4620
Regulatory Agency/Project Manager:	Mr. Trevor Nobile Wisconsin Department of Natural Resources (WDNR) 2300 North Dr. Martin Luther King, Jr. Drive Milwaukee, Wisconsin 53212-3128 (414) 263-8524
Environmental Consultant:	Ms. Jeanne Tarvin Ramboll US Corporation 175 North Corporate Drive, Suite 160 Brookfield, Wisconsin 53045 (262) 901-0085

1.1 Site Background

The Site is located at 1214-1222 West Wells Street in the southwest $\frac{1}{4}$ of the northwest $\frac{1}{4}$ of Section 29, Township 7 North, Range 22 East, City of Milwaukee, Milwaukee County, Wisconsin (Figure 1). The geographic position of the Site in WTM 91 (x, y) coordinates obtained from the Wisconsin Department of Natural Resources (WDNR) Remediation and Redevelopment (RR) interactive Site Map (<http://dnrmmaps.wi.gov>) is 688795, 287401.

The Site is bounded on the west by a public alley and Marquette parking structure, on the north by a hospital parking garage, on the east by North 12th Street and on the south by West Wells Street, as shown on Figure 2. The Site is currently owned by Marquette and is enrolled in the WDNR-administered Dry Cleaner Environmental Response Fund Program (DERP) for claimants seeking financial assistance with the site investigation and remediation of dry cleaning solvent releases to the subsurface.

The Site includes a one-story building with a basement. Marquette currently uses a garage located within the northeast portion of the building for storage of landscape equipment and de-icing salt; however, the remainder of the building is vacant. The building is bounded on the east by an adjoining vacant brick and block building with a slab-on-grade foundation that was last occupied by a child daycare. The Site reportedly consisted of a parking lot prior to 1961, and three different tenants of the property operated dry cleaning operations beginning in 1961. Dry cleaning operations ended in 2008, when Marquette purchased the Site. The last dry cleaning operation at the Site was conducted by the One-Hour Valet Cleaners, which was located on the ground floor of the one-story building and utilized space in the basement for dry cleaning solvent storage and laundering operations. An approximate 300-gallon aboveground storage tank (AST) that contained

¹ Effective on December 28, 2017, the legal corporate name of Ramboll Environ US Corporation (formerly ENVIRON International Corporation) was changed to Ramboll US Corporation.

tetrachloroethene (PCE) was present in the basement within the northwest portion of the building at the approximate location shown on Figure 2.

The Site slopes from the northwest to the east and south, resulting in storm water drainage toward North 12th Street and West Wells Street. The Site and vicinity commercial properties are served by the Milwaukee municipal water supply that obtains potable water from Lake Michigan. The nearest surface water body is the Menomonee River, which is located approximately ½ mile to the south of the Site.

The Site and adjacent areas to the west (alley and portions of the Marquette parking garage property) have been the subject of several subsurface investigations since 1998. The WDNR has assigned Bureau for Remediation and Redevelopment Tracking System (BRRTS) #02-41-152248 and Federal Identification (FID) #241086120 to the case file. The existing on-site buildings have been identified for demolition in advance of the remediation activities. Marquette University may eventually redevelop the site as a parking lot or it may remain vacant for a period of time following completion of active remedial site work. The site includes two tax parcels in the City of Milwaukee, including Tax Parcel Nos. 3910218000 and 3910219000.

1.2 Purpose of Remedial Design Report

The purpose of this report is to present the remedial design to address chlorinated volatile organic compound (CVOCs) soil and groundwater impacts at the Site. These impacts are dominated by PCE and its degradation products of trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). This report also documents the detailed methods for implementation of source area mass reduction and monitored natural attenuation of residual groundwater impacts within and down-gradient of the source area. Specific objectives include the following:

- Present remedial action goals and objectives for the source area soil and groundwater impacts in accordance with Wisconsin Administrative Code (WAC) NR 720.
- Present an evaluation of remedial alternatives considered for the Site in accordance with WAC NR 722.
- Present a specific remediation technology to address the target treatment volume.
- Present details regarding the design, implementation, and monitoring of the selected remedy in accordance with WAC NR 724.
- Present details for implementing a monitored natural attenuation (MNA) remedy following contaminant mass and concentration reduction.
- Present supporting project planning and permitting details for the remedy implementation.
- Present post-remedial action reporting and site closure submittals.

2. SUMMARY OF PREVIOUS SUBSURFACE INVESTIGATIONS

The following sections present a summary of the subsurface investigation results that were previously completed at the Site as presented in GZA GeoEnvironmental, Inc.'s (GZA) 2012 Site Investigation Report (GZA, 2012). The 2012 Site Investigation Report was approved by the WDNR on June 11, 2012. A list of previous subsurface investigation documents that were submitted to the WDNR is also provided.

2.1 Geologic and Hydrogeologic Setting

The predominant lithologic units encountered at the Site at depths ranging from 28 feet below ground surface (bgs) (Boring PZ-4) to 35 feet bgs (Boring PZ-3) include granular and cohesive fill and glacial deposits comprised of silty clay and clayey silt with interbedded thin discontinuous silt and fine sand seams. These glacial deposits shift to silty sand and sand deposits that contain thin discontinuous lenses of silt and silty clay to the maximum depth of GZA's 2012 Site Investigation (51 feet at boring PZ-3 and 45 feet at boring PZ-4) (GZA, 2012).

Water levels in the water table monitoring wells have ranged between approximately 7 and 17 feet bgs, and are within approximately 1 to 2 feet of the former dry cleaning building's basement floor slab. At times, water has been present in the basement of the building. Water table elevations are highest in the northwestern portion of the Site (approximately 642.5 to 648.5 feet above mean sea level [msl] at MW-2), and the lowest water table elevations are present within the eastern portion of the Site (approximately 635.6 to 637.5 feet msl at MW-5 and MW-1, respectively).

Shallow groundwater generally flows from northwest to southeast with a horizontal hydraulic gradient of 0.03 to 0.05 feet per foot (ft/ft) (GZA, 2012). Based on the invert elevations of 12-inch diameter sanitary sewer lines reportedly located near the eastern and southern property boundary, groundwater may be intercepted by the sanitary sewers. Previous water level measurements obtained from monitoring well/piezometer nests MW-5/PZ-4, MW-6/PZ-2 and PZ-1/PZ-3 indicate downward vertical hydraulic gradients that range from approximately 0.5 to 1 ft/ft (GZA, 2012).

With respect to monitoring wells previously subjected to in-situ hydraulic conductivity testing by GZA in 2011, MW-3 is screened in the upper clayey silt deposit, MW-5 is screened in the upper sand/silty sand deposit, and PZ-3 and PZ-4 are screened in the deeper sand/silty sand deposit (GZA, 2012). The results of the in-situ aquifer testing revealed hydraulic conductivities in the range of 7.8×10^{-5} centimeters per second (cm/sec) to 6×10^{-4} cm/sec, with a geometric mean of 3×10^{-4} cm/sec. Based on the low, mean and high hydraulic conductivities, the measured hydraulic gradient and an estimated porosity of 25 percent, the horizontal groundwater flow velocity was calculated to range between 15 feet per year (ft/yr) to 100 ft/yr, with a mean of 50 ft/yr (GZA, 2012).

2.2 Previous Subsurface Investigations

Several investigation reports have been submitted to the WDNR by previous consultants that contain additional background information regarding this Site. Key documents identified by GZA (2012) for the site include the following:

STS, January 14, 2000, Results of the Environmental Assessment at 1214-1222 West Wells Street, Milwaukee, Wisconsin.

GeoTrans, Inc., June 30, 2003, Results of Soil Sampling at Parking Lot at N. 13th Street & Wells Street, Milwaukee, Wisconsin.

GeoTrans, Inc., October 2, 2003, One Hour Valet Cleaners, 1214 W. Wells Street, Milwaukee, WI 53223, FID #241086120, BRRTS #02-41-152248.

Arcadis, November 14, 2005, Draft Site Investigation Report Valet Cleaners, 1214-1222 West Wells Street, Milwaukee, Wisconsin.

WDNR, January 12, 2006, Request for Letter of Concurrence for Hazardous Waste Determination Former Valet Dry Cleaners Site, 1214 West Wells Street, Milwaukee.

Prior to the November 2017 groundwater sampling event completed by Ramboll, which is further discussed in Section 5.1, subsurface investigation activities had not been completed at the Site since

2011. Based on the GZA 2012 Site Investigation report, the timeline below summarizes work completed by others prior to 2012:

February 1997 through November 1999 – STS observed the installation of 16 Geoprobe® borings at the Site (GP-1 through GP-16), and borings GP-1 and GP-5 through GP-15 were completed as temporary monitoring wells.

May 2003 – GeoTrans, Inc. observed the installation of three Geoprobe® borings (GP-1 through GP-3) southwest of the Site. Boring GP-1 was completed as a temporary monitoring well. This work was conducted as part of pre-construction activities related to the Marquette parking garage construction to the west of the Site.

2004 – As part of further pre-construction-related activities, the excavation of six test pits and advancement of two hand-augered soil borings to the west of the Site within the public alley was conducted by GeoSyntec.

January 2002, July 2003, and August 2004 – Arcadis observed the installation of five groundwater monitoring wells (MW-1 through MW-5) and three piezometers (PZ-1 through PZ-3) at the Site.

August 2009 – GZA installed six hand-augered soil borings (HA-1 through HA-6) within the basement of the Site building, three of which (HA-1, HA-4, and HA-5) were completed as temporary monitoring wells. In addition, GZA observed the installation of three exterior Geoprobe® borings (SB-1 through SB-3), four 1-inch diameter monitoring wells (MW-6 through MW-9), and one piezometer (PZ-4).

February and March 2011 – GZA observed the installation of eight Geoprobe® borings (GP-17 through GP-24), one of which was completed as a one-inch diameter monitoring well (GP-24).

November 2011 – In-situ hydraulic conductivity testing of monitoring wells MW-3 and MW-5, and piezometers PZ-3 and PZ-4 was conducted by GZA.

2.3 CVOC Mass Estimates

Based on the available site information presented in GZA's 2012 Site Investigation Report, the CVOC contaminant mass present in site soil and groundwater was calculated, which included analytical data for PCE, TCE, cis-1,2-DCE, and trans-1,2-dichloroethene (trans-1,2-DCE). As part of this evaluation, the area of impacted soil and groundwater was divided into 18 areas, for which average soil and groundwater concentrations and vertical layer thickness were assigned. The contaminant mass estimates indicate that approximately 1,750 pounds of CVOC is present in the areas evaluated. The primary CVOC contaminant in soil and groundwater is PCE (approximately 97.7% of total CVOC mass present), with smaller amounts of PCE-degradation products (TCE, cis-1,2-DCE, and trans-1,2-DCE). As discussed below, this evaluation indicates that approximately 99% of the CVOC is present in soil, with approximately 1.0% present in groundwater. The summary of contaminant mass estimates and a supporting figure are presented in Appendix A.

2.3.1 Soil

The CVOC soil impacts in the targeted source area treatment zone (which is further discussed in Section 4.4) represent approximately 97% of the CVOC contaminant mass. A small percent (approximately 5%) of the PCE contaminant mass is located in the vadose zone, whereas the remainder of the PCE mass present in the target treatment zone is located at depths ranging from 15 to 35 feet bgs, below the existing basement slab.

2.3.2 Groundwater

Only 1% percent of the total contaminant mass is estimated to be present in site groundwater. The highest CVOC concentrations in groundwater have been identified at piezometer PZ-1, near the northeastern corner of the former dry cleaning building where PCE was historically stored in a 300-gallon AST. Detected concentrations in PCE in groundwater at PZ-1 have been measured as high as 61,000 micrograms per liter ($\mu\text{g/L}$).

Based on the concentrations of PCE, TCE, cis-1,2-DCE, and trans-1,2-DCE detected in groundwater, impacted groundwater with CVOC concentrations greater than ES values extend toward the east/southeast from the source area near PZ-2, PZ-4, and MW-6 and toward the west from the source area near MW-4. Historically, CVOCs have not been detected in groundwater, or were detected at low concentrations below the ES, at monitoring wells located north of the plume (MW-2), east of the plume (MW-9), west of the plume (MW-7 and MW-8), southeast of the plume (MW-1), and southwest of the plume (MW-3).

2.4 Potential Receptors

2.4.1 Soil

Previous subsurface investigations have identified the presence of CVOCs in soil at the site. Potential scenarios by which CVOCs may come in contact with receptors include direct dermal contact during drilling, soil excavation, or soil blending activities. Such activities at the site will be monitored to reduce potential risk due to inhalation of vapors or particulate matter and dermal protection will be utilized as necessary to protect field personnel from direct contact.

2.4.2 Groundwater

Potential ingestion of CVOC-impacted groundwater could hypothetically occur if affected groundwater were to migrate off-site to a private or municipal well used for potable water supply. However, no such groundwater receptors are currently present within the site vicinity, as it is served by the Milwaukee municipal water supply that obtains potable water from Lake Michigan. As such, the groundwater exposure pathway is not complete.

2.4.3 Surface Water

Local surface waters consist of the Milwaukee River, which is located approximately $\frac{3}{4}$ mile to the east of the Site, and the Menomonee River, which is located approximately $\frac{1}{2}$ mile to the south of the Site. Impacts to local surface waters could potentially occur due to off-site migration of CVOC-impacted groundwater towards such surface water bodies; however, based on groundwater analytical results, groundwater impacts are limited to the immediate site area. Therefore, the surface water exposure pathway is not complete on site.

2.4.4 Utility Corridors

Potential concerns for sites with chlorinated-solvent contamination include migration of contaminants along utility corridors. The depth to the water table at the Site ranges between 7 and 17 feet bgs. Based on their invert elevations relative to the water table, 12-inch diameter sanitary sewer lines reportedly located adjacent to the southern (hydraulically downgradient) and eastern property boundaries may receive groundwater from the Site.

2.4.5 Vapor Intrusion

Potential concerns for sites with CVOC contamination include vapor migration into buildings. WDNR's vapor intrusion guidance for CVOCs indicates that the vapor intrusion pathway should be investigated if any of the following conditions are met:

- the building of interest is located over a CVOC source;
- the building is located within 100 feet of a CVOC source;
- the building overlies a groundwater plume that exceeds WAC NR 140 Enforcement Standard (ES) concentrations;
- groundwater with CVOC concentrations that exceed WAC NR 140 Preventive Action Limit (PAL) values is entering the building or is in contact with the building foundation or sump; and
- vapors have the potential to enter preferential pathways that connect to the building.

As no occupied buildings are located within 100 feet of the on-site CVOC source and none of the other conditions identified above have been met, Ramboll concludes that an investigation of the vapor intrusion pathway is not currently warranted at the Site. However, as part of the final close-out of the site, the potential for vapor migration along utilities adjacent to the site will be evaluated. As described in Ramboll Environ's June 7, 2016 proposal, the utility vapor migration evaluation will be conducted along a north-south trending sanitary sewer line reportedly located adjacent to the site in North 12th Street. The utility vapor migration evaluation will be completed after the remediation activities described in this report are completed. In addition, the Site may potentially be redeveloped as a parking lot, or it may remain vacant for a period of time following the completion of active remediation work. If the Site redevelopment plans change such that the construction of any on-site buildings is considered, the vapor pathway will need to be evaluated at that time.

3. REMEDIAL GOALS AND OBJECTIVES

This section presents the proposed remedial action goals and objectives for the impacted soil and groundwater at the Site. The overall goal of the remedial action is to remediate soil impacts that threaten human health and the environment, reduce source soil concentrations and mass to minimize leaching of volatile organic compounds (VOCs) through the vadose zone to groundwater, and decrease the persistent groundwater contaminant concentrations at the source and downgradient of the source area, consistent with WAC NR 700. This goal can be realized by effectively remediating source soil and groundwater concentrations on site to levels that will ultimately result in stable and/or receding groundwater contaminant concentrations downgradient of the source area. The remedial actions proposed for achieving this goal will also result in increased value to the Site. The following sections discuss the rationale and selected method for establishment of the soil clean-up goals and the remedial objective for achieving no-further action for residual groundwater impacts at the Site.

The case closure goal for the Site is to obtain a no further action status under WAC NR 726, following successful implementation of soil and groundwater remedial actions. The closure pathway is anticipated to rely upon WDNR's GIS registry for recording closed sites that have contamination exceeding residual contaminant levels (RCLs) in soil and ES in groundwater. For the Site, the closure pathway for obtaining a no further action status for soil is via the use of a soil performance standard as a component of active remediation, while the closure pathway for obtaining a no further action status for groundwater is via a MNA remedy subsequent to active remediation.

3.1 Proposed Remedial Action Goal for Soil

With respect to the unconsolidated soils, the remedial objectives presented in this report include reducing CVOC concentrations in soil to concentrations below WAC NR 720 direct contact and protection of groundwater site specific RCLs, where feasible. As a condition of case closure, a portion of the impacted soils may need to be addressed through performance barriers and/or inclusion of the

Site on the Wisconsin GIS Registry of Closed Remediation Sites for Soil, if WAC NR 720 RCL values in soil are not achieved.

The generic WDNR soil to groundwater pathway RCLs for the chemicals of interest (PCE [4.54 µg/kg], TCE [3.6 µg/kg], cis-1,2-DCE [41.2 µg/kg], and VC [0.1 µg/kg]) using a dilution-attenuation factor of 2 are more stringent than the corresponding non-industrial direct contact RCLs (PCE [33,000 µg/kg], TCE [1,300 µg/kg], cis-1,2-DCE [156,000 µg/kg], and VC [66.8 µg/kg]). For example, the maximum detected PCE concentration in soil (6,700,000 µg/kg) would require greater than a 99.999 percent reduction in the maximum soil concentration to achieve the soil to groundwater pathway RCL. Contaminant concentration reduction of this magnitude is beyond the capabilities of ordinary soil remedial technologies, and therefore, may not be technically or economically feasible. Moreover, the RCL concentrations identified above are below the method detection limits that analytical laboratories can achieve using the most current SW846 methods. As such, a performance-based remedial action goal for the protection of groundwater is recommended in lieu of these RCLs and for the following additional reasons:

- remediation of the soil source area to the groundwater protection RCLs would create an area of clean subsurface soil that may become re-contaminated by the shallow groundwater in the area;
- rebound to higher concentrations following remediation activities could exceed the groundwater pathway RCLs listed above (from this perspective, any added benefit to achieving additional mass removal to meet these concentrations may be ineffective in the long term); and
- remediation of soil to these concentrations would be cost prohibitive.

As such, a performance based soil remedial action goal for the protection of groundwater is proposed for the Site. As described in the previous paragraphs, WAC NR 720 stipulates that site-specific soil cleanup standards protective of public health, safety, and welfare and the environment are generally established to restore the environment to the lowest concentration practicable for specified soil contaminants. However, in the event that it is not practicable to achieve the site-specific soil cleanup standards, a soil performance standard may instead be implemented. For this Site, soil performance standards are applicable to address both the direct contact and groundwater pathways and must be implemented and maintained to verify that contamination no longer poses a threat to human health or the environment.

The final soil remedial action goal for the Site will be performance-based to verify that any residual soil contamination remaining at the Site does not further degrade groundwater quality. The performance based soil remedial action goal will be evaluated by monitoring groundwater conditions to document a stable and/or receding contaminant plume.

3.2 Proposed Remedial Action Goals for Groundwater

With regard to groundwater, the objective of the recommended remedial action is to reduce CVOC concentrations in groundwater near the identified source area based on the results of the previous site investigations. Following the completion of the remedial actions to reduce CVOC mass loading to groundwater, a groundwater monitoring program will be implemented to evaluate plume conditions and document that no adverse impact on human health, safety or welfare, or to the environment exists or develops in the future. The groundwater monitoring program will also document that the residual groundwater plume is stabilized and/or has receding CVOC concentrations. The closure pathway for the residual groundwater impacts is anticipated to incorporate an approach relying upon the WDNR's GIS registry for recording closed sites that have contamination exceeding the ES in groundwater.

4. EVALUATION OF REMEDIAL ACTION OPTIONS

This section identifies several feasible remedial action options that have the greatest potential to achieve the goals and objectives for remediating the impacted soil and groundwater at the Site. The identified remedial action options were evaluated based on the requirements specified in WAC NR 722, which are summarized in the following sections. Alternatives that were determined to not be technically or economically feasible were not retained for further evaluation. Information regarding this remedial action options evaluation was previously submitted to the WDNR during the remedial consultant selection process.

4.1 Remedial Action Options Evaluation Considerations

Based on the above site conditions and pathways of concern, a summary of site conditions relative to remedial evaluation and selection is as follows:

- The site is located in a populated urban area, with high visibility. A remediation strategy should be selected that minimizes short-term exposure and impacts to receptors during construction and long-term exposure based on the final remedy. Excavation and in-situ mixing techniques could potentially increase exposure to area residents and the public during the remediation and appropriate controls would be required.
- While impacted soils and groundwater extend onto the adjacent west public alley, soil impacts in this area are not proposed to be remediated as part of this remedial action. These isolated areas of impacts will need to be considered as part of the overall remedy; however, treatment of all areas of concern is not practicable.
- The soils on site are clayey in nature with associated low hydraulic conductivity. Traditional groundwater remedies such as groundwater extraction and treatment or air sparging are less effective in tight clay environments. Higher pressure injections will be necessary, which will create microfracturing of the clay soils during injection.
- Vadose zone soils are generally not highly contaminated, except in the northwest portion of the site, likely outside where the former PCE fill pipe was located. The majority of the treatment zone of concern is below the former PCE tank area (below the concrete floor slab) and extends to the southeast in the direction of groundwater flow. The depth of contamination extends from about 20 feet bgs to at least 35 feet bgs. The vadose zone soil contamination in the northwest portion of the site extends from the ground surface to 35 feet bgs.
- While dense non-aqueous phase liquid (DNAPL) was not observed on site, the concentrations of PCE are sufficiently high that DNAPL is likely present within the interstitial pore spaces of the clay and possibly heavily concentrated in the sand seams within the clay strata. Bioremediation technologies alone will not be effective within a reasonable period of time given the potential for the presence of DNAPL and the high concentrations of PCE and TCE in solution near the source area.
- Removal of all contamination in soil and groundwater to below generic soil cleanup standards is not practicable given the magnitude and extent of impacted soil and groundwater. Treatment of isolated areas of soil and groundwater impacts (not related to the primary source area) is not practicable. Therefore, a performance based standard goal for soil and groundwater cleanup, which focuses on contaminant mass removal, is necessary.
- After contaminant mass removal, groundwater remediation via natural attenuation in the existing naturally anaerobic environment present will be necessary. Enhancing degradation via reductive dechlorination technologies consistent with natural processes will likely be more successful for

long-term groundwater natural attenuation. As such, reductive dechlorination technologies should be more amenable to site conditions than chemical oxidation technologies.

- To date, approximately \$120,000 has been incurred in site investigation costs. As such, available funds for remediation using the DERP funds total approximately \$380,000. A key remedial objective is to maximize risk reduction through cost effective application of available funding.

4.2 Technical Feasibility

The technical feasibility of appropriate remedial action options was evaluated using the following criteria:

1. **Long-term effectiveness.** The long-term effectiveness of appropriate remedial action options, taking into account the following factors:
 - a. the degree to which the toxicity, mobility and volume of the contamination is expected to be reduced; and
 - b. the degree to which a remedial action option, if implemented, will protect public health, safety and welfare and the environment over time.
2. **Short-term effectiveness.** The short-term effectiveness of appropriate remedial action options, taking into account any adverse impacts on public health, safety and welfare and the environment that may be posed during the construction and implementation period until case closure under WAC NR 726.
3. **Implementability.** The implementability of appropriate remedial action options, taking into account the technical and administrative feasibility of construction and implementation of the remedial action options. Disruption of the existing business and potential impacts to neighboring properties were also considered when evaluating the implementability of each alternative.
4. **Restoration timeframe.** The expected timeframe needed to achieve the necessary restoration.

4.3 Economic Feasibility

The economic feasibility of each appropriate remedial action option was evaluated using the following criteria: capital costs, annual operation and maintenance costs, total present worth of the costs, costs associated with potential future liability, and disruption to businesses on or adjacent to the site. The economic feasibility of a remedial action option is determined by comparing the costs to what is expected to be technically achieved by that option, taking into account long-term effectiveness, short-term effectiveness, implementability, and the time until restoration is achieved for each option. The estimated remedial action option costs identified herein are intended to be within the target accuracy range of minus 30 percent to plus 50 percent of actual cost (United States Environmental Protection Agency [USEPA], 1988a).

4.4 Identified Remedial Action Options

The response actions identified for preliminary screening for the subject property include an appropriate range of potential remedial action options. The no action alternative is included as a general response action against which other actions can be evaluated.

Based on a review of laboratory results of previously collected soil and groundwater samples the recommended soil and groundwater treatment area includes the area below the existing basement, the area just west of the northwestern building corner (around PZ-1 and PZ-3), and the area due north of the northwestern corner of the existing building. This target treatment volume covers an area of approximately 3,280 square feet, and extends down to treatment depths ranging between

20 and 35 feet below bgs (approximately 5 to 20 feet below the former dry cleaning building basement grade). Based on these dimensions, the target treatment volume totals approximately 1,940 cubic yards.

With respect to evaluation of contaminant concentrations, the geometric mean is often used to evaluate data that cover several orders of magnitude. The geometric mean is the average of the logarithmic values of a data set, converted back to a base 10 number. A geometric mean, unlike an arithmetic mean, tends to dampen the effect of very high or low values, which might bias the mean if a straight average (arithmetic mean) were calculated. The geometric mean of PCE concentrations detected in soil samples collected to date outside of the target treatment volume (shown on Figure 3) is 77.5 µg/kg, which is 99 percent less than the geometric mean of PCE concentrations detected in soil inside of the target treatment volume. Moreover, the majority of soil samples submitted for laboratory analysis outside of the target treatment volume were collected in 1999; as such, much of the associated CVOC mass has likely migrated from the vadose zone or attenuated over the past 18-year timeframe. Assuming active remediation of the target treatment volume is completed, such a substantial reduction in PCE concentration represents a substantial reduction in risk to public health, safety and welfare.

Approximately 97% of the CVOC mass in soil is present within this target treatment area. While the majority of the CVOC mass is present in the saturated zone, CVOC mass remaining above the water table can act as a long-term source of groundwater impacts. Therefore, the intended remediation will include reduction of contaminant mass flux to the water table from the vadose zone.

Remedial action options considered for the impacted soil and groundwater at the Site are as follows:

- No Action;
- Institutional controls;
- Vadose zone source remediation via:
 - Soil excavation and off-site treatment/disposal;
 - Soil vapor extraction;
 - *In-situ* chemical oxidation; and
 - *In-situ* chemical reduction;
- Natural attenuation with vadose zone remediation;
- *In-situ* anaerobic bioremediation with vadose zone remediation;
- Groundwater collection with vadose zone remediation;
- Air sparging with vadose zone remediation;
- Slurry wall installation with vadose zone remediation;
- Reactive barrier installation with vadose zone remediation;
- *In-situ* chemical oxidation;
- *In-situ* chemical reduction; and
- *In-situ* electro-thermal remediation.

4.4.1 No Action

The no action response involves no treatment or monitoring of contaminated soil and groundwater at the subject property. This response typically serves as a baseline against which the other

technologies and process options and/or alternatives can be compared. If prevailing site conditions lead to the determination that the site poses no significant risk to human health or the environment, then the no action response can be used as the sole remedial action. In that event, implementation of other types of action becomes unnecessary.

In terms of technical feasibility, the no action alternative would eventually reduce the magnitude of the existing risk in response to natural attenuation processes. Because no action is proposed in this alternative, the implementability is very high. From an administrative feasibility point of view, this alternative will likely not be accepted by the WDNR as the remedy for the site as short-term remedial objectives will not be met.

This alternative was considered the lowest in terms of present worth cost and disruption to the Site. It has no associated capital costs or operation and maintenance costs. This alternative will likely not be accepted by the WDNR, as CVOC concentrations have been increasing over time; as such, the no action alternative was not retained for further evaluation.

4.4.2 Institutional Controls

In Wisconsin, the GIS Registry of Closed Remediation Sites provides a means of public notice regarding residual contamination on owned or operated properties where a release of a hazardous substance occurred, was reported and cleaned up. Sites closed with soil contamination remaining above WAC NR 720 RCLs are required to be included in the GIS Registry for Soil. Sites closed with groundwater contamination remaining above WAC NR 140 ES values are required to be included in the GIS Registry for Groundwater. Sites closed with deed restrictions prior to June 2006 are also included in the GIS Registry. As of June 2006, the GIS Registry also became the database for listing sites closed with land use controls, which replaced deed restrictions.

If a land use control is required for a particular site, a maintenance plan may also be required. Maintenance plans may include requirements for cover inspections, fencing inspections, and/or routine groundwater monitoring. General information provided in the GIS Registry Package includes the most recent groundwater analytical data, site maps, groundwater elevation and flow direction as well as any special precautions that may be required for future potential redevelopment of a site. For sites identified on the GIS Registry, approval of well construction or reconstruction by the WDNR Bureau of Drinking Water is required and special well construction features may be needed. If the WDNR would accept monitored natural attenuation as a final groundwater remedy for the Site, a GIS registry would be placed on the property as the institutional control.

With regard to technical feasibility, no additional treatment technology would be included as part of this alternative; therefore, this alternative can only offer gradual reduction in the toxicity, mobility or volume of the contaminants. As with the no action alternative, this alternative may not be accepted as the sole remedy for the site as short-term remedial objectives will not be met.

In response to natural attenuation processes, the institutional control alternative would limit the migration of the plume downgradient of the site to some degree such that it would reduce the risk of future human exposure gradually over time. The risk of on-site human exposure would be reduced by restriction of installation of drinking water supply wells. This alternative will likely not be accepted by the WDNR as the sole remedy for the site as short-term remedial objectives have not been met; however, the alternative can be effective when completed in conjunction with other remedies. The cost for completing the appropriate institutional control documents is expected to be comparatively small. As indicated above, this alternative will likely not be accepted by the WDNR as a sole remedy and was not retained for further evaluation, except in conjunction with other remedies.

4.4.3 Vadose Zone Source Remediation

Within the target treatment volume identified in Section 4.4, concentrations of PCE in soil within the vadose zone (above the water table) range at least as high as 73,700 µg/kg (at GP-10, 0.5 to 2 feet below basement grade) and 71,200 µg/kg (at GP-12, 0 to 2 feet below basement grade). These PCE concentrations are documented on Figure 3. These impacted soils, which extend to the water table that is present at approximately 2 feet below the building and 7 to 17 feet bgs, represent a substantial mass of PCE that will need to be remediated as part of any groundwater remediation effort, to reduce future migration of PCE from the vadose zone to the water table.

The remedial action options described in Sections 4.4.4, 4.4.9, 4.4.10, 4.4.11, and 4.4.12 are therefore recommended to include vadose zone source remediation in tandem with the evaluated groundwater remedial action options for the Site. The remedial action options described in Sections 4.4.5, 4.4.6, 4.4.7, and 4.4.8 include in-situ treatment of both the vadose zone and groundwater. The following sections provide an evaluation of vadose zone soil remediation alternatives.

4.4.3.1 Soil Excavation and Off-Site Treatment/Disposal

In terms of remedial alternatives to address the PCE-impacted soil, soil disposal costs associated with the excavation and off-site landfill disposal alternative could be very high as a portion of the impacted soils would represent RCRA characteristic hazardous waste based on PCE concentrations. It is Ramboll's experience at similar dry cleaning sites that the results of on-site mobile (or off-site "quick turnaround") laboratory analyses of soil samples collected during the course of excavation activities often reveal substantially greater PCE concentrations than those detected as part of previous site investigations. Such an outcome has led to the generation of unpredictable quantities of RCRA characteristic hazardous waste, with prohibitive cost implications.

Soil affected with PCE from former dry cleaner operations are subject to Universal Treatment Standards, under 40 CFR §268.49. Soil with PCE concentrations that exceed 60 milligrams per kilogram (mg/kg) and are intended to be disposed at RCRA Subtitle C facilities are required to first be treated to the 60 mg/kg standard; such treatment is typically conducted through chemical oxidation at the Subtitle C facilities. Soil with PCE concentrations that exceed approximately 1,000 mg/kg are required to be treated through incineration with a transportation and disposal costs that exceeds approximately \$1,200 per ton. Detected PCE concentrations in soil at the Site range as high as 6,700 mg/kg, such that incineration would be a necessary component of the excavation and off-site disposal alternative. Ramboll estimates that approximately 1,000 tons of heavily impacted vadose zone soil is present below and near the building (but above the water table) at the site. If, for example, one-third of this heavily impacted soil exceeds 1,000 mg/kg of PCE and the other two-thirds ranges between 60 mg/kg and 1,000 mg/kg of PCE, estimated costs to characterize, excavate, transport, dispose and backfill the 1,000 tons of this heavily impacted soil would exceed \$1,000,000. Based on the foregoing, the vadose zone soil excavation alternative was not retained for further evaluation.

4.4.3.2 Soil Vapor Extraction

Soil vapor extraction (SVE), also known as "soil venting" or "vacuum extraction", is an *in-situ* remedial technology that reduces concentrations of VOCs adsorbed to soils in the unsaturated (vadose) zone. In this technology, a vacuum is applied through extraction wells near the source of contamination in the soil. Volatile constituents of the contaminant mass "evaporate" and the vapors are drawn toward the extraction wells. Extracted vapor is then treated as necessary (commonly with carbon adsorption) before being released to the atmosphere. SVE is most effective in removing VOCs at sites with homogeneous, coarse grained (sandy) soils where the water table is sufficiently deep such that upwelling of groundwater into SVE wells does not occur.

The vadose zone site lithology at the site consists of silty clay and clayey silt; the depth to the water table is only approximately 2 feet below the building. Considering the permeability and configuration of the impacted vadose zone soil (shallow vertical extent of vadose zone PCE mass within relatively low permeability fine-grained soils), the application of SVE would not effectively reduce PCE mass. As such, the SVE alternative for vadose zone remediation was not retained for further evaluation.

4.4.3.3 In-Situ Chemical Oxidation

The remediation of soil contamination using *in-situ* chemical oxidation (ISCO) involves injecting oxidants and potentially co-amendments directly into the source zone. The oxidant chemicals react with the contaminants, producing innocuous substances such as carbon dioxide, water, and (in the case of chlorinated compounds) inorganic chloride. Chlorinated solvents (ethene and ethanes) are amenable to treatment by ISCO.

The four major oxidants used for soil and groundwater remediation are permanganate, persulfate, peroxide, and ozone. Potassium permanganate (KMnO₄) has been demonstrated to cost-effectively remediate soil and groundwater impacted with chlorinated ethenes, such as PCE and TCE. For treatment of contaminated soil, potassium permanganate in concentrated solution or solid form (approximately 50% by weight) has been delivered using injection lances, soil mixing, or hydraulic fracturing techniques.

ISCO requires direct contact of the oxidant with the target contaminants; however, injection of permanganate in liquid form through vertical hydraulic probes into shallow heterogeneous vadose zone soils can readily result in preferential transport of oxidant through relatively high permeability zones. As such, a total of four ISCO injection events would likely be necessary to achieve sufficient oxidant delivery and effective soil remediation. Solid permanganate is therefore often delivered into contaminated soil using *in-situ* soil blending, which serves to increase contact between the oxidant and impacted soil. This approach is most applicable to relatively shallow contamination (ITRC, 2005).

In-situ soil blending involves using an *in-situ* blender to effectively distribute chemical amendments throughout the soil medium to treat contaminants of concern. One such *in-situ* blender is mounted on a large excavator with a modified diesel engine and hydraulic power system. The *in-situ* blender utilizes a 28-inch diameter mixing drum with specially designed "teeth" which rotates at speeds up to 100 revolutions per minute (rpm) with torque in excess of 20,000 foot pounds. The mixer is capable of mixing dry soil as well as sludge material to depths of 18 feet bgs.

The *in-situ* blending process is performed systematically by subdividing the treatment area into smaller cells. The cell dimensions and chemical loading requirements are determined prior to mobilization. Each cell is mixed with the designated chemical amendments ensuring that site wide distribution is achieved. In some instances, where the target zones are thicker than 5 feet or where site conditions warrant it, each cell is subdivided into lifts of 5 feet. Each lift is mixed separately with predetermined quantities of chemical amendments. The entire soil column is then mixed, such that proper vertical distribution is achieved.

It is useful to note that the soil blending process inherently loosens the structural strength of the soils. Because the majority of the blending would occur below the water table, the blended soil may not stabilize over time to allow construction without additional geotechnical support systems. The soil may therefore not be suitable for building construction after the blending has been completed without the use of costly deep foundations for support. Because Marquette may potentially redevelop the site as a parking lot or it may remain vacant for a period of time following the

completion of active remedial site work, the soil blending process could be used to deliver the chemical oxidants and potentially co-amendments into the subsurface soils.

Soil oxidant demand testing on several site-specific soil samples would be conducted prior to implementing the ISCO remedial action, in order to estimate proper oxidant loading rates. Based on the implemented oxidant loading rate, the duration of chemical oxidation of the CVOCs of interest ranges between several days and several weeks.

The estimated cost for permitting, engineering design, *in-situ* soil injection (four injection events) of the vadose zone soil within the target treatment area using potassium permanganate and construction documentation would total approximately \$210,000. As indicated in Section 4.3, this estimated remedial action option cost is intended to be within the target accuracy range of minus 30 percent to plus 50 percent of actual cost (USEPA, 1988a).

4.4.3.4 In-Situ Chemical Reduction

Chemical reduction is one half of a redox reaction, which results in the gain of electrons. One of the reactants in the reaction becomes oxidized, or loses electrons, while the other reactant becomes reduced, or gains electrons. In *in-situ* chemical reduction (ISCR), reducing compounds, compounds that accept electrons given by other compounds in a reaction, are used to change the contaminants into harmless compounds.

ISCR involves the placement of a reductant or reductant-generating material in the subsurface for the purpose of degrading toxic organic compounds to potentially nontoxic or less toxic compounds, immobilizing metals such as Cr (VI) by adsorption or precipitation, and degrading non-metallic oxyanions such as nitrate. The most commonly used reductant is zero valent iron (ZVI), which is used to remediate halogenated ethenes and ethanes.

ISCR using ZVI represents an applicable remedial alternative for impacted soil at the Site. The ZVI rapidly produces anaerobic conditions and provides a hydrogen source over a several year timeframe, which serves to create a reducing environment. In addition, the corrosion of iron metal yields ferrous iron and hydrogen, both of which are possible reducing agents. The hydrogen gas produced is also an excellent energy source for a wide range of bacteria.

ZVI-Clay is an ISCR remediation technology for treatment of subsurface chlorinated solvent source zones. The technology involves admixing reactive media (e.g., granular ZVI), and a stabilizing agent (clay) using conventional soil mixing techniques. Benefits of the technology include contaminant depletion via ZVI-mediated reductive dechlorination and reduced hydraulic conductivity of the mixed zone. Contaminants are both chemically degraded and stabilized. The purpose of mixing clay into the source zones is to create a stagnant hydrologic environment to inhibit transfer of contaminants from the source zone to groundwater while the reaction with ZVI occurs inside the source zone (NRC, 2004). ZVI also can be mixed directly into source zones where the soil has low permeability (Faircloth, 2010).

As indicated in Section 4.4.3.3, the soil blending process inherently loosens the structural strength of the soils. In addition, the addition of bentonite and ZVI, combined with the blending process, will increase the volume of soil present, potentially resulting in a mounding effect. The soil may also not be suitable for building construction without additional geotechnical evaluation after the blending has been completed. However, because Marquette may potentially redevelop the site as a parking lot or the site may remain vacant for a period of time following the completion of active remedial site work, the soil blending process could be used to distribute the chemical amendments into the subsurface soils.

ISCR does not require direct contact of the reductant with the target contaminants; however, a single injection event of ZVI as a suspension through vertical hydraulic probes may not provide sufficient electron donor to remediate the impacted soils. In general, ZVI is active over a longer timeframe in the subsurface, and therefore, a total of two ISCR injection events would likely be necessary to achieve sufficient reductant delivery and effective soil remediation.

The estimated cost for permitting, engineering design, two ZVI injection events of the vadose zone soil within that target treatment area, and construction documentation would total approximately \$130,000.

4.4.3.5 Summary of Vadose Zone Source Remedial Alternatives

As indicated above, the excavation and off-site treatment/disposal alternative for vadose zone soil within the target treatment area would likely be cost prohibitive and is therefore not retained for further evaluation. Considering the permeability and configuration of the impacted vadose zone soil (shallow vertical extent of vadose zone PCE mass within relatively low permeability fine-grained soils), the application of SVE would not effectively reduce PCE mass. As such, the SVE alternative for vadose zone soil remediation is not retained for further evaluation associated with the Site.

The estimated cost for remediation of the vadose zone soil within that target treatment area using ISCR (\$130,000 based on two ZVI injection events) is less than that associated with in-situ chemical oxidation (\$210,000). Moreover, the duration of chemical oxidation of the CVOCs of interest would range between several days and several weeks; in contrast, the application of *in-situ* chemical reduction would provide a hydrogen source to support reductive dechlorination over a several-year timeframe. As such, the potential necessity for multiple injection events (and associated additional costs) is substantially higher with the ISCO alternative than with the ISCR alternative. Based on the foregoing, the remedial action options described in Sections 4.4.4, 4.4.5, 4.4.6, 4.4.7, 4.4.8, and 4.4.9 would therefore be recommended to include *in-situ* chemical reduction of the vadose zone in tandem with the evaluated groundwater remedial action options for the Site. The remedial action options described in Sections 4.4.10, 4.4.11, and 4.4.12 are each able to be applied to remediate both vadose zone soil as well as groundwater.

4.4.4 Natural Attenuation with Vadose Zone Remediation

This alternative consists of natural attenuation of groundwater coupled with vadose zone source remediation, as the selected remedial action option to treat affected soil and groundwater at the subject property.

Natural attenuation processes can account for improvements in groundwater quality. This process is therefore considered a passive remedial alternative. Natural attenuation in the subsurface occurs due to a combination of processes including the following: biodegradation, adsorption, dilution, and dispersion. Depending on the initial concentrations and properties of the chemicals in the groundwater, and physical or biological processes controlling attenuation, the contaminant plume may eventually shrink or narrow over time, as the edges of the plume will degrade to insignificant concentrations. Intrinsic bioremediation is the use of a scientific approach to demonstrate the occurrence of microbial degradation of contaminants by monitoring the geochemical and biological properties of the groundwater, including pH, temperature, conductivity, oxidation/reduction potential, electron acceptors (e.g., dissolved oxygen, nitrate, nitrite, sulfate, etc.), carbonate, bicarbonate, carbon dioxide, methane, alkalinity, cations, TDS, chloride, sulfide, etc.

Soluble hydrocarbon plumes containing CVOCs are amenable to natural attenuation processes. MNA has limited effectiveness for contaminant plumes that have migrated to receptors or are present in an area where future groundwater use is likely. The ideal goal of MNA is to demonstrate that active

remediation is unnecessary because groundwater plumes will not reach potential receptors or other points of compliance before being remediated by organisms that occur naturally in groundwater.

Groundwater monitoring is used as a tool to provide information regarding changes in subsurface conditions over time. This action is a component of remedial action options for groundwater. In the case of monitored natural attenuation, time-series data are collected from monitoring wells to evaluate plume stability and to confirm the effectiveness of natural processes in the degradation of contaminants. Per current WDNR guidance, the Mann-Whitney U Test should be conducted by assembling well data for the most recent eight consecutive quarterly or semi-annual sampling events for each contaminant that has exceeded the WAC NR 140 ES at one or more monitoring wells.

From an administrative feasibility point of view, this option will require a demonstration of effectiveness (i.e., stable or declining concentration trends) before the administrative agency can accept this alternative as the final remedy for the site. Based on the relatively high and historically increasing PCE concentrations detected in on-site groundwater, it is not currently possible to accurately estimate a timeframe for completion of MNA and achievement of regulatory case closure in the absence of active groundwater remediation.

An evaluation of PCE concentrations in previously collected groundwater samples from the subject property was conducted to assess the possible presence of PCE as DNAPL. An organic compound concentration in groundwater that exceeds 1 percent of that compound's aqueous solubility is generally indicative of the presence of NAPL in the vicinity of the monitoring well screen (USEPA, 1994). The maximum detected PCE concentration in groundwater (61,000 µg/L at piezometer PZ-1 in August 2009) is compared with the aqueous solubility of PCE (150,000 µg/L) (USEPA, 1981). The detected maximum PCE concentration identified above represents approximately 41 percent of the aqueous solubility of PCE. Therefore, although DNAPL pools have not been observed, the available shallow groundwater quality information indicates the presence of interstitial DNAPL (where the DNAPL either coats soil surfaces or is held in soil pore space by capillary pressure) in groundwater at the subject property. Based on the probable presence of PCE as interstitial DNAPL at an approximate depth of 10 feet below the water table (based on the screen interval for piezometer PZ-1), achievement of regulatory case closure in the absence of active groundwater remediation is likely not possible within a reasonable timeframe. Therefore, the MNA alternative would likely not be acceptable to the regulatory agency based on the detected PCE concentrations. As such, the MNA alternative for groundwater was not retained for further evaluation.

4.4.5 In-Situ Anaerobic Bioremediation with Vadose Zone Remediation

CVOCs can be degraded by anaerobic microbes known as reductive dechlorinators to non-toxic daughter products. Such biodegradation requires reducing conditions to stimulate anaerobic bacteria to dechlorinate the CVOC. The approach is designed to provide a carbon or electron donor source to create reducing conditions necessary to enhance anaerobic biodegradation. A molasses/water mixture, whey, high fructose corn syrup, or sodium lactate, when delivered to the subsurface, are examples of effective electron donors that have been shown to degrade the CVOCs. Such anaerobic bioremediation processes have been successful and well documented at a wide variety of sites, and guidance documents are available that describe the process in detail (AFCEE, 2004).

The anaerobic microbes use CVOCs during dehalorespiration via reductive dechlorination. There are a variety of bacteria that dehalorespire only on PCE or TCE, producing toxic cis-1,2-DCE in the process. In contrast, the dechlorinating microorganism *Dehalococcoides* (Dhc) is the only known microorganism capable of further dechlorination to non-toxic ethene. Although Dhc microorganisms are widely distributed in the environment, research indicates that they are not ubiquitous. If Dhc is absent from a site, incomplete dechlorination and accumulation of cis-1,2-DCE is anticipated to

occur, or extended acclimation periods will be required to allow low concentrations or poorly distributed Dhc populations to achieve functional cell densities. If the results of groundwater monitoring during the course of anaerobic bioremediation indicate insufficient Dhc bacterial populations, then the biostimulation is often combined with bioaugmentation using Dhc microbes that are naturally-acclimated to site groundwater.

Under this remedial approach, the naturally adapted microbes sequentially dechlorinate the CVOCs and gain energy in each step while utilizing the substrate as a carbon source and the CVOC as an electron acceptor. The adapted microbes respire using the CVOCs in place of other electron acceptors such as oxygen. The areas in which substrate is delivered become anaerobic due to the uptake of available electron acceptors to support respiration of the microbes, which provides the environment required for the bioremediation process to take place. This process has been shown to be more effective and less costly than other treatment processes, such as physical and chemical removal.

In order to effectively anaerobically bioremediate a particular area, it is critical to:

- select the optimal chemical additives;
- bioaugment (if necessary) the site with dechlorinating microbes;
- properly distribute the chemical and biological additives to stimulate the dechlorination process within the contaminated area; and
- maintain the enhanced subsurface conditions for sufficient time to fully dechlorinate the dissolved and adsorbed CVOCs.

The goal of the bioremediation is to inject amendments in the area of interest prior to “consumption” of the added electron donor. The electron donor that is added is consumed by the CVOCs in dechlorination reactions, as well as naturally-occurring electron acceptors in methanogenic reactions (plus sulfate reduction, nitrate reduction, etc.). The design of the bioremediation program is based on delivery of sufficient amendments to the impacted aquifer within a finite time period. The empirically determined guidance for the design of a bioremediation program is generally considered to maintain total organic carbon (TOC) concentrations within the active treatment zone within a range of 10 milligrams per liter (mg/L) to 200 mg/L.

Although *in-situ* anaerobic bioremediation has been applied at a few sites with residual or sorbed DNAPL, *in-situ* anaerobic bioremediation is typically more suitable as a polishing step following more aggressive DNAPL removal technologies (Stroo et al., 2003). Based on the foregoing and the apparent presence of DNAPL over a large portion of the target treatment volume at the Site as indicated in Section 4.4.4, the *in-situ* anaerobic bioremediation alternative for groundwater was not retained for further evaluation.

4.4.6 Groundwater Collection with Vadose Zone Remediation

This alternative consists of groundwater collection coupled with vadose zone source remediation as the selected remedial action option to treat affected groundwater and soil at the subject property.

Collection of groundwater is conducted as part of pump-and-treat systems. Groundwater is extracted from the subsurface for the purpose of aboveground treatment prior to rejection, reuse or discharge. Collection techniques include use of vertical or horizontal extraction wells or interceptor trenches.

It is widely established that contaminated aquifers typically cannot be restored through simple groundwater extraction and treatment (Keely, 1990; Travis and Doty, 1990; and McKay and Cherry,

1989). As such, groundwater extraction is often used as a hydraulic containment technology, as opposed to an aquifer restoration technology. The limitations associated with pump-and-treat methodology include the following:

- Organic contaminants generally have low solubility in groundwater. Therefore, only a small fraction of the total contaminant mass is accessible to the pump-and-treat process.
- Contaminants sorb onto sediments, further restricting their removal by the pump-and-treat process.
- The geology of most sites is complex, consisting of soils with both high and low hydraulic conductivities. Although removal of contaminants from high-hydraulic conductivity zones can be enhanced by increasing groundwater extraction rates, the rate of mass removal of contaminants from low hydraulic conductivity zones is often limited by desorption.
- Many pumping systems create stagnation zones or lead to contamination of previously uncontaminated areas.

Based on the foregoing, the probable presence of DNAPL in Site groundwater as discussed in Section 4.4.4, and the low measured hydraulic conductivity of saturated soils at the Site, the groundwater collection alternative was not retained for further evaluation.

4.4.7 Air Sparging with Vadose Zone Remediation

Air sparging is an in-situ remedial technology that reduces concentrations of volatile constituents in petroleum products that are adsorbed to soils and dissolved in groundwater. This technology, which is also known as "*in situ* air stripping" and "*in situ* volatilization," involves the injection of contaminant-free air into the subsurface saturated zone, enabling a phase transfer of hydrocarbons from a dissolved state to a vapor phase. The air is then vented through the unsaturated zone.

Air sparging is often used together with SVE, but it can also be used with other remedial technologies. When air sparging is combined with SVE, the SVE system creates a negative pressure in the unsaturated zone through a series of extraction wells to control the vapor plume migration.

When used appropriately, air sparging has been found to be effective in reducing concentrations of VOCs found in petroleum products. Air sparging is generally more applicable to the lighter gasoline constituents (i.e., benzene, ethylbenzene, toluene, and xylene [BTEX]), because they readily transfer from the dissolved to the gaseous phase. Oxygen added to contaminated groundwater as part of air sparging can also enhance biodegradation of BTEX and other VOCs that are amenable to aerobic bioremediation. Although methane can be used as an amendment to the sparged air to enhance co-metabolism of lower halogenated CVOs (such as TCE and cis-1,2-DCE), PCE has not been widely demonstrated to be remediated co-metabolically. Moreover, air sparging can create groundwater mounding which could potentially cause free product to migrate and contamination to spread. In addition, potentially dangerous constituent concentrations can accumulate in nearby basements sewers, or other subsurface confined spaces. Based on the foregoing and the low measured hydraulic conductivity of saturated soils at the Site, this remedial alternative was not retained for further evaluation.

4.4.8 Slurry Wall Installation with Vadose Zone Remediation

The terms slurry wall, slurry trench, or slurry cut-off wall refer to non-structural vertical cutoff walls constructed using the slurry trench installation method. The slurry trench installation method refers to construction practices that utilize an engineered fluid (normally consisting of some mixture of clay and water) to hold open the sidewalls of an excavation, thereby permitting the excavation of deep and narrow trenches without the need for other conventional excavation support systems. Slurry

walls are mainly constructed to slow the flow of groundwater. Occasionally, these walls are also intended to reduce the migration of subsurface contaminants, by slowing the flow of the groundwater carrying the contaminants.

Most slurry walls are excavated with backhoes that can be modified to excavate to depths as great as 90 feet bgs. Greater depths are possible with clamshell excavators. When the excavation is complete, the trench is filled with a low permeability backfill (normally less than 1×10^{-7} cm/s). The backfill typically consists of a blend of soil and bentonite; soil, cement, and bentonite; or cement and bentonite. Composite barriers using synthetic materials (such as High Density Polyethylene [HDPE] liners) or composite trench systems are also possible.

Slurry walls are constructed by excavating a narrow trench under an engineered fluid. The most common engineered fluid in this application is a colloidal suspension of bentonite clay in water. Even below the water table, the slurry stabilizes the excavation and prevents the trench walls from collapsing. For the Site, the anticipated slurry wall dimensions would be 3 feet (width) by 60 feet (depth) by 520 linear feet to encapsulate the impacted area, for a total of 31,200 vertical square feet (VSF). Based on these dimensions, the estimated cost for permitting, engineering design, slurry wall construction, documentation, eight quarterly groundwater monitoring events (post-construction), and vadose zone remediation would total approximately \$980,000.

4.4.9 Reactive Barrier Installation with Vadose Zone Remediation

Permeable reactive barrier walls, sometimes called passive reactive barriers or permeable reactive barriers (PRBs), are vertical elements used to passively remediate contaminated soil and groundwater. This technology does not require any mass excavation, disposal or conventional "pump and treat" methods. Under this technology, a treatment media or reactive barrier is buried in a narrow trench beneath the ground surface so that contaminated groundwater can pass through the media. After the contaminated groundwater passes through and reacts with the media, the groundwater exits the other side of the wall with reduced contaminant concentrations. Typical treatment media used in PRBs includes granular iron, activated carbon, engineered bacteria, chemicals, and special clays.

Occasionally slurry walls are used to funnel the groundwater toward a reactive media gate; this type of installation is known as a "funnel and gate" system. Cost-effective PRB installations that ensure the design life require special construction considerations. Because any permeable reactive barrier wall must be buried deep underground and below the groundwater table, specialty geotechnical construction methods, such as those employed in deep drain installations, are quite useful in minimizing excavation volumes, eliminating dewatering, and reducing costs.

For the Site, the anticipated PRB dimensions would be 3 feet (width) by 60 feet (depth) by 120 linear feet, for a total of 7,200 VSF. Based on these dimensions, the estimated cost for permitting, engineering design, PRB construction, documentation, eight quarterly groundwater monitoring events (post-construction), and vadose zone remediation would total approximately \$970,000.

4.4.10 *In-Situ* Chemical Oxidation

The remediation of groundwater contamination using ISCO involves injecting oxidants and potentially co-amendments directly into the source zone. The oxidant chemicals react with the contaminants, producing innocuous substances such as carbon dioxide, water, and (in the case of chlorinated compounds) inorganic chloride. Chlorinated solvents (ethene and ethanes) are amenable to treatment by ISCO. The application of this remedial technology is further discussed in Section 4.4.3.3. However, under this alternative, ISCO would be applied to treat both the heavily impacted

vadose zone as well as impacted groundwater within the target treatment volume identified in Section 4.4.

For this application, potassium permanganate would be the recommended oxidant based on its demonstrated effectiveness in treating PCE and its degradation products without complicated activation methods. Proper design of a field-scale implementation of ISCO involves evaluation of contaminant concentrations as well as quantitative estimates of other oxidant sinks. If all of the oxidant sinks are not properly taken into account, the amount of oxidant that needs to be injected will be underestimated, and it is likely that the ISCO effort will fail. In addition to the target contaminants, other possible oxidant sinks include reduced minerals and naturally occurring organic matter (NOM). The amount of reduced minerals that will deplete oxidant depends upon the present oxidation-reduction potential (ORP) of the subsurface environment, as well as the chemical composition of the soil matrix (percentage of iron, for example). Approximate estimates of the oxidant demand for reduced minerals can be identified based upon soil description and semi-qualitative descriptions of the ORP state of the aquifer (for example, iron- or sulfate-reducing conditions). However, this type of estimate can easily be in error as much as an order-of-magnitude and cause the ISCO to fail or lead to over application of oxidants. The other major oxidant sink is NOM. Not all NOM will be amenable to oxidation, and the level of oxidation of NOM depends upon the oxidant selected. Therefore, a laboratory analysis such as TOC may not provide an accurate estimate of the oxidant required for NOM. As such, several subsurface soil samples would be obtained as a pre-design task, and submitted for analysis of total oxidant demand (TOD).

Based on the presence of relatively organic-rich silt and clay soils and apparent reducing conditions in light of the presence of substantial concentrations of PCE-degradation product cis-1,2-DCE, a total oxidant demand of 8 grams of oxidant per kilogram of soil is assumed. As such, approximately 53,200 pounds of oxidant would be required for the target treatment volume.

As indicated in Section 4.4.3.3, ISCO requires direct contact of the oxidant with the target contaminants; however, injection of permanganate in liquid form through vertical hydraulic probes into shallow heterogeneous vadose zone soils can readily result in preferential transport of oxidant through relatively high permeability zones. At least four injection events would likely be necessary to deliver sufficient oxidant (13,000 pounds for each of the four injection events) to treat the high subsurface CVOC concentrations (that are indicative of DNAPL) at the Site.

Soil oxidant demand testing on several site-specific soil samples would be conducted prior to implementing the ISCO remedial action, in order to estimate proper oxidant loading rates. Based on the implemented oxidant loading rate, the duration of chemical oxidation of the CVOCs of interest ranges between several days and several weeks.

In accordance with WAC NR 169.23(6)(d), a pilot test would be conducted to evaluate the feasibility of the ISCO alternative. The pilot test would be conducted within the source area (area with the highest concentrations), addressing a single 20-foot by 20-foot area. For cost estimating purposes, it is assumed that this pilot test area cell would extend to approximately 35 feet bgs, for a total of treatment volume of approximately 300 cubic yards. The pilot test would be evaluated based on laboratory results of groundwater sampling of existing piezometer PZ-1 for analysis of VOCs. If the results of the groundwater sampling reveal substantially reduced CVOC concentrations, then full-scale ISCO would be conducted.

The estimated cost for permitting, engineering design, pilot and full-scale injection of the target treatment area (vadose zone and groundwater) using potassium permanganate, construction documentation, and nine groundwater monitoring events, would total approximately \$550,000 (assuming four full-scale injection events). Based on the relatively short duration of oxidant

longevity (several days to several weeks), additional soil injection events might be necessary at additional cost.

4.4.11 *In-Situ* Chemical Reduction

As indicated in Section 4.4.3.4, chemical reduction is one half of a redox reaction, which results in the gain of electrons. One of the reactants in the reaction becomes oxidized, or loses electrons, while the other reactant becomes reduced, or gains electrons. In ISCR, reducing compounds, compounds that accept electrons given by other compounds in a reaction, are used to change the contaminants into harmless compounds.

ISCR involves the placement of a reductant or reductant-generating material in the subsurface for the purpose of degrading toxic organic compounds to potentially nontoxic or less toxic compounds, immobilizing metals such as Cr (VI) by adsorption or precipitation, and degrading non-metallic oxyanions such as nitrate. The most commonly used reductant is ZVI, which is used to remediate halogenated ethenes and ethanes. The application of this remedial technology is discussed in Section 4.4.3.4. However, under this alternative, ISCR would be applied to treat both the heavily impacted vadose zone as well as groundwater.

Treatment of CVOCs by ZVI is a demonstrated and widely-accepted effective in-situ remediation technology. The degradation process is an abiotic reductive dehalogenation process occurring on the surface of the granular iron, with the iron acting as an electron source. During the dehalogenation process, the halides on the compound (chloride, fluoride and bromide) are replaced by hydrogen resulting in the transformation of halogenated VOCs to ethane, ethane, methane, and halide ions (Cl⁻, F⁻, and Br⁻). Dehalogenation proceeds by three processes commonly referred to as β -elimination, hydrogenolysis and hydrogenation. For chlorinated ethenes such as PCE and TCE, β -elimination involves the removal of two chlorides on adjacent carbons resulting in the formation of a lesser chlorinated acetylene intermediate and is considered to be the dominant dechlorination process for most chlorinated ethenes.

Under this remedial alternative, the recommended carbon amendment would be a patented mixture of lactates/fatty acids and micron-scale ZVI. The carbon amendment contains soluble lactic acid as well as slow- and long-term releasing components. A phosphate buffer provides phosphates, which are a micronutrient for bioremediation. In addition, the buffer helps to maintain the pH in a range that is best suited for microbial growth.

ISCR does not require direct contact of the reductant with the target contaminants, and delivery of the reductants can be completed using hydraulic injection or in-situ soil blending. Hydraulic injection approaches are not effective in delivering reagent to locations just below ground surface as indicated above. As such, a total of two ISCR injection events would likely be necessary to achieve sufficient reductant delivery and effective soil remediation. Based on the high detected CVOC concentrations in soil samples previously obtained at the Site, and the high costs associated with soil disposal, application of enhanced reductive dechlorination using *in-situ* soil blending is retained for further evaluation.

The application of approximately 167,000 pounds of ZVI and carbon amendment would be recommended to treat the targeted CVOC-impacted soil and groundwater. The ZVI content would be equivalent to 2.5% of the weight of the target treatment volume. A pilot test would not be necessary for the ISCR alternative, as *in-situ* soil blending facilitates effective contact between amendments and contaminants and allows for greater amendment dosing than hydraulic injection delivery approaches. Therefore, completion of a costly and time-consuming pilot test would not

represent efficient use of limited DERP funds. However, a bench scale test would be recommended in order to determine the proper ZVI loading rate for the Site.

The estimated cost for permitting, engineering design, completion of a bench scale test, and completion of full-scale *in-situ* soil blending within the target treatment area to treat both vadose zone soil and groundwater, construction documentation, and nine groundwater monitoring events would total approximately \$350,000.

4.4.12 *In-Situ* Electro-Thermal Remediation

This alternative consists of *in-situ* electro-thermal remediation of the area in the immediate vicinity of the facility building at the Site, as the selected remedial action option to treat affected soil and groundwater at the property.

Using an *in-situ* electrical resistance thermal remediation technology, the impacted soil and groundwater in the target area is heated by resistance from an electric current applied between subsurface electrodes. The heating creates an in-situ source of steam to strip VOCs from the soil and groundwater as the dissolved constituents' partition to the vapor phase. Udell (1996) determined that steam stripping was the mechanism by which subsurface heating removed a wide range of hydrocarbons from pore spaces, including high boiling point compounds. Specific processes include evaporation into the subsurface air stream (for example, the vapor pressure of TCE increases 15-fold between ambient temperature and 100 degrees Celsius), and steam distillation (as the treatment zone is heated, each milliliter of soil moisture produces over a liter of steam). Organic vapors tend to partition into the produced steam, and are swept along with it toward extraction wells.

The continuous heating also lowers the viscosity of water and causes pressure-driven micro-fracturing in low permeability soils to increase the effective permeability of the soil; these two processes increase the mobility of the VOCs. The increased contaminant mobility allows for the removal of the VOCs using soil vapor extraction to a degree that would not be possible in the current condition of the soil. Municipal tap water would be injected into the electrodes and drawn to soil vapor extraction wells during the operation to sustain the presence of beneficial steam.

Based on a conceptual design, the thermal remediation system could consist of an array of approximately 14 electrode well locations each spaced 20 feet apart, approximately nine vapor/liquid extraction wells, and 5 temperature sensor locations within the impacted area.

Soil vapor consisting of volatilized contaminants, steam, and air would be removed from the subsurface using the vacuum extraction wells. The extracted soil vapor would be cooled, dried and treated prior to discharge. The soil vapor condensate would be treated to a concentration acceptable for appropriate discharge, in conformance with applicable air emission regulations. A target temperature of 100 degrees Celsius within the treatment volume would be achieved during the 6-month system operation timeframe. A 1-year timeframe after ceasing operations at the site may be required for the subsurface in the vicinity of the remediation to return to ambient temperatures.

Under this remedial alternative, the estimated cost for permitting, bench-scale testing, engineering design, remedial system installation, 6 months remedial system operations and maintenance, remedial system decommissioning, construction documentation, and eight quarterly groundwater monitoring events (post-treatment), would total approximately \$960,000.

4.5 Selected Remedial Action

Based on the identification and evaluation of remedial options, the following remedial alternatives were retained:

- a. Slurry wall installation with vadose zone remediation, can provide hydraulic containment of CVOC-impacted groundwater. However, long-term groundwater monitoring (well beyond 2 years) would be required, as impacted groundwater is encapsulated as opposed to remediated.
- b. Permeable reactive barrier installation with vadose zone remediation, is designed to remediate CVOC-impacted groundwater prior to exiting the hydraulically downgradient property boundaries. However, long-term groundwater monitoring (well beyond two years) would be required, as only impacted groundwater downgradient of the source is remediated.
- c. *In-situ* chemical oxidation through hydraulic probe injection of potassium permanganate, may be subject to greater than four injection events based on a relatively short oxidant longevity, resulting in uncertain total remedial costs.
- d. *In-situ* chemical reduction through *in-situ* soil blending of ZVI and carbon amendment, is associated with a longer-duration active reagent when compared with oxidation technologies, which reduces the need for multiple events.
- e. *In-situ* electro-thermal treatment, is an aggressive CVOC mass removal technology that, based on high infrastructure capital costs, is more cost effective in remediating sites with larger treatment volumes than the subject Site.

The slurry wall installation, permeable reactive barrier installation, and *in-situ* electro-thermal treatment options were not selected based on their high associated remedial costs. The estimated cost for remediation of the target treatment volume using *in-situ* chemical reduction is less than that associated with *in-situ* chemical oxidation. Moreover, the duration of chemical oxidation of the CVOCs of interest would range between several days and several weeks; in contrast, the application of *in-situ* chemical reduction would provide a hydrogen source to support reductive dechlorination over a several-year timeframe. As such, the potential necessity for greater than four hydraulic probe injection events (and associated additional costs) is substantially higher with the *in-situ* chemical oxidation alternative than with the *in-situ* chemical reduction alternative which includes only one soil blending event since the ZVI/ carbon amendment is much longer lasting. Sufficient mass/ distribution of the ZVI and carbon amendment is achieved through the *in-situ* soil blending process. In addition, the purple color associated with permanganate-treated soil and groundwater could also result in unwanted public attention to this visually accessible site in downtown Milwaukee.

Based on the factors summarized above, Ramboll recommended implementation of *in-situ* chemical reduction through *in-situ* soil blending of ZVI and carbon amendment to remediate CVOC-impacted soil and groundwater at the subject property.

Treatment of CVOCs by ZVI has been proven and widely-accepted as an effective *in situ* remediation technology. ZVI destroys CVOCs in groundwater, including PCE and daughter products detected in soil and groundwater at the Site. The degradation process is an abiotic reductive dehalogenation process occurring on the surface of the granular iron, with the iron acting as an electron source. Because the microbes at the Site are already anaerobically degrading the PCE impacts, this remedial process will enhance the natural degradation process.

The WDNR approved the recommended remedial action in a letter dated March 3, 2017, and associated DERP funding of \$349,506. A natural attenuation groundwater monitoring program will be instituted following implementation of chemical reduction using *in-situ* soil blending. A request for case closure will be submitted to the WDNR in accordance with WAC NR 726 after demonstrating

CVOC concentrations are stable or declining. Eight rounds of groundwater monitoring are proposed as required by WDNR guidance to demonstrate natural attenuation after source treatment.

5. PRE-REMEDIAL SAMPLING AND TREATABILITY STUDY RESULTS

This section summarizes the results of the WDNR-approved pre-remedial groundwater sampling and concrete sampling conducted at the Site in November 2017. Soil and groundwater samples were also collected in November 2017 for a treatability study, and the treatability study is discussed in the following subsections. These pre-remediation sampling activities were completed in accordance with Ramboll Environ's *Health and Safety Plan* (Ramboll Environ, 2017).

5.1 Pre-Remedial Groundwater Sampling

Ramboll Environ conducted a round of baseline groundwater monitoring in November 2017. It was critical to conduct a baseline groundwater monitoring event since the existing wells had not been sampled since 2009. As part of this task, groundwater elevations were measured across the site at nine monitoring wells and four piezometers. Shallow groundwater generally flows from the northwest portion of the Site towards the southeast and east. The water table elevations measured in November 2017 are shown on Figure 4.

Additionally, eight of nine monitoring wells and four piezometers were sampled for VOCs (Method 8260). One monitoring well, MW-8 was not sampled in November 2017 because the well did not sufficiently recharge for sample collection. During the November 2017 groundwater sampling event, a YSI multi-parameter meter was used to measure geochemical parameters, including pH, dissolved oxygen, and ORP. In accordance with the WDNR October 2014 guidance document "Understanding Chlorinated Hydrocarbon Behavior in Groundwater" (WDNR Publication RR-699), monitoring wells MW-1, MW-2, MW-6, and piezometers PZ-1 and PZ-2, located within, upgradient, and downgradient of the treatment area, were also sampled for the following natural attenuation parameters: ethene/ethane/methane (Method 8015), dissolved iron (Method 8146), total organic carbon (Method 5310), nitrate+nitrite (Method 353.2), and sulfate (Method 300). Three quality assurance/quality control (QA/QC) duplicate groundwater samples and two QA/QC laboratory trip blank samples were submitted for laboratory analysis of VOCs as part of the baseline groundwater monitoring event.

Based on the pre-remedial groundwater sampling results, the concentration of PCE in groundwater ranged from non-detect to 16,200 µg/L. The maximum PCE concentration was detected at piezometer PZ-1. The extent of PCE impacts in groundwater is shown on Figure 5. The groundwater analytical results were compared to the WAC NR 140 ES. For PCE, measured concentrations exceeded the WAC NR 140 ES (5 µg/L) at three monitoring wells (MW-4, MW-5, and PZ-1). Exceedances of the WAC NR 140 ES for cDCE (70 µg/L) and TCE (5 µg/L) were also measured in groundwater at the following monitoring wells:

- cDCE: MW-5, PZ-1 and PZ-3
- TCE: PZ-1 and PZ-3

The groundwater analytical results are presented in Table 2, and the natural attenuation parameter analytical results are presented in Table 3. The laboratory analytical data is included in Appendix B.

5.2 Pre-Remedial Concrete Sampling

As part of the pre-remedial investigation activities, four concrete samples were collected from the concrete slab in the existing building basement, in the vicinity of the former location of the reported

300-gallon PCE storage tank. Concrete samples were collected using a battery-powered drill at the locations shown on Figure 6. The concrete samples were submitted to Pace Analytical for analysis of VOCs and TCLP-VOCs. The concentration of PCE in concrete ranged from 47.3 J $\mu\text{g}/\text{kg}$ to 115,000 $\mu\text{g}/\text{kg}$. TCLP PCE concentrations ranged from 16.1 $\mu\text{g}/\text{L}$ to 95.0 $\mu\text{g}/\text{L}$. The concrete analytical results are presented in Table 4, and the laboratory analytical data is included in Appendix B.

Although the TCLP-PCE concentrations are less than 700 $\mu\text{g}/\text{L}$ and indicate that the material is not characteristically hazardous, the WDNR has indicated that impacted concrete removed from the site will likely need to be handled as a listed waste due to the historic dry cleaning operations that took place at the site. Therefore, the impacted concrete floor within the former PCE storage room will be transported off-site for disposal as a listed hazardous waste. Approximately 8 tons of impacted concrete will be treated and disposed off-site at an approved disposal facility.

5.3 Pre-Remedial Treatability Study

A pre-remedial treatability study was also completed in order to obtain information related to the dose of ZVI to be applied to the soil. In November 2017, Ramboll Environ collected a 2-liter representative sample of contaminated soil, using a geoprobe soil boring (TB-1) advanced to a depth of approximately 28 feet bgs in the vicinity of soil boring location GP-23 (Figure 3). A photoionization detector (PID) was used to field screen the soils prior to collection of the treatability soil sample. The soil boring log and abandonment form for TB-1 are included in Appendix C-1. Please note that an additional boring (referred to as TB-2) was initially advanced near PZ-1 to facilitate collection of the treatability sample; however, due to the conditions encountered (i.e., low PID readings), the location was abandoned and TB-1 was advanced near GP-23 where higher PID readings were encountered. Additionally, one liter of site groundwater was collected from piezometer PZ-1.

The treatability study soil and groundwater samples were submitted to ReSolution Partners. ReSolution Partners submitted a sub-sample of soil and groundwater were submitted for analysis of VOCs by Pace Analytical, and concentrations were found to be acceptable. Treatability samples were prepared, and included the following:

- an unamended control;
- soil plus 1.5% ZVI (using ZVI sample obtained from the remediation contractor);
- soil plus 2.5% ZVI; and
- soil plus 3.0% ZVI.

The treatability samples were prepared to achieve a target moisture content of 15% by weight, and the samples were stored inverted and in the dark at room temperature for four weeks of reaction time, from November 20, 2017 to December 18, 2017. At the end of the reaction period, a sub-sample of soil from each treatability sample was submitted for analysis of VOCs by Pace Analytical in order to evaluate the treatment effectiveness for each ZVI loading rate and the unamended control. The treatability study revealed reductions in PCE concentrations between 30 to 42%, while TCE concentrations were observed to increase likely due to the degradation of PCE. Based on these results and discussions between ReSolution Partners, Redox Tech, and Ramboll, further treatability testing was determined to be necessary in order to increase the moisture content to improve chemical performance.

The second phase of the treatability study was conducted for the soil plus 2.5% ZVI only, using remaining treatability study soil and groundwater previously submitted by Ramboll to ReSolution Partners. The treatability sample was prepared to achieve a target moisture content of 30% by

weight. The sample was stored inverted and in a dark room at room temperature for 2 weeks of reaction time, from January 4 to January 18, 2018. At the end of the reaction period, the treated sample and unamended control were submitted for analysis of moisture content and VOCs by Pace Analytical. The laboratory-measured moisture content in the treated sample and control were 17.8% by weight and 21.4% by weight, respectively, both below the target of 30% by weight. Additionally, no reduction in PCE concentrations were observed when comparing the treated sample to the control. As such, the results of the second phase of treatability testing are considered inconclusive, as the desired moisture content was not maintained throughout the test. Without adequate moisture, the ZVI will not sufficiently react to reduce contaminant concentrations.

Further bench scale testing is currently being performed maintaining the desired 30% by weight moisture and utilizing 2.5% ZVI with ABC[®] carbon amendment (together referred to as ABC[®] +) to better simulate the generally saturated soil conditions that will be encountered during field implementation. The prior tests included ZVI alone, as the focus of the testing was on determining the optimum dosing rate and ZVI provides a more immediate reaction that could be measured during the short duration bench scale treatability testing. The addition of ABC[®] along with the ZVI is expected to aid in the retention of moisture during the testing, while in the field, it will provide a long-term source of nutrients to anaerobic growth, which will help to maintain a reducing environment.

Additional information on the treatability study methods and findings for both phases of the treatability study is included in Appendix C-2.

6. REMEDIAL ACTION DESIGN AND IMPLEMENTATION PLAN

The following sections present the design and implementation plan for the selected enhanced reductive dechlorination remedy for the source area soil and groundwater impacts at the Site. Also included in this section is the groundwater monitoring plan for verifying remedy performance for on-site groundwater.

6.1 Description of Current Site Conditions

The Site is located at 1214-1222 West Wells Street and occupies approximately 0.75 acres of land within the City of Milwaukee. The property is currently zoned as a Local Business District LB2 in the City of Milwaukee. The surrounding area contains a mixture of vacant parcels and both residential and commercial/business properties. The Site is currently developed with a multi-story, multiple tenant building, along with an asphalt parking lot and subsurface utilities that serviced the facility. Removal of the on-site buildings and asphalt parking areas will occur prior to the implementation of the Site remedial activities.

6.2 Pre-Soil Blending Activities

6.2.1 Permitting and Waste Profile Approvals

The following permits and waste profile approvals will be obtained prior to implementing the remedial action activities.

Underground Injection Control (UIC) Permit and General Permit for Groundwater Remediation

In accordance with the Wisconsin Pollutant Discharge Elimination System (WPDES) general permit requirements, a temporary exemption for injection in accordance with WAC NR 140.28(5) and approval to inject remedial materials under WAC NR 812.05, will be requested. The permit exemption applications are being submitted to the WDNR under separate cover concurrently with this Remedial Design Report.

Waste Profile for Impacted Concrete Disposal

A waste profile form will be completed for disposal of contaminated remediation waste (concrete) generated during the pre-remedial demolition activities. The impacted concrete identified for off-site disposal includes all of the basement flooring within the former PCE storage room as shown on Figure 6. Documentation on the ultimate treatment/disposal location will be included in the Remedial Action Completion report, described in Section 7.1.

6.2.2 Removal of Existing Building and Utilities

The Site currently contains an existing building, associated utilities that serviced the various operations at the Site, and asphalt parking areas. The building will be demolished by the redevelopment contractor (herein referred to as the general contractor) as part of the site preparation activities prior to the implementation of the remedial action. As part of the building demolition, the majority of the existing concrete basement foundation walls and slab will be removed to provide access to the impacted soil beneath the slab. The southern basement wall that is adjacent to West Wells Street is intended to remain. The abandoned utilities present in the vicinity of the soil treatment area will also be removed either during or prior to conducting the soil remediation activities. In addition, the existing asphalt pavement within the remediation area will also be removed. Where possible, paved surfaces outside of the remediation area will remain to minimize tracking of soil.

Based on the pre-remedial concrete sampling activities described in Section 5.2, a portion of the concrete slab material has been impacted by the former dry cleaning operations previously conducted at the Site. The impacted concrete floor from within the former PCE storage room will be removed, segregated, and disposed off-site. The remaining basement floor and other concrete from the building demolition activities will be crushed on-site and used as backfill following the completion of the site remediation activities.

Demolition of the on-site structures and removal of abandoned utilities and the asphalt parking areas will be performed by the general contractor, under a separate contact with Marquette University. Details of the locations and the demolition are provided in Appendix D, Plan Drawings and Specifications, for reference.

6.2.3 Soil Erosion and Sediment Control Measures

Prior to implementing the site redevelopment and remediation work, soil erosion and sediment controls measures will be undertaken by the general contractor to prevent runoff, tracking, or loss of soil materials by water or mechanical action from disturbed portions of the Site. The soil erosion and sediment controls may consist of placing silt fence along the perimeter of the Site where drainage of water from high areas toward low areas is expected to occur, if adequate pavement is not identified to remain around the remediation area. In addition, filter fabric barriers may be installed at affected non-curbside and curbside catch basins. The general contractor will establish and maintain the erosion control features until all earthwork and soil blending is completed and final surface materials have been placed onto work area. A copy of the general contractor's erosion control permit is provided in Appendix E.

6.2.4 Security of Work Area

For purposes of securing the work area from bystanders and/or pedestrians walking along North 12th Street and West Wells Street, a temporary fence has been installed by the general contractor along the Site property boundary to enclose the work area. The location of the temporary fence is detailed in Appendix D, Plan Drawings and Specifications. The temporary fence consists of chain-link fencing panels, approximately 6 feet in height. The fence is secured in place using sand bags that are placed on each of the pole bases. Jersey barriers will be added along the West Wells Street fence line, as

appropriate, to provide additional protection. The temporary fence contains two access gates, one located at the southwest corner of the property along West Wells Street and the other located at the northwest corner of the Site on the northern property boundary. Two temporary access gates are also installed along North 12th Street, one at the northeast end and the other at the southeast end. The gates will be locked during non-working hours of the day. The temporary fence will remain in-place throughout the duration of the pre-remedial building demolition activities, the active soil and groundwater treatment activities, and site restoration activities. Once the soil blending activities are complete and the site is restored, the general contractor will remove the chain link fence.

6.2.5 Monitoring Well Abandonment

Existing piezometers PZ-1 and PZ-3, located within the target treatment zone were abandoned in accordance with WAC NR 141 on January 11, 2018. Well abandonment form 3300-005 will be completed to document the abandonment and will be included in the Remedial Action Completion report.

6.3 Implementation of *In-Situ* Enhanced Reductive Dechlorination

The following sections present the details of the implementation of the selected remedial approach. This section also describes the final site restoration activities to be completed following active soil and groundwater remediation.

6.3.1 Treatment Area Layout and Soil Blending Procedure

The extent of the treatment area and layout for soil blending are shown in Figure 7 and Sheet 5 in Appendix D (Plan Drawings and Specifications). The designated soil blending treatment area will be gridded into approximately 20-foot by 20-foot treatment cells by the remediation contractor and uploaded into an electronic mapping system.

In-situ soil blending involves using an in-situ blender to effectively distribute chemical amendments throughout the soil medium to treat the contaminants of concern. The *in-situ* blender is a proprietary system that is mounted on a large excavator with a modified diesel engine and hydraulic system. The *in-situ* blender utilizes a 28-inch diameter mixing drum with specially designed "teeth" which rotates at speeds up to 100 revolutions per minute (rpm) with torque in excess of 20,000 foot pounds. This allows the mixing drum to penetrate all soil types, even backfill materials such as bricks, rebar, and small rocks.

An excavator will work in tandem with the in-situ blending equipment. The excavator will be used to excavate soils as needed and to "loosen" the soils prior to blending in order to ensure there are no buried items, such as boulders, debris, etc. that may potentially damage the blending head. The excavator will also be used to manage soil and movement and addition of the chemical amendments, as needed. All excavation activities will be conducted in accordance with Occupational Safety and Health Administration (OSHA) excavation standards where applicable. Excavation protection methods may include a combination of benching and shoring, and the remediation contractor will be responsible for developing the excavation protection methods. A separation distance of approximately 20 feet is required between the remediation area and the adjacent parking structure to the west of the Site. The remediation contractor will provide an implementation plan for Ramboll's review and approval prior to commencement of remediation activities.

The existing site building will be demolished prior to the implementation of the remedial action. The removal of the site building will result in an approximately 15 feet deep excavation, from which soil blending treatment depths will then be measured. The upper 5 feet of soil (currently 0 to 5 feet below basement grade) will be excavated and placed on the adjacent cell within the treatment area. The *in situ* blending process will be performed systematically in the treatment cells that are divided

into approximately 20-foot by 20-foot treatment cells across the treatment area. The treatment volume of each cell will be divided into lifts, with the thickness of each lift ranging from 5 to 10 feet depending on the treatment cell. The number of lifts per treatment cell will depend on the target treatment depth for a given cell and will be specified in the remediation contractor's implementation plan.

When soil blending within a treatment cell, the upper lift(s) of soil will be excavated and placed on the adjacent cell within the treatment area. Once the lower lift(s) has (have) been blended with the predetermined quantity of amendment (ABC+), the upper lift(s) will be backfilled and the process repeated with additional ABC+. The purpose of performing the soil blending in lifts is to ensure that the amendments are properly distributed throughout the soil column and to thoroughly mix and homogenize the entire cell. Each cell/lift will be blended independently. Only after a targeted cell/lift has been fully completed will the equipment move to the next cell/lift. The strategy proposed is intended as a guide and is subject to change if field conditions require. This will be left up to the discretion of the operator and field lead. Details of the locations and methods and materials to be used are included in Appendix D, Plan Drawings and Specifications.

6.3.2 Chemical Amendment Mixing and Delivery

The chemical amendment loading rates for each cell and lift will be predetermined. ABC+ will be delivered to the site in two separate components. The liquid portion (ABC®) will be delivered in 330-gallon totes, while the ZVI will be delivered in 1,000- or 2,000-pound supersacks. The remediation contractor's implementation plan will attempt to design cell dimensions/sizes so that full supersacks of ZVI will be utilized (i.e., Redox Tech will attempt to minimize using partial sacks at cells). This will increase efficiency and maintain proper loading rates. It is estimated that approximately 167,000 pounds of ZVI and ABC® solution will be used to treat the target CVOC-impacted soil and groundwater. The ZVI content will be equivalent to approximately 2.5% of the weight of the target treatment volume.

The super sacks containing ZVI will be moved on site using an off-road forklift. As needed, the sacks will be brought from the staging area to the treatment cell using the excavator. Each sack is equipped with four looped lifting straps (one on each corner) that when pulled upwards, allows for the entire sack to drain under gravity. These loops will be connected to the lifting ring, located on the bottom of the excavator's bucket. The operator of the excavator will then tilt the sack on its side to allow access to release nylon braided lifting straps located on the underside of the sacks. Once the operator signals the field technician to proceed, the technician will release the straps on the underside of the sack to allow for the chemicals to pour from the sack once lifted. The technician will then leave the exclusion zone (approximately 50 to 75 feet away from the equipment) and signal the operator to proceed. The operator will lift the sack over the treatment cell, emptying the contents of the sack.

The ABC® solution will be added to the treatment cell as the soil is being blended. The solution will be brought to the work area via 330-gallon totes or via a 550-gallon tank mounted on a flat-bed trailer. As the blender is mixing the soil, a predetermined amount of solution will be transferred from the storage tank to the treatment cell via transfer pumps and hoses. The blender will blend all chemicals throughout the entire lift/cell. The process is deemed complete when the operator has determined that a homogenous mixture has been obtained (based on visual observations and pressure readings on his equipment). Once completed, the equipment will move to the next lift and/or cell, and the process will be repeated until all the material is thoroughly mixed into the lift/cell.

6.3.3 Potable Water Use

During blending, additional water will be added to the treatment cell to assist in the blending process. Water will be obtained from a faucet located in the adjacent Marquette parking garage immediately west of the remediation area. The remediation contractor will attempt to use as little water as possible (less than 500 gallons per cell) to avoid producing extremely wet conditions. Blending will continue until a homogenous consistency is attained. The amount of water that is used will be monitored using a water meter or other method employed by the remediation contractor. Additional details regarding the water source are included in Appendix D, Plan Drawings and Specifications.

6.3.4 Management of Excess Soil during Soil Blending

The soil blending process, combined with the addition of amendments and water, often results in an expansion of soil volume resulting in mounding or soil swell. If this occurs, the excess soils will be moved towards the center of the blending/treatment area by the excavator and tapered towards the edges of the target area. Segregated soil material that is accumulated will be temporarily stored within the "area of contamination" in accordance with all applicable federal and state laws and regulations. Potentially contaminated waste materials will be handled in the same manner as materials that are known to be contaminated. It is estimated that the degree of soil swell resulting from the soil blending will not exceed 2 feet and will therefore be readily accommodated by the post-demolition building excavation.

6.3.5 Materials Storage Area

The amendments to be used as part of the intended remedial actions (ABC[®] and ZVI) will be stored within the temporary fence area/secured work area, described in Section 6.2.4. These amendments will be stored in the equipment and material staging area located on the northern portion of the Site. This location will allow delivery trucks access to the storage area without interfering with the soil treatment process, and this location is shown in Appendix D, Plan Drawings and Specifications.

6.3.6 Equipment Decontamination

The soil blender and excavator will be decontaminated by the remediation contractor using potable water and/or a steam cleaner at the completion of the work and before transporting the equipment off-site. Decontamination will be performed in the area above the treatment zone in order to minimize the management and disposal of decontamination rinse water. The rinse water will be allowed to percolate into the treated soil/blending area. It is anticipated that the volume of decontamination water generated during this process will be minimal.

6.3.7 Ambient Air Monitoring

During implementation of the *in situ* soil blending activities, air quality around the Site must be monitored to ensure that safe conditions are maintained and on-Site workers and the surrounding community is protected. Therefore, an ambient air monitoring program will be conducted during the soil remediation activities. Air monitoring is also useful in determining the necessary level of worker respiratory protection. Air monitoring can also provide first indication that emissions are elevated, and it gives workers and Site managers an early warning that elevated emissions are present before air quality at the perimeter zone is affected.

6.3.7.1 Air Action Levels

An action level is the measured concentration of a specific contaminant in the air that triggers emission control and/or worker upgrade in respiratory protection. Action levels have been developed for PCE and TCE, the contaminants of interest at the Site.

Work Zone Action Levels: The work zone action levels are based on the OSHA regulations that govern worker safety. The OSHA 8-hour time weighted average (TWA) permissible exposure limit (PEL) is the air concentration of a specific contaminant that a worker may be exposed to over an 8-hour period without use of a respirator or other equipment.

Although the 8-hour OSHA PEL represents the acceptable level of exposure over an 8-hour period, one-half the PEL will be used as the action level in the work zone during operations at the Site. This provides a level of safety that allows actions to be implemented to control emissions before they represent a hazard to on-site workers or the surrounding community. The work zone action levels are as follows:

- The OSHA 8-hour TWA PEL for PCE and TCE for workers is 100 ppm. The PCE and TCE action level for the Work Zone that will require an increase in respiratory protection and emission control is one-half the OSHA PEL or 50 ppm measured continuously in the breathing zone for 5 minutes.

Additional information on the work zone action level is provided in the project-specific *Health and Safety Plan* (Ramboll Environ, 2017).

Perimeter Zone Action Levels: Standard risk assessment procedures consistent with USEPA guidelines were used to derive action levels for PCE and TCE. The rationale and procedures used to determine the Perimeter Zone Action Levels are included in Appendix F, Documentation of Fenceline Air Action Level for Tetrachloroethene and Trichloroethene. The perimeter zone action levels are as follows:

- PCE: 2.1 mg/m³ (0.31 ppmv)
- TCE: 0.10 mg/m³ (0.019 ppmv)

To monitor the concentrations in air during the soil remediation activities, an air monitoring technician will operate a calibrated portable Gasmeter DX4040 gas analyzer instrument that utilizes Fourier Transformed Infrared Spectroscopy (FTIR) to measure the concentration of PCE and TCE in ambient air. The Gasmeter DX4040 can detect concentrations of PCE and TCE as low as 0.030 mg/m³. This instrument can accurately and simultaneously identify and quantify organic compounds present in ambient air in a matter of seconds. Instantaneous readings of specific chemicals are recorded and the FTIR communicates with a handheld PDA that can provide the real time air concentration on a continuous basis. The data is also stored for later download for reporting purposes, if required. During routine operations, an air monitoring technician will monitor the work zone and Site perimeter air quality throughout the soil blending operations.

Perimeter air monitoring will be conducted on the perimeter of the Site (i.e., property boundary) based on receptor location and the most probable wind direction at the time of conducting the remediation. If the action level at a perimeter location is exceeded for 5 minutes or if operations in the work zone require an increase in respiratory protection, actions will be immediately implemented to reduce air emissions and continuous monitoring at a downwind perimeter location will continue until monitoring levels are below the action level. The primary responses for reducing air emissions will likely include the use of vapor suppressant foam that can be applied immediately to the soil blending area by the remediation contractor, as discussed in Section 6.3.8, or the application of treated or staged material to cover the exposed soil.

6.3.7.2 Protocols and Quality Control Procedures

Work Zone Monitoring: The purpose of monitoring air quality within the work zone is to ensure worker safety and provide an early warning (before air quality at the perimeter zone is affected) that

elevated emissions are present. A portable instrument (Gasmeter DX4040) will be used to measure the levels of VOCs in the areas where workers are located - generally near the edge of the immediate work zone (when soil blending is paused), around stockpiled material, near mixing operations, etc. The instrument will be operated by trained air monitoring technicians, who will move around the work zone. Additional information on the air monitoring in the work zone is provided in the project-specific *Health and Safety Plan* (Ramboll Environ, 2017). These monitors will provide the most immediate alert if emissions are becoming elevated.

Due to the nature of the soil blending work, the potential exists for small rocks or other debris to be thrown from the *in situ* soil blending head. Therefore, on-site workers must remain at a distance from the blending operations while active soil blending is occurring. As such, a PID or other air monitoring device will be used by the remediation contractor to measure the levels of VOCs for on-site workers operating equipment and working near the edge of the immediate work zone (while soil blending is occurring).

All air monitoring equipment will be calibrated using manufacturers' guidelines and protocols at the beginning of each work day, and the results of each calibration documented in a bound project field log book. All air monitoring measurements will be recorded electronically by the Gasmeter DX4040 and will be relayed to the Site Safety Officer and/or Site Operations Manager verbally. At the end of the workday, data from the monitoring instrument will be downloaded into the project database. For air monitoring equipment that does not digitally record measurements (i.e., the PID), periodic air monitoring measurements will be verbally relayed to the Site Safety Officer and/or Site Operations Manager throughout the course of each workday and recorded in a bound project field log book.

During operations, if it is determined that a contaminant-specific action level has been exceeded in the work zone, work will be stopped, the level of personal protective equipment (PPE) for on-site workers will be upgraded as necessary, and actions will be initiated to reduce volatile air emissions. Continuous perimeter monitoring in a downwind location will be initiated. The *Health and Safety Plan* (Ramboll Environ, 2017) provides additional information on the required levels of PPE.

Perimeter Zone Monitoring: During routine operations, the air monitoring technician will monitor the air concentration around the property boundary at 30-minute to 1-hour intervals using the calibrated portable FTIR described above. As previously noted, exceedance of the perimeter zone action level is unlikely since the air monitoring system is designed to register an exceedance of an action level in the work zone before the perimeter zone is affected.

All measurements will be recorded electronically in the handheld PDA and will be relayed to the Site Safety Officer and/or Site Operations Manager verbally. At the end of the workday, data from the instrument will be downloaded into the project database. If the air action level at a perimeter location is exceeded or if operations in the work zone require an increase in respiratory protection, actions will be immediately implemented to reduce air emissions and continuous monitoring at a downwind perimeter location will be initiated and continued until air quality is below the established action level.

6.3.8 Vapor Emissions Control Systems

Vapor controls will be provided during soil blending activities to suppress volatile vapors that may be driven off during soil blending. If necessary, a vapor control system consisting of Rusmar[®] Foam will be used to produce a thick, long-lasting, viscous foam barrier within the blending area for immediate control of VOCs. The foam, if required based on the ambient air-monitoring readings, will be applied during active soil blending activities or for overnight coverage of exposed contaminated soils within the blending area. The foam can supply up to 17 hours of continuous and effective emission control

and is non-hazardous, non-combustible, biodegradable, and safe for Site personnel and the environment.

The foam will be obtained from the manufacturer in 450-pound drums of liquid concentrate and requires dilution with water prior to application (6.5 parts water to 1 part chemical). Each drum of chemical will cover approximately 4,500 square feet. A Rusmar® pneumatic foam unit will be used to apply the foam to the soil blending area. This unit is a completely self-contained and portable foam-generating system and can be mobilized around the Site with a pickup truck. The unit includes an air compressor, pump, hoses, nozzles, a 400-gallon solution storage tank, and freeze protection for use during cold weather. A protective barrier of foam will be applied to the extent of the soil blending area as often as necessary, depending on the real-time ambient air quality data supplied by the ambient air monitoring personnel.

6.3.9 Backfilling and Site Restoration Activities

Following completion of the soil mixing activities, a geotextile fabric will be placed on the surface of the soil treatment area by the remediation contractor to provide for both a physical and visual barrier between the treated soil and the backfill material. As referenced in Section 6.2.2, on-site crushed concrete will be used as the initial backfill material placed on top of the geotextile. A minimum thickness of 12 inches of 3-inch diameter crushed concrete will be placed over the treatment area, followed by lifts of 1.25-inch diameter crushed concrete. If warranted, additional soil stabilization measures may be employed in the upper 5 feet of the backfill material, based on conditions encountered. The general contractor will be performing the backfilling. The site may potentially be redeveloped as a parking lot or it may remain vacant for a period of time following completion of active remedial site work.

6.4 Soil Remediation Confirmation Sampling

Verification of soil remediation will be conducted through confirmation soil sampling and analysis. To evaluate post-remediation soil conditions, eight hydraulic probes will be installed approximately 20 months after completion of the *in situ* chemical reduction remedial action. The eight hydraulic probes will be installed to approximately 27 feet below post-remediation ground surface. The locations of the proposed post-remediation soil borings are shown on Figure 7.

Two soil samples will be collected at each probe location (for 16 confirmation soil samples in total). The proposed sampling depths for the confirmation soil boring locations are as follows:

- **C-1:** 16-17' and 25-27' below post-remediation ground surface (bpgs)
- **C-2:** 16-17' and 25-27' bpgs
- **C-3:** 16-17' and 25-27' bpgs
- **C-4:** 16-17' and 28-30' bpgs
- **C-5:** 16-17' and 22-24' bpgs
- **C-6:** 16-17' and 18-19' bpgs
- **C-7:** 16-17' and 18-19' bpgs
- **C-8:** 16-17' and 18-19' bpgs

Confirmation soil samples will not be collected from the upper 4 feet of soil for evaluation of the direct contact exposure pathway because the upper 4 feet of the treatment area will be backfill material and crushed concrete. The confirmation soil sampling will focus on the collection of treated soil samples, which will be used to evaluate the treatment effectiveness of the remedial action.

Soil samples will be submitted for laboratory analysis of VOCs using USEPA Method 8260. Following soil sample collection, each sample container will be labeled with the sample location identification, date of sample collection, and intended analysis. The sample containers will then be packed in an iced, insulated container. A chain-of-custody form will be filled out upon completion and will accompany the container of soil samples to the laboratory. The samples will be transported from the Site to the laboratory via same-day or overnight courier. Laboratory results of soil samples collection prior to commencement of *in situ* chemical reduction that revealed detectable concentrations of these CVOCs will be compared to the results of the soil samples collected after completion of *in situ* chemical reduction.

6.5 Implementation of Groundwater Monitoring Program

As part of the overall Site remedial action, impacted groundwater downgradient of the source treatment area will be monitored for natural attenuation. Natural attenuation is defined by the USEPA as "the biodegradation, dispersion, dilution, sorption, volatilization, and/or chemical and biochemical stabilization of contaminants to effectively reduce contaminant toxicity, mobility, or volumes to levels that are protective of human health and the ecosystem" (Brady, et al., 1997). Contaminants present in soil and groundwater are allowed to attenuate via naturally occurring aerobic and anaerobic processes. Natural attenuation processes and rates of contaminant degradation are monitored by changes in contaminant concentration versus time and hydrogeochemical parameters of the affected aquifer. The following sections present the groundwater monitoring program, sampling protocols, monitoring frequency, and data evaluation for the groundwater remediation activities at the Site.

6.5.1 Installation of Additional Monitoring Wells

After completion of the soil blending activities and before implementation of the MNA groundwater monitoring program, the installation of replacement monitoring wells at the former locations of piezometers PZ-1 and PZ-3 will be conducted. The location of these replacement piezometers, PZ-1R and PZ-3R, are shown on Figure 8. The wells will be constructed with a screened intervals similar to those of the former piezometers PZ-1 and PZ-3.

In addition, if post-remediation groundwater monitoring activities warrant, one optional off-site groundwater monitoring well (MW-10) may be installed in the general location of the southern margin of the groundwater plume affecting the West Wells Street area of the Site at a location satisfactory to the WDNR. The monitoring wells will be installed using hollow stem auger drilling methods and will be developed in accordance with WAC NR 141 requirements. A monitoring well construction form for replacement wells PZ-1R and PZ-3R and for MW-10 (if required) will be provided in the Remedial Action Completion Report described in Section 7.1.

6.5.2 Monitoring Well Sampling Locations and Frequency

Subsequent to completion of the *in-situ* chemical reduction process, natural attenuation monitoring will be implemented on a quarterly basis to evaluate and document the progress of groundwater remediation at the Site. Groundwater monitoring will be initiated approximately 5 months following the completion of the soil remediation to allow for the new well installation and stabilization of the groundwater following *in situ* reductive dechlorination of the source area. Modification to this monitoring program may be recommended, based on an evaluation of the results received.

A total of eight quarterly groundwater monitoring events will be conducted. As part of this task, five existing monitoring wells (MW-4, MW-5, MW-6, PZ-2, and PZ-4) and three new monitoring wells (PZ-1R, PZ-3R and MW-10 [if required]) will be sampled for VOCs (Method 8260). Monitoring wells MW-1, MW-2, MW-3, MW-7, MW-8, and MW-9 have historically not revealed detectable VOC concentrations, and based on the results of the baseline monitoring event, these wells will not be

included as part of the subsequent quarterly monitoring program. However, all 13 wells and piezometers will be sampled as part of the eighth (and assumed final) quarterly groundwater monitoring event prior to preparation of a Case Closure Request.

6.5.3 Field Parameter Measurements

Field parameter measurements including dissolved oxygen, ORP, pH, specific conductivity, and temperature will be measured at the monitoring wells as part of each quarterly groundwater sampling event. These data will be used to assist with the groundwater sample collection to document that groundwater conditions have stabilized prior to sample collection and for continued evaluation of the aquifer conditions. Isopleths of dissolved oxygen and ORP may be plotted and contoured to assist in the remedy performance evaluation and to document the potential area of influence of the *in-situ* reductive dechlorination process.

6.5.4 Laboratory Analytical Parameters

Monitoring wells MW-6, PZ-1R, and PZ-2 will also be sampled on a semi-annual basis for the following natural attenuation parameters: ethene/ethane/methane (Method 8015), dissolved iron (Method 8146), total organic carbon (Method 5310), nitrate+nitrite (Method 353.2), and sulfate (Method 300). One QA/QC duplicate groundwater sample and one QA/QC laboratory trip blank sample will be submitted for laboratory analysis of VOCs as part of each groundwater monitoring event. The monitoring wells will be sampled for VOCs (Method 8260).

6.5.5 Groundwater Elevation Monitoring

Groundwater elevations will also be collected and documented from the quarterly groundwater monitoring events and will be used to plot equipotential contours of shallow groundwater. The resulting equipotential contours will be used to evaluate hydraulic gradients across the Site, to assist with the estimation of groundwater flow and solute transport analysis.

6.5.6 Data Evaluation and Assessment

To evaluate the progress of groundwater remediation, groundwater concentration trends will be evaluated at each of the groundwater MNA performance monitoring wells. Concentration vs. time graphs for each of the VOCs of interest using the historical and quarterly groundwater sample data will be prepared. The Mann-Kendall Statistical Test for Trends, combined with the Coefficient for Variation Test for Stability on Non-Trending Data, is recommended by the WDNR for evaluating natural attenuation processes and will be conducted as part of this task. A minimum of four rounds of groundwater monitoring data is necessary to complete the Mann-Kendall Statistical Test evaluation. Stable or decreasing CVOC concentration trends represent a primary line of evidence for natural attenuation of groundwater impacts. In addition, groundwater elevation and field-measured parameters will be reviewed to determine groundwater flow gradients across the Site and to evaluate aquifer conditions resulting from the *in-situ* reductive dechlorination.

6.5.7 Termination of Groundwater Monitoring Program

Groundwater monitoring will continue until it is demonstrated that concentrations of the chemicals of interest are stable or decreasing to the extent that a conditional regulatory closure under WAC NR 726 is feasible. As residual groundwater concentrations are likely to remain above WAC NR 140 ESs, institutional controls will be employed to satisfy the requirement of conditional closure as part of the active remedy. The institutional control will consist of listing the Former One-Hour Valet Dry Cleaners property on the WDNR GIS Registry.

7. REPORTING

7.1 Preparation of a Remedial Action Completion Report

Pursuant to WAC NR 724.15, a Remedial Action Completion Report will be prepared after completion of the remedial actions, which will include the following information: a summary of the remedial action and documentation that the design was carried out in accordance with the Remedial Action Plan and specifications; an explanation of any minor changes to the technical approach and the rationale for those changes; the results from the soil remediation verification sampling; and a comparison of the public health and environmental standards applicable to any residual contamination.

7.2 Groundwater Monitoring Reports

Ramboll will submit groundwater monitoring reports to the WDNR on an annual basis after the implementation of the monitoring program. These monitoring reports will summarize the methodology and results of the monitoring activities described above to document the progress of groundwater remediation. The reports will present the laboratory analytical data, water level elevation, and field parameters in tabular format and the statistical contaminant trend analysis graphs with the calculated trend line slope and estimated rate of change in contaminant concentrations at selected downgradient monitoring wells. The report will include groundwater contour maps and figures illustrating the contaminant distribution in groundwater for the contaminants of interest. In addition, the report will provide recommendations regarding any proposed changes to the monitoring program.

7.3 Site Closure Report

After completion of the soil and groundwater remedial activities and groundwater monitoring results document that the groundwater plume remains stable and/or is receding, a site closure package will be prepared and submitted for WDNR approval in accordance with WAC NR 726. Institutional controls will be implemented, as necessary, as part of case closure. Institution controls will consist of recording the Site and any adjacent properties affected by the residual CVOC impacts to be recorded on the WDNR GIS database for closed remediation sites.

The groundwater monitoring data will be continuously evaluated to determine when the plume has become stable. If constituent concentrations remain stable or decrease after eight quarters of monitoring, a request for closure will be submitted in accordance with WAC NR 726. The necessity for these institutional controls will be based on the effectiveness of the recommended remediation measures. The closure package will include the applicable GIS Registry information required for a conditional site closure, as appropriate. After final closure is granted by the WDNR, the groundwater monitoring wells will be abandoned in accordance with WAC NR 141.

8. IMPLEMENTATION SCHEDULE

A schedule that includes the major remedial activities, milestones, and phases for the project is presented in Figure 9. The quarterly groundwater monitoring program will begin approximately 5 months after source area remediation and site restoration activities are completed. Groundwater monitoring results and annual monitoring report will be submitted approximately 1 to 2 months following completion of the fourth quarterly groundwater monitoring event.

9. REFERENCES

- Air Force Center for Environmental Excellence (AFCEE). 2004. "Principles and Practices of Enhanced Anaerobic Bioremediation of Chlorinated Solvents." Environmental Security Technology Certification Program, Arlington, Virginia.
- Brady, P.V., M.V. Brady, and D.J. Borns, 1997. *Natural Attenuation: CERCLA, RBCAs, and the Future of Environmental Remediation*. Lewis Publishers/CRC Press, Boca Raton, FL, 256 pp.
- Faircloth, Harlan, Elgin Kirkland, Phil La Mori, Mark Kershner, and John Matthews. 2010. Complete In Situ Reduction of DNAPL Source Zones Using Combined Thermal and ZVI Soil Mixing (PPT) Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA; May 2010.
- GZA GeoEnvironmental, Inc., 2012. Site Investigation Report Dry Cleaner Solvent Release, Former One-Hour Valet Dry Cleaners Property. February 24.
- Keely, J.F., October 1990, "Performance Evaluation of Pump-and-Treat Remediations," EPA/540/4-89/005.
- Mackay, D.M. and Cherry, J.A., 1989. "Groundwater Contamination: Pump-and-Treat Remediation," *Environmental Science & Technology*, Vol. 23, No. 6, pp. 630.
- NRC (National Research Council). 2004. *Contaminants in the Subsurface: Source Zone Assessment and Remediation* National Academies Press, Washington, DC, 2004.
- Ramboll Environ, June 7, 2016. Updated Proposal for Remedial Action Services at the Former One-Hour Valet Dry Cleaners Property.
- Ramboll Environ, 2017. Health and Safety Plan.
- Stroo, H.F., M. Unger, C.H. Ward, M.C. Kavanaugh, C. Vogel, A. Leeson, J.A. Marqusee, and B.P. Smith. 2003. Chlorinated solvent source zones. *Environmental Science & Technology* 37, no 11: 224A–230A.
- Travis, C.C. and Doty, C.B., 1990. "Can Contaminated Aquifers at Superfund Sites be Remediated?" *Environmental Science & Technology*, Vol. 24, No. 10, pp. 1465.
- Udell, K.S. 1996. Heat and mass transfer in clean-up of underground toxic wastes. In *Annual Reviews of Heat Transfer*, vol. 7, ed. C.-L. Tien. 333–405. New York/Wallingford, UK: Begell House, Inc.
- USEPA, 1981. "Treatability Manual, vols. I and II, Industrial Descriptions," Office of Research and Development, EPA-600/2.82-001a, b, Washington, DC, September.
- USEPA, 1994. DNAPL Site Characterization. Publication 9355.4-16FS, EPA/540/F-94/049, PB94-963317.

TABLES

Table 1. Historic Groundwater Elevations
Former One-Hour Valet Dry Cleaners
1614 West Wells Street, Milwaukee, Wisconsin
Ramboll Project No. 1690005819

Well ID	Top of Casing Elevation (TOC, ft msl) ^(A)	Ground Surface Elevation (ft) ^(A,B)	Screen Interval (ft msl) ^(A)	5/8/2002		7/11/2003		8/7/2003		10/7/2004		8/25/2009		11/2/2011		11/1/2017 & 11/9/2017*	
				Groundwater Elevation (ft msl)	DTW (ft)	Groundwater Elevation (ft msl)	DTW (ft)	Groundwater Elevation (ft msl)	DTW (ft)	Groundwater Elevation (ft msl)	DTW (ft)	Groundwater Elevation (ft msl)	DTW (ft)	Groundwater Elevation (ft msl)	DTW (ft)	Groundwater Elevation (ft msl)	DTW (ft)
MW-1	647.95	648.3	630.1-640.1	637.45	10.50	636.81	11.14	636.03	11.92	635.6	12.35	637.15	10.80	637.27	10.68	637.43	10.52
MW-2	655.74	656.0	635.5-645.5	648.54	7.20	645.87	9.87	645.31	10.43	644.59	11.15	644.89	10.85	642.61	13.13	645	10.74
MW-3	649.54	649.7	629.5-639.5	638.16	11.38	638.34	11.20	637.23	12.31	637.15	12.39	639.92	9.62	638.37	11.17	639.32	10.22
MW-4	652.32	652.7	634.4-644.4	NI	NI	NI	NI	638.51	13.81	638.76	13.56	640.3	12.02	639.64	12.68	639.51	12.81
MW-5	653.26	650.4	631.8-641.8	NI	NI	NI	NI	636.38	16.88	636.13	17.13	637.54	15.72	637.22	16.04	637.15	16.11
MW-6	648.11	648.5	630.3-640.3	NI	NI	NI	NI	NI	NI	NI	NI	637.26	10.85	637.32	10.79	637.81	10.30
MW-7	649.74	649.9	638.2-648.2	NI	NI	NI	NI	NI	NI	NI	NI	642.58	7.16	640.73	9.01	640.76	8.98
MW-8	649.80	650.0	638.4-648.4	NI	NI	NI	NI	NI	NI	NI	NI	642.62	7.18	640.71	9.09	640.41	9.39
MW-9	650.27	650.4	633.5-643.5	NI	NI	NI	NI	NI	NI	NI	NI	637.22	13.05	637.08	13.19	636.97	13.30
PZ-1	653.10	653.7	618.8-623.8	634.9	18.20	633.51	19.59	633	20.10	632.28	20.82	631.58	21.52	NM	NM	630.13	22.97
PZ-2	648.74	649.1	619-624	NI	NI	NI	NI	623.2	25.54	623.81	24.93	625.32	23.42	625	23.74	625.52	23.22
PZ-3	653.41	653.7	603-608	NI	NI	NI	NI	NI	NI	620.27	33.14	622.26	31.15	621.96	31.45	622.31	31.10
PZ-4	649.78	650.3	604.8-609.8	NI	NI	NI	NI	NI	NI	NI	NI	NM	NM	621.38	28.4	621.95	27.83

Notes:

Data collected prior to 2017 presented in a Site Investigation Report prepared by GZA GeoEnvironmental, Inc. dated February 24, 2012.

^(A) Top of casing elevations, ground surface elevations, and screen intervals presented in GZA GeoEnvironmental, Inc.'s February 24, 2012 Site Investigation Report.

^(B) Relative to mean sea level

* Groundwater elevation measurements for MW-6, MW-7, MW-8, and MW-9 collected on November 9, 2017.

DTW = Distance to water

MSL = Mean Sea Level

NI = Not installed at the time of the water level measurement

NM = Not Measured

TOC = Top of Casing

Table 2. Groundwater Analytical Results - Summary of Detected Constituents

Former One-Hour Valet Dry Cleaners
1214 West Wells Street, Milwaukee, Wisconsin
Ramboll Project No. 1690005819

Analyte ^{1,2}		Benzene	Chloroform	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Methylene chloride	Tetrachloroethene	Toluene	Trichloroethene	1,2,4-Trimethylbenzene ³	Vinyl chloride	Xylenes, total ⁴
CAS		71-43-2	67-66-3	75-35-4	156-59-2	156-60-5	100-41-4	75-09-2	127-18-4	108-88-3	79-01-6	95-63-6	75-01-4	1330-20-7
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5	6	7	70	100	700	5	5	800	5	480	0.2	2000
NR 140 PAL		0.5	0.6	0.7	7	20	140	0.5	0.5	160	0.5	96	0.02	400
MW-1	1/14/2002	ND	<0.23	<0.27	<0.21	<0.25	<0.22	<0.24	<0.22	<0.41	0.46 J	<0.15	44	#N/A
	5/8/2002	ND	<0.1	<0.11	<0.11	<0.11	<0.08	<0.24	<0.15	<0.08	<0.13	<0.11	<0.16	#N/A
	8/7/2003	ND	<0.25	<0.5	<0.5	<0.5	<0.5	<1	<0.5	0.9	0.3 J	<0.25	<0.25	<0.5
	10/7/2003	ND	<0.25	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.25	<0.25	<0.25	<0.25	<0.5
	8/25/2009	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.2	<0.2	<0.2	<0.5
	11/1/2017	<0.50	<2.5	<0.41	<0.26	<0.26	<0.50	<0.23	<0.50	<0.50	<0.33	<0.50	<0.18	<1.5
MW-2	1/14/2002	ND	<0.23	<0.21	<0.21	<0.25	<0.22	<0.22	<0.22	<0.41	<0.24	<0.26	<0.25	#N/A
	5/8/2002	ND	<0.1	<0.11	<0.11	<0.11	<0.08	<0.24	<0.15	<0.08	<0.13	<0.11	<0.16	#N/A
	8/7/2003	ND	<0.25	<0.5	<0.5	<0.5	<0.5	<1	<0.5	0.32 J	<0.25	<0.25	<0.25	<0.5
	10/7/2003	ND	<0.25	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.25	<0.25	<0.25	<0.25	<0.5
	8/27/2009	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.2	<0.2	<0.2	<0.5
	11/1/2017	<0.50	<2.5	<0.41	<0.26	<0.26	<0.50	<0.23	<0.50	<0.50	<0.33	<0.50	<0.18	<1.5
MW-3	1/15/2002	ND	<0.23	<0.27	<0.21	<0.25	<0.22	<0.22	<0.22	<0.41	<0.24	<0.26	<0.25	#N/A
	5/8/2002	ND	<0.1	<0.11	<0.11	<0.11	<0.08	<0.24	<0.15	0.32	0.34 J	<0.11	<0.16	#N/A
	8/7/2003	ND	<0.25	<0.5	<0.5	<0.5	<0.5	<1	<0.5	0.88	0.42 J	<0.25	<0.25	<0.5
	10/7/2003	ND	<0.25	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.25	<0.25	<0.25	<0.25	<0.5
	8/27/2009	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.2	<0.2	<0.2	<0.5
	11/1/2017	<0.50	<2.5	<0.41	<0.26	<0.26	<0.50	<0.23	<0.50	<0.50	<0.33	<0.50	<0.18	<1.5
MW-4	8/7/2003	ND	<0.25	<0.5	<0.5	<0.5	<0.5	<1	0.88 J	0.9	0.71 J	0.34 J	<0.25	<0.5
	10/7/2003	ND	<0.25	<0.5	<0.5	<0.5	<0.5	<1	0.57 J	<0.25	<0.25	<0.25	<0.25	<0.5
	8/25/2009	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<1	7	<0.5	<0.2	<0.2	<0.2	<0.5
	11/2/2017	<0.50	<2.5	<0.41	<0.26	<0.26	<0.50	<0.23	7.8	<0.50	<0.33	<0.50	<0.18	<1.5
MW-5	8/7/2003	ND	<0.25	<0.5	11	<0.5	<0.5	<1	80	0.9	7.9	0.34 J	<0.25	<0.5
	10/7/2003	ND	<0.25	<0.5	150	1.2	<0.5	<1	93	<0.25	6.4	<0.25	<0.25	<0.5
	8/27/2009	<0.2	<0.2	<0.5	110	1.2	<0.5	<1	140	<0.5	<0.2	32	22	<0.5
	11/2/2017	<0.50	<2.5	<0.41	73.6	1.5	<0.50	<0.23	30.3	<0.50	3.2	<0.50	0.45 J	<1.5
MW-6	8/25/2009	<0.2	<2	<5	980	<5	<5	<10	<5	<5	18	<2	57	<5
	11/9/2017	<0.50	<2.5	<0.41	4.5	<0.26	<0.50	<0.23	<0.50	<0.50	<0.33	<0.50	1.0	<1.5
MW-7	8/26/2009	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.2	<0.2	<0.2	<0.5
	11/9/2017	<0.50	<2.5	<0.41	<0.26	<0.26	<0.50	<0.23	<0.50	<0.50	<0.33	<0.50	<0.18	<1.5
MW-8	8/26/2009	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.2	<0.2	<0.2	<0.5
	11/9/2017 ⁵	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9	8/27/2009	0.28	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<0.5	0.64	<0.2	<0.2	<0.2	<0.5
	11/9/2017	<0.50	<2.5	<0.41	<0.26	<0.26	<0.50	<0.23	<0.50	0.59 J	<0.33	<0.50	<0.18	<1.5

Table 2. Groundwater Analytical Results - Summary of Detected Constituents

Former One-Hour Valet Dry Cleaners
1214 West Wells Street, Milwaukee, Wisconsin
Ramboll Project No. 1690005819

Analyte ^{1,2}	Benzene	Chloroform	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Methylene chloride	Tetrachloroethene	Toluene	Trichloroethene	1,2,4-Trimethylbenzene ³	Vinyl chloride	Xylenes, total ⁴	
CAS	71-43-2	67-66-3	75-35-4	156-59-2	156-60-5	100-41-4	75-09-2	127-18-4	108-88-3	79-01-6	95-63-6	75-01-4	1330-20-7	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
NR 140 ES	5	6	7	70	100	700	5	5	800	5	480	0.2	2000	
NR 140 PAL	0.5	0.6	0.7	7	20	140	0.5	0.5	160	0.5	96	0.02	400	
PZ-1	1/15/2002	ND	<1.2	<1.4	400	4 J	<1.1	<1.1	<1.1	<2.1	<1.2	<0.75	<1.3	#N/A
	5/8/2003	ND	<5	<5.5	3000	<u>22</u>	<4	23 J	8500	<4	2800	<5.5	22 J	#N/A
	8/8/2003	ND	0.3 J	8.4	2600	18.0	1.8	<1	27000	4.8	2500	<0.25	11	1.2
	10/7/2003	ND	<120	<250	2600	<250	<250	<500	36000	<120	2600	<120	<120	<250
	8/25/2009	<32	<32	<80	2000	<80	<80	<160	61000	<80	1600	<32	<32	<80
	11/2/2017	<125	<625	<103	414	<64.1	<125	<58.1	16200	<125	435	<125	<43.9	<375
PZ-2	8/8/2003	ND	<0.25	<0.5	<0.5	<0.5	<1	<0.5	0.43 J	<0.25	<0.25	5.8	<0.5	
	10/6/2003	ND	<0.25	<0.5	<0.5	<0.5	<1	<0.5	<0.25	<0.25	<0.25	8.9	<0.5	
	8/27/2009	<0.2	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.2	<0.2	14	<0.5	
	11/1/2017	<0.50	<2.5	<0.41	4.1	<0.26	<0.50	<0.23	<0.50	<0.50	<0.33	<0.50	11.0	<1.5
PZ-3	8/26/2004	ND	<2	<5	440	<5	<5	<10	56	<2	<2	<2	<5	
	10/7/2004	ND	<1	<2.5	300	<2.5	<2.5	<5	73	<1	<1	<1	<2.5	
	8/25/2009	<2	<2	<5	1100	11.0	<5	<10	5.6	<5	7.1	<2	3.9	<5
	11/2/2017	<25.0	<125	<20.5	2060	<u>22.4</u> J	<25.0	<11.6	<25.0	<25.0	144	<25.0	<8.8	<75.0
PZ-4	8/25/2009	<0.20	<0.2	<0.5	4.4	<0.5	<0.5	<1	<u>0.84</u>	<0.5	<u>0.56</u>	<0.2	<0.2	<0.5
	11/2/2017	<0.50	<2.5	<0.41	<0.26	<0.26	<0.50	<0.23	<0.50	<0.50	<0.33	<0.50	1.3	<1.5

Notes:

VOCs = Volatile Organic compounds
All results reported in micrograms per Liter (ug/L)
ES = Enforcement Standard
PAL = Preventive Action Limit
Bold value = NR 140 ES Exceedance
Italic Value = NR 140 PAL Exceedance
-- = No NR 140 ES or PAL established.
#N/A = Not analyzed
NS = Not sampled
J = Estimated concentration. Laboratory results reported between the limit of detection and limit of quantification.

¹ Analytical results are displayed for detected parameters only.

² All sampling results prior to 2017 obtained from a Site Investigation Report prepared by GZA GeoEnvironmental, Inc. on February 24, 2012.

³ Standards are for 1,2,4- and 1,3,5-Trimethylbenzene

⁴ Standards are for Total Xylenes (-m, -p, and -o).

⁵ MW-8 not sampled during the November 2017 groundwater sampling event because well did not recharge sufficiently.

Table 3. MNA Parameter Groundwater Sampling Results

Former One-Hour Valet Dry Cleaners
 1214 West Wells Street, Milwaukee, Wisconsin
 Ramboll Project No. 1690005819

Well ID	Sample Date	Dissolved Oxygen (mg/L)	Ethane (ug/L)	Ethene (ug/L)	Iron* (ug/L)	Iron, Ferric (mg/L)	Iron, Ferrous (mg/L)	Methane (ug/L)	Nitrogen, NO ₂ plus NO ₃ (mg/L)	ORP (mV)	Sulfate* (mg/L)	Total Organic Carbon (mg/L)
HA-5	8/25/2009	NA	<10	<10	NA	NA	NA	<10	NA	NA	NA	2.67
MW-1	1/14/2002	10.39	NA	NA	NA	NA	NA	NA	NA	-37	NA	NA
	5/8/2002	3.57	NA	NA	NA	NA	NA	NA	NA	287.1	NA	NA
	8/7/2003	0.22	NA	NA	NA	NA	NA	NA	NA	161.3	NA	NA
	10/7/2003	1.05	0.028	0.049	NA	NA	NA	14	NA	396.8	NA	NA
	8/25/2009	0.69	<10	<10	NA	NA	NA	<10	NA	95	NA	1.26
	11/1/2017	1.69	<0.58	<0.52	12.6	0.0	<0.017	<1.4	<0.095	57.7	<100	<0.25
MW-2	1/14/2002	6.42	NA	NA	NA	NA	NA	NA	NA	168.4	NA	NA
	5/8/2002	1.07	NA	NA	NA	NA	NA	NA	NA	256.9	NA	NA
	8/7/2003	0.1	NA	NA	NA	NA	NA	NA	NA	2.3	NA	NA
	10/7/2003	4.43	0.018	0.021	NA	NA	NA	22	NA	364	NA	NA
	8/27/2009	0.98	NA	NA	NA	NA	NA	NA	NA	86	NA	NA
	11/1/2017	1.71	<0.58	<0.52	1770	0.54	1.2	<1.4	<0.095	-74.3	93.5	<0.25
MW-3 ⁽¹⁾	8/7/2003	0.15	NA	NA	NA	NA	NA	NA	NA	68	NA	NA
	10/7/2003	5.74	0.16	0.056	NA	NA	NA	45	NA	327.8	NA	NA
	8/27/2009	1.01	NA	NA	NA	NA	NA	NA	NA	16	NA	NA
	11/1/2017	0.73	NA	NA	NA	NA	NA	NA	NA	-125.6	NA	NA
MW-4	8/7/2003	5.83	NA	NA	NA	NA	NA	NA	NA	139	NA	NA
	10/7/2003	3.44	0.021	0.033	NA	NA	NA	22	NA	383.4	NA	NA
	8/25/2009	2.55	NA	NA	NA	NA	NA	NA	NA	77	NA	NA
	11/2/2017	0.88	NA	NA	NA	NA	NA	NA	NA	-19.8	NA	NA
MW-5	8/7/2003	0.86	NA	NA	NA	NA	NA	NA	NA	190.5	NA	NA
	10/7/2003	1.05	0.041	0.0097	NA	NA	NA	0.99	NA	396.8	NA	NA
	8/27/2009	0.99	<10	<10	NA	NA	NA	136	NA	98	NA	1.82
	11/2/2017	2.04	NA	NA	NA	NA	NA	NA	NA	18.6	NA	NA
MW-6 ⁽¹⁾	8/25/2009	1	NA	NA	NA	NA	NA	NA	NA	-50	NA	NA
	11/9/2017	0.62	<0.58	<0.52	13600	8.3	5.2	<1.4	<0.095	-112.7	82.4	<0.25
MW-7 ⁽²⁾	11/9/2017	7.49	NA	NA	NA	NA	NA	NA	NA	-50.7	NA	NA
MW-8 ⁽³⁾	11/9/2017	4.03	NA	NA	NA	NA	NA	NA	NA	-28.7	NA	NA
MW-9	8/27/2009	NA	<10	<10	NA	NA	NA	<10	NA	NA	NA	1.27
	11/9/2017	6.40	NA	NA	NA	NA	NA	NA	NA	-42.6	NA	NA
	1/15/2002	0.66	NA	NA	NA	NA	NA	NA	NA	-65.3	NA	NA
PZ-1	5/8/2003	1.31	NA	NA	NA	NA	NA	NA	NA	-18.3	NA	NA
	8/8/2003	0.12	NA	NA	NA	NA	NA	NA	NA	-93.7	NA	NA
	10/7/2003	0.09	1.7	0.48	NA	NA	NA	7	NA	-97.1	NA	NA
	8/25/2009	0.83	<10	<10	NA	NA	NA	<10	NA	-73	NA	2.04
	11/2/2017	0.64	<0.58	<0.52	2290	2.2	0.060	<1.4	0.33	38.5	155	0.50
PZ-2 ⁽¹⁾	8/8/2003	0.19	NA	NA	NA	NA	NA	NA	NA	-41.3	NA	NA
	10/6/2003	0.15	1.3	0.79	NA	NA	NA	60	NA	-35.1	NA	NA
	8/27/2009	0.78	NA	NA	NA	NA	NA	NA	NA	-16	NA	NA
	11/1/2017	2.67	<0.58	<0.52	8820	5.7	3.1	23.1	<0.095	-100.3	178	<0.25
PZ-3	8/25/2009	0.72	NA	NA	NA	NA	NA	NA	NA	-53	NA	NA
	11/2/2017	1.34	NA	NA	NA	NA	NA	NA	NA	-103.8	NA	NA
PZ-4	8/25/2009	0.72	NA	NA	NA	NA	NA	NA	NA	-55	NA	NA
	11/2/2017	1.47	NA	NA	NA	NA	NA	NA	NA	-111.8	NA	NA

Notes:

J = Estimated concentration at or above the level of detection and below the level of quantification.

mg/L = milligrams per liter

mV = millivolts

NA = Data was not collected or not able to be collected.

ORP = Oxidation-reduction potential; measured in the field.

ug/L = micrograms per liter

* NR 140 Table 2. Public Welfare Standards exist for sulfate (Enforcement Standard = 250 mg/L; Preventative Action Limit = 125 mg/L) and iron

(Enforcement Standard = 0.3 mg/L; Preventative Action Limit = 0.15 mg/L).

All sampling results prior to 2017 obtained from a Site Investigation Report prepared by GZA GeoEnvironmental, Inc. dated February 24, 2012.

⁽¹⁾ Well cap either missing or not plugged at time of inspection; potential for water and other constituents to have entered the well.

⁽²⁾ Monitoring well purged dry after first stabilization parameter reading. Well sampled later in day without collecting new stabilization parameters.

⁽³⁾ Monitoring well purged dry before water passed completely through flow-through cell. Stabilization parameters collected from flow-through cell approximately 4/5 of the way full.

Table 4. Concrete Sample Analytical Results

Former One-Hour Valet Dry Cleaners
 1214 West Wells Street, Milwaukee, Wisconsin
 Ramboll Project No. 1690005819

Parameters		n-Butylbenzene	n-Propylbenzene	Tetrachloroethene
VOCs (ug/kg)				
CONCRETE-1	11/9/2017	104 J	112 J	115000
CONCRETE-2	11/9/2017	<25.0	<25.0	243
CONCRETE-3	11/9/2017	<25.0	<25.0	47.3 J
CONCRETE-4	11/9/2017	<25.0	<25.0	1760
TCLP VOCs (ug/L)				
CONCRETE-1	11/9/2017	#N/A	#N/A	28.4
CONCRETE-2	11/9/2017	#N/A	#N/A	37.9
CONCRETE-3	11/9/2017	#N/A	#N/A	16.1
CONCRETE-4	11/9/2017	#N/A	#N/A	95.0

Notes:

VOCs = Volatile Organic compounds

ug/kg = micrograms per kilogram

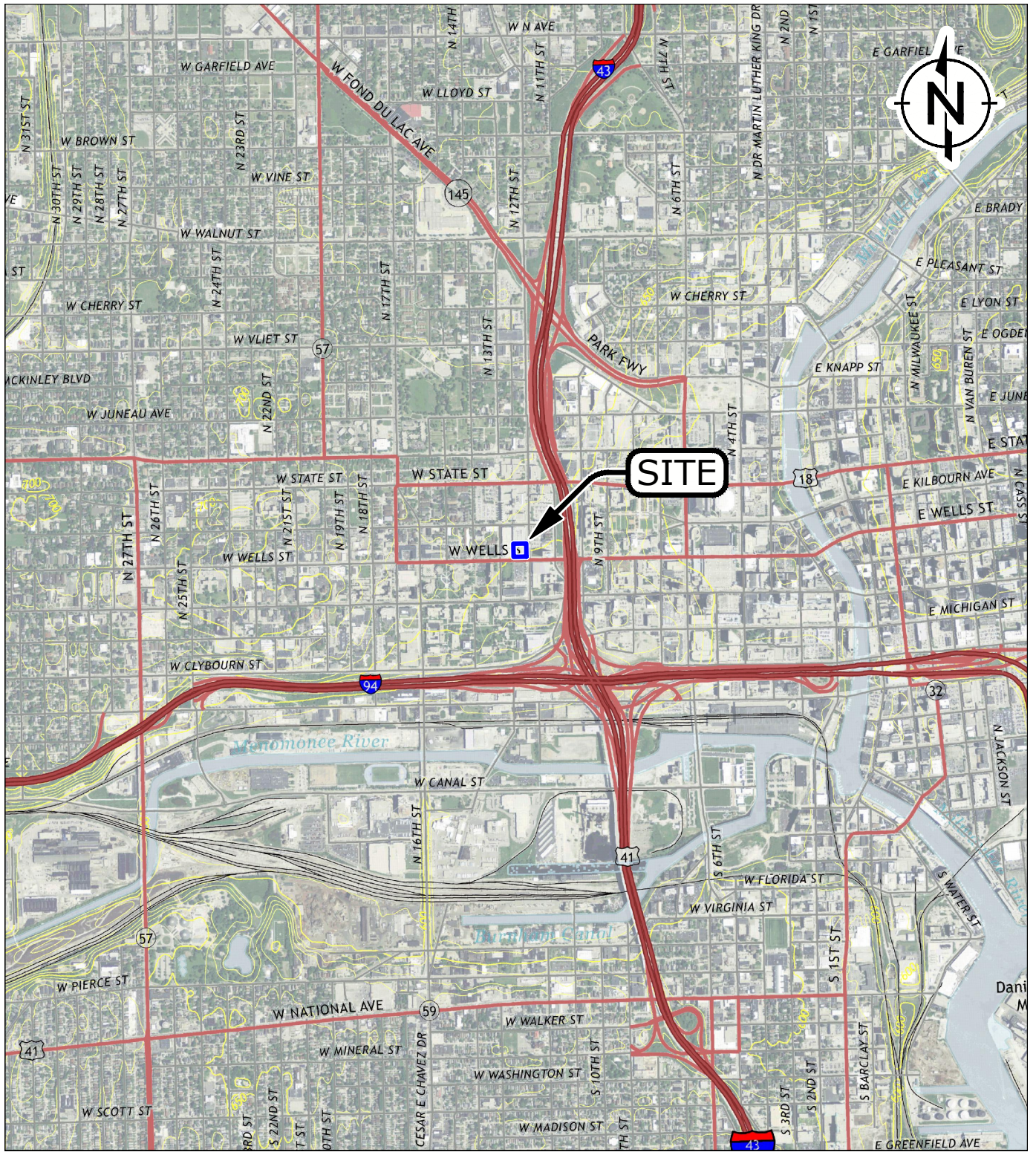
ug/L = micrograms per liter

#N/A = Not analyzed

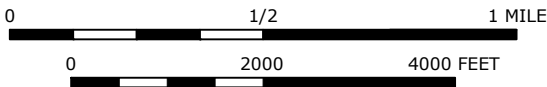
J = Estimated concentration. Laboratory results reported between the limit of detection and limit of quantification.

Analytical results are displayed for detected parameters only.


FIGURES



CONTOUR INTERVAL 10 FEET



LEGEND:

 PROPERTY BOUNDARY (APPROXIMATE)

SOURCE:
2016 USGS 7.5 Minute Series Milwaukee, Wisconsin Topographic Quadrangle.
Site Location; N: 43.040537° W: 87.927706 WGS84



QUADRANGLE LOCATION



SITE LOCATION MAP
 FORMER ONE-HOUR VALET DRY CLEANERS
 1214 WEST WELLS STREET
 MILWAUKEE, WISCONSIN

FIGURE
1

DRAFTED BY: APR

DATE: 2/1/18

1690005819

E:_CAD\1690005819_Former 1hr Dry Cleaners_Design Report\02_Site Plan.dwg

HOSPITAL PARKING STRUCTURE



- LEGEND**
- PROPERTY BOUNDARY
 - BUILDING FOOTPRINT
 - ASPHALT
 - CONCRETE
 - FENCE LINE
 - 1-FT ELEVATION CONTOUR
 - UNDERGROUND ELECTRIC
 - OVERHEAD ELECTRIC
 - TELEPHONE
 - WATER LINE
 - GAS
 - CABLE TV
 - FIBER OPTIC
 - STORMWATER SEWER
 - SANITARY SEWER
 - STEAM
 - CATCH BASIN
 - MANHOLE
 - VALVE
 - TRAFFIC LIGHT
 - TRANSFORMER
 - AIR CONDITIONER
 - METER
 - LIGHT POLE
 - GUY UTILITY POLE / GUY
 - TREE
 - FIRE HYDRANT
 - TELEPHONE PEDESTAL
 - CONTROL BOX
 - MONITORING WELL

REFERENCE: THE SITE LAYOUT, SITE FEATURES, ELEVATIONS, UTILITIES, AND OTHER FEATURES NEAR THE PROPERTY WERE OBTAINED FROM GRAEF-USA IN DECEMBER 2017.



SITE PLAN
FORMER ONE-HOUR VALET DRY CLEANERS
1214 WEST WELLS STREET
MILWAUKEE, WISCONSIN

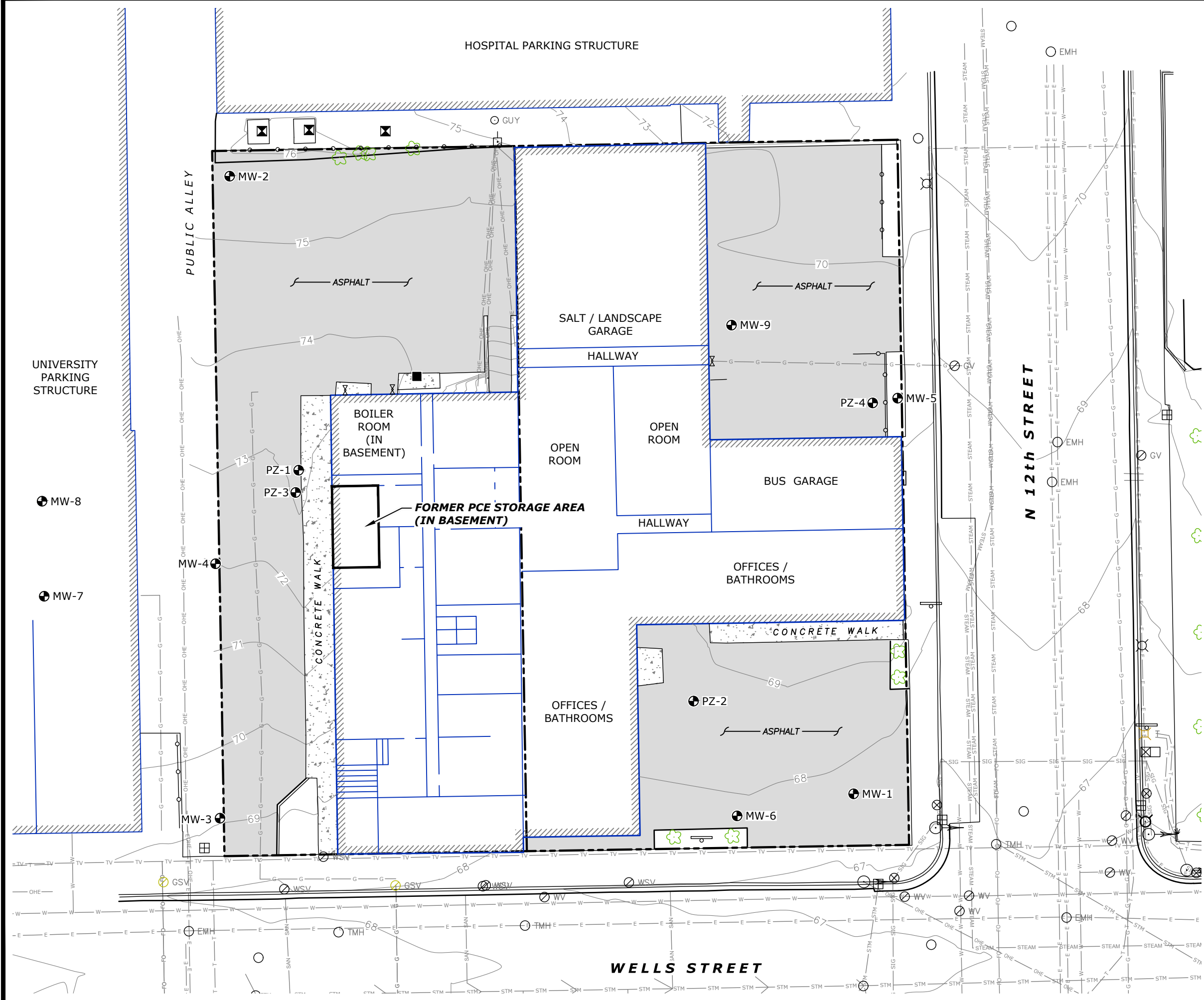


FIGURE
2

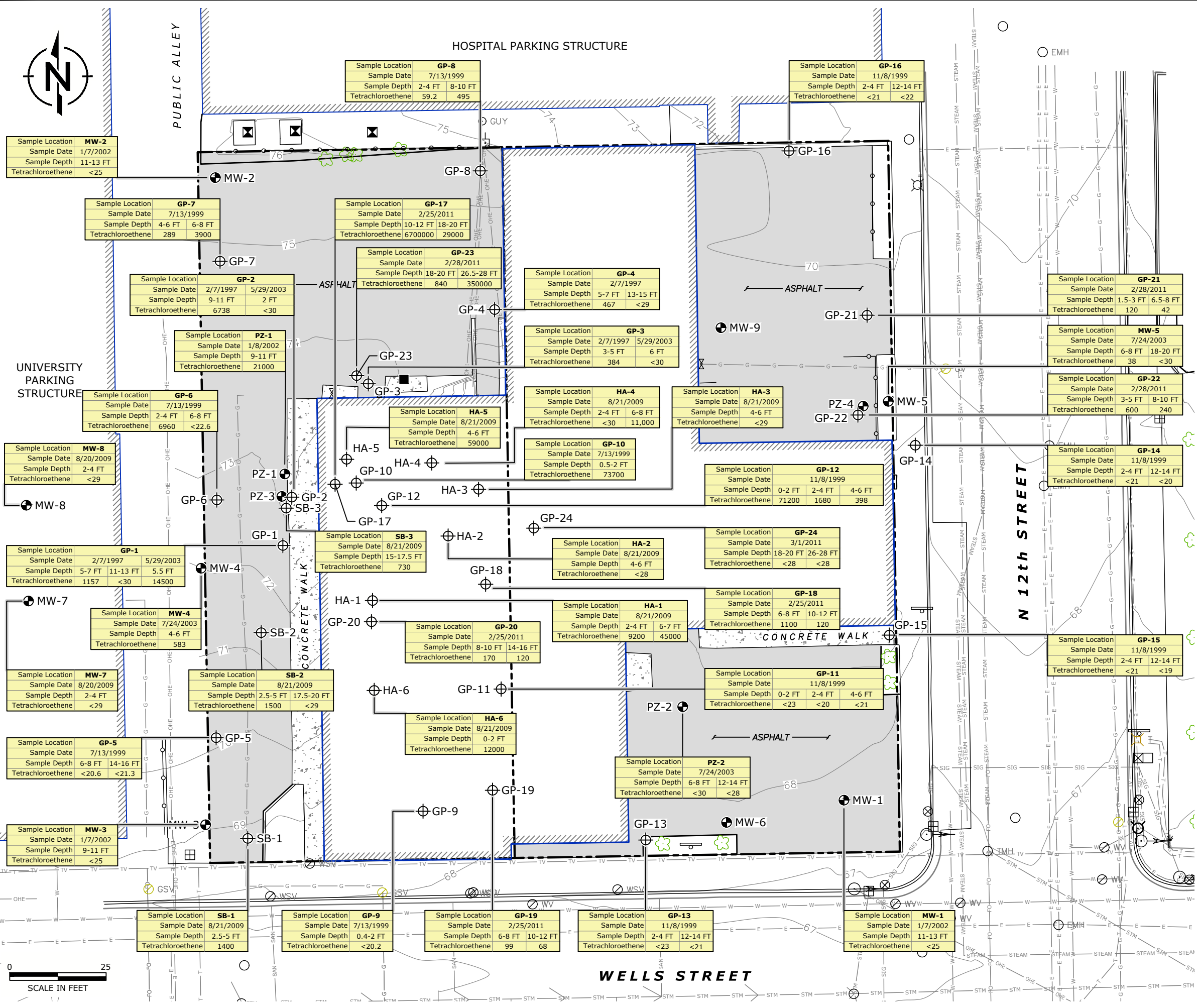
DRAFTED BY: APR

DATE: 2/7/18

1690005819



E:\CAD\1690005819_Former 1hr Dry Cleaners_Design Report\03_Extent of Soil_PCE Impacts.dwg



- LEGEND**
- PROPERTY BOUNDARY
 - ▨ BUILDING FOOTPRINT
 - ASPHALT
 - ▨ CONCRETE
 - FENCE LINE
 - 75 — 1-FT ELEVATION CONTOUR
 - E — UNDERGROUND ELECTRIC
 - OHE — OVERHEAD ELECTRIC
 - T — TELEPHONE
 - W — WATER LINE
 - G — GAS
 - TV — CABLE TV
 - FO — FIBER OPTIC
 - STM — STORMWATER SEWER
 - SAN — SANITARY SEWER
 - STEAM — STEAM
 - ⊠ CATCH BASIN
 - MANHOLE
 - ⊙ VALVE
 - ⊙ TRAFFIC LIGHT
 - ⊠ TRANSFORMER
 - AIR CONDITIONER
 - ⊗ METER
 - ⊗ LIGHT POLE
 - ⊠ GUY UTILITY POLE / GUY
 - 🌳 TREE
 - ⊙ FIRE HYDRANT
 - ⊗ TELEPHONE PEDESTAL
 - ⊠ CONTROL BOX
 - ⊙ MONITORING WELL
 - ⊕ SOIL BORING

Note: Tetrachloroethene results reported in micrograms per kilogram (ug/kg).

REFERENCE: THE SITE LAYOUT, SITE FEATURES, ELEVATIONS, UTILITIES, AND OTHER FEATURES NEAR THE PROPERTY WERE OBTAINED FROM GRAEF-USA IN DECEMBER 2017.

EXTENT OF SOIL PCE IMPACTS
FORMER ONE-HOUR VALET DRY CLEANERS
1214 WEST WELLS STREET
MILWAUKEE, WISCONSIN



FIGURE 3

DRAFTED BY: APR

DATE: 2/1/18

1690005819

E:_CAD\1690005819_Former 1hr Dry Cleaners\Design Report\04_GW Elevation (November 2017).dwg

HOSPITAL PARKING STRUCTURE



- LEGEND**
- PROPERTY BOUNDARY
 - BUILDING FOOTPRINT
 - ASPHALT
 - CONCRETE
 - FENCE LINE
 - 1-FT ELEVATION CONTOUR
 - UNDERGROUND ELECTRIC
 - OVERHEAD ELECTRIC
 - TELEPHONE
 - WATER LINE
 - GAS
 - CABLE TV
 - FIBER OPTIC
 - STORMWATER SEWER
 - SANITARY SEWER
 - STEAM
 - CATCH BASIN
 - MANHOLE
 - VALVE
 - TRAFFIC LIGHT
 - TRANSFORMER
 - AIR CONDITIONER
 - METER
 - LIGHT POLE
 - GUY UTILITY POLE / GUY
 - TREE
 - FIRE HYDRANT
 - TELEPHONE PEDESTAL
 - CONTROL BOX
 - MONITORING WELL
 - 637.43 GROUNDWATER ELEVATION (FT)
 - 638 GROUNDWATER CONTOUR (2-FT INTERVAL)
 - GROUNDWATER FLOW DIRECTION

REFERENCE: THE SITE LAYOUT, SITE FEATURES, ELEVATIONS, UTILITIES, AND OTHER FEATURES NEAR THE PROPERTY WERE OBTAINED FROM GRAEF-USA IN DECEMBER 2017.



**GROUNDWATER ELEVATION
(NOVEMBER 2017)**
 FORMER ONE-HOUR VALET DRY CLEANERS
 1214 WEST WELLS STREET
 MILWAUKEE, WISCONSIN

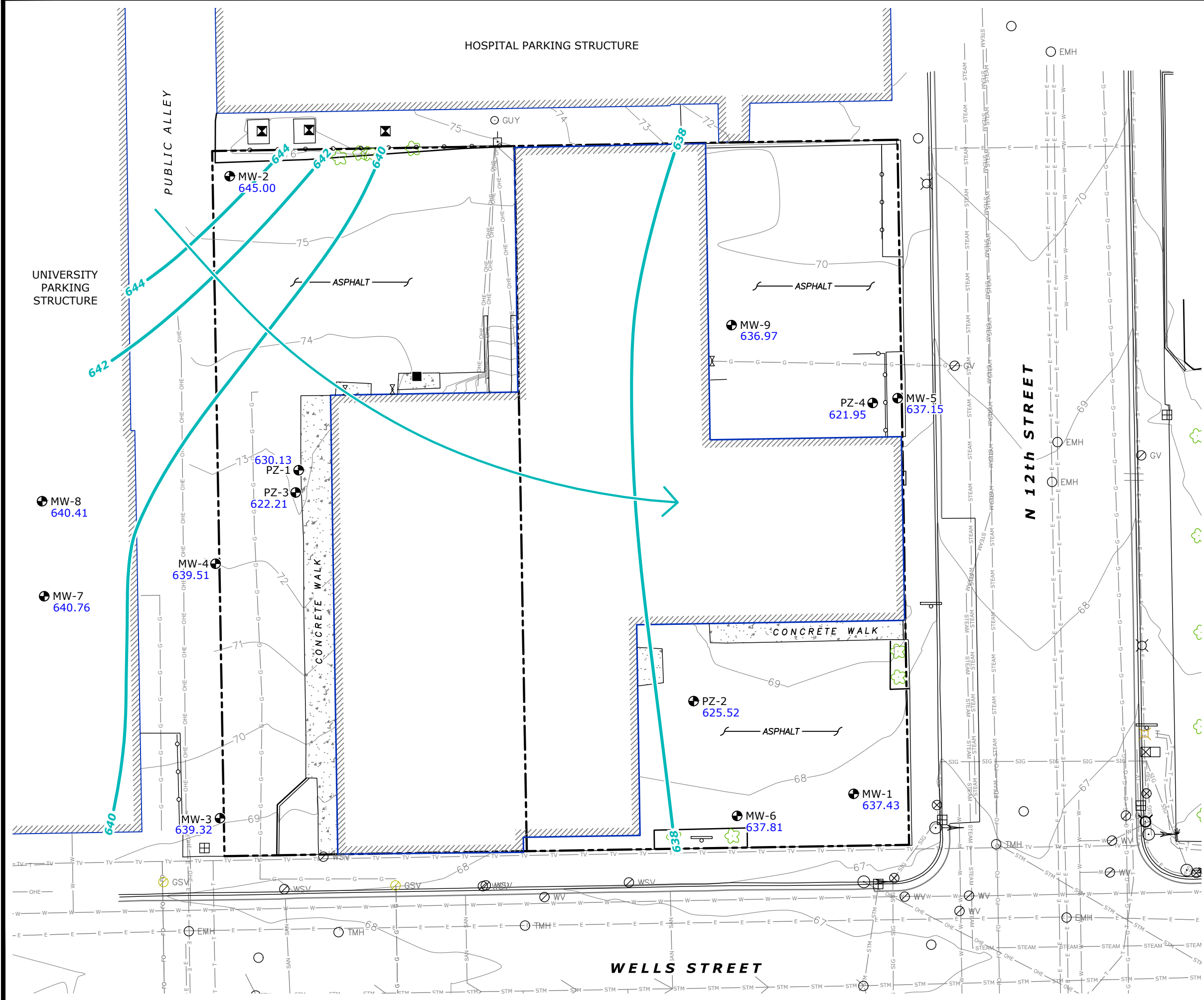


FIGURE
4

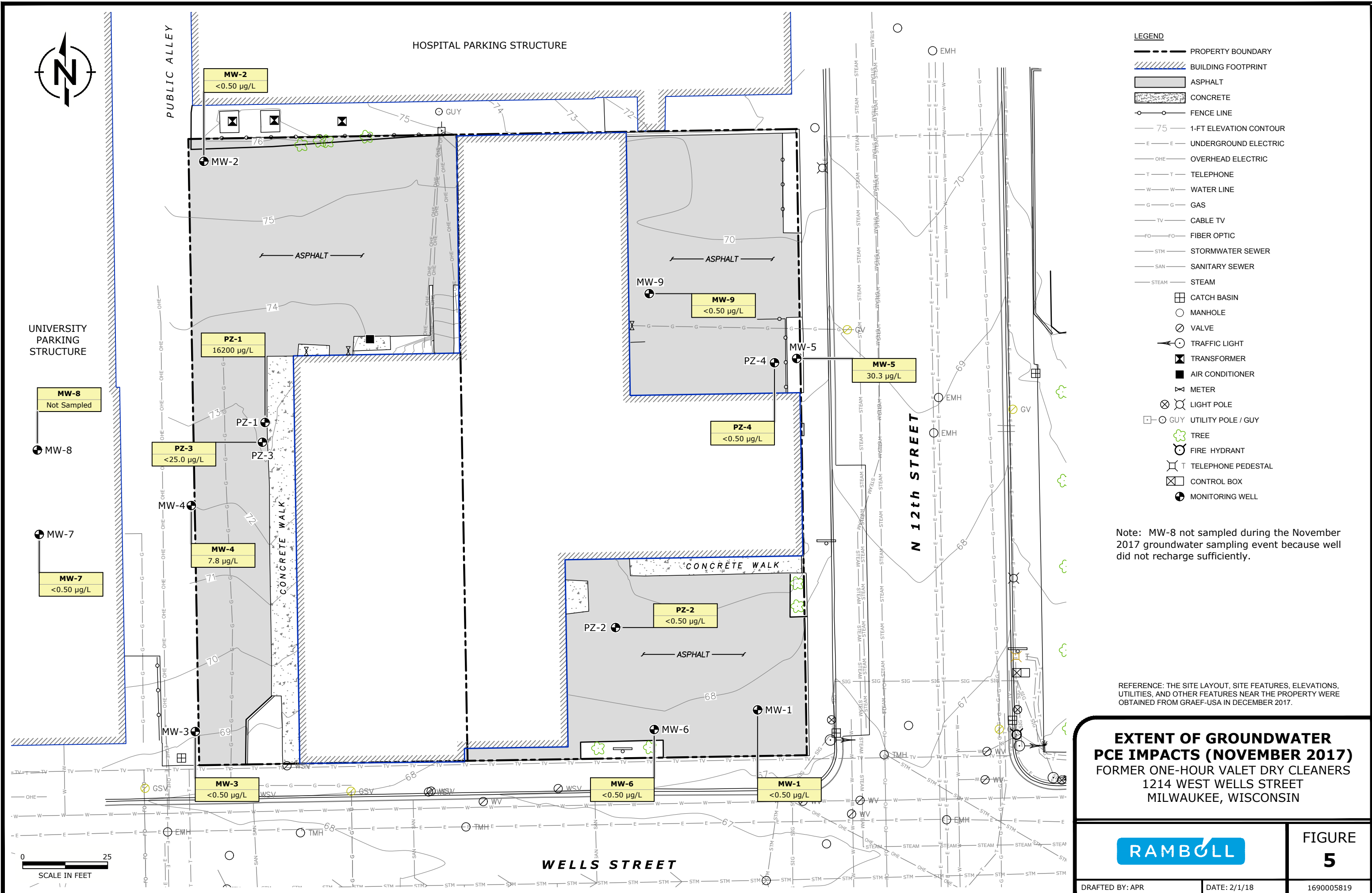
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DATE: 2/1/18

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- LEGEND**
- PROPERTY BOUNDARY
 - ▨ BUILDING FOOTPRINT
 - ▨ ASPHALT
 - ▨ CONCRETE
 - ○ FENCE LINE
 - 75 — 1-FT ELEVATION CONTOUR
 - E — UNDERGROUND ELECTRIC
 - OHE — OVERHEAD ELECTRIC
 - T — TELEPHONE
 - W — WATER LINE
 - G — GAS
 - TV — CABLE TV
 - FO — FIBER OPTIC
 - STM — STORMWATER SEWER
 - SAN — SANITARY SEWER
 - STEAM — STEAM
 - ▣ CATCH BASIN
 - MANHOLE
 - VALVE
 - ⬇️ TRAFFIC LIGHT
 - ⊠ TRANSFORMER
 - AIR CONDITIONER
 - ⊗ METER
 - ⊗ LIGHT POLE
 - ⊗ GUY UTILITY POLE / GUY
 - 🌳 TREE
 - ⊗ FIRE HYDRANT
 - ⊗ TELEPHONE PEDESTAL
 - ⊗ CONTROL BOX
 - ⊗ MONITORING WELL

Note: MW-8 not sampled during the November 2017 groundwater sampling event because well did not recharge sufficiently.

REFERENCE: THE SITE LAYOUT, SITE FEATURES, ELEVATIONS, UTILITIES, AND OTHER FEATURES NEAR THE PROPERTY WERE OBTAINED FROM GRAEF-USA IN DECEMBER 2017.

EXTENT OF GROUNDWATER PCE IMPACTS (NOVEMBER 2017)
 FORMER ONE-HOUR VALET DRY CLEANERS
 1214 WEST WELLS STREET
 MILWAUKEE, WISCONSIN



FIGURE
5

DRAFTED BY: APR

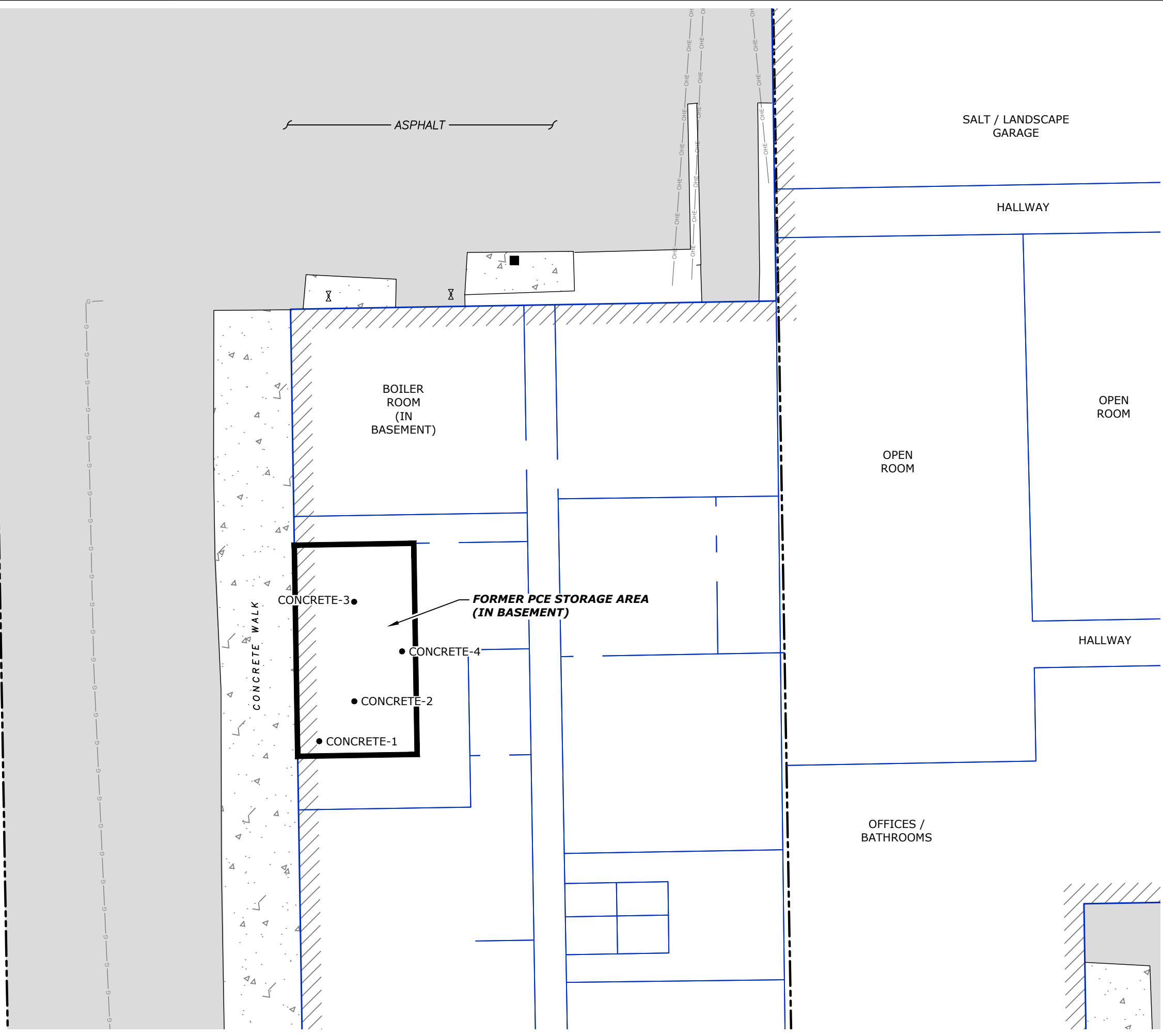
DATE: 2/1/18

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0 25
 SCALE IN FEET

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PUBLIC ALLEY



LEGEND

- PROPERTY BOUNDARY
- BUILDING FOOTPRINT
- ASPHALT
- CONCRETE
- OVERHEAD ELECTRIC
- GAS
- AIR CONDITIONER
- METER
- CONCRETE SAMPLE LOCATION (APPROXIMATE)

REFERENCE: THE SITE LAYOUT, SITE FEATURES, ELEVATIONS, UTILITIES, AND OTHER FEATURES NEAR THE PROPERTY WERE OBTAINED FROM GRAEF-USA IN DECEMBER 2017.



EXTENT OF PCE-IMPACTED CONCRETE
 FORMER ONE-HOUR VALET DRY CLEANERS
 1214 WEST WELLS STREET
 MILWAUKEE, WISCONSIN



FIGURE 6

DRAFTED BY: APR

DATE: 2/7/18

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HOSPITAL PARKING STRUCTURE



LEGEND

- PROPERTY BOUNDARY
- BUILDING FOOTPRINT
- ASPHALT
- CONCRETE
- FENCE LINE
- 1-FT ELEVATION CONTOUR
- UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC
- TELEPHONE
- WATER LINE
- GAS
- CABLE TV
- FIBER OPTIC
- STORMWATER SEWER
- SANITARY SEWER
- STEAM
- CATCH BASIN
- MANHOLE
- VALVE
- TRAFFIC LIGHT
- TRANSFORMER
- AIR CONDITIONER
- METER
- LIGHT POLE
- UTILITY POLE / GUY
- TREE
- FIRE HYDRANT
- TELEPHONE PEDESTAL
- CONTROL BOX
- MONITORING WELL
- ABANDONED MONITORING WELL
- SOIL TREATMENT AREA
- BACKFILL

REFERENCE: THE SITE LAYOUT, SITE FEATURES, ELEVATIONS, UTILITIES, AND OTHER FEATURES NEAR THE PROPERTY WERE OBTAINED FROM GRAEF-USA IN DECEMBER 2017.



SOURCE SOIL AND GROUNDWATER TREATMENT AREA
 FORMER ONE-HOUR VALET DRY CLEANERS
 1214 WEST WELLS STREET
 MILWAUKEE, WISCONSIN

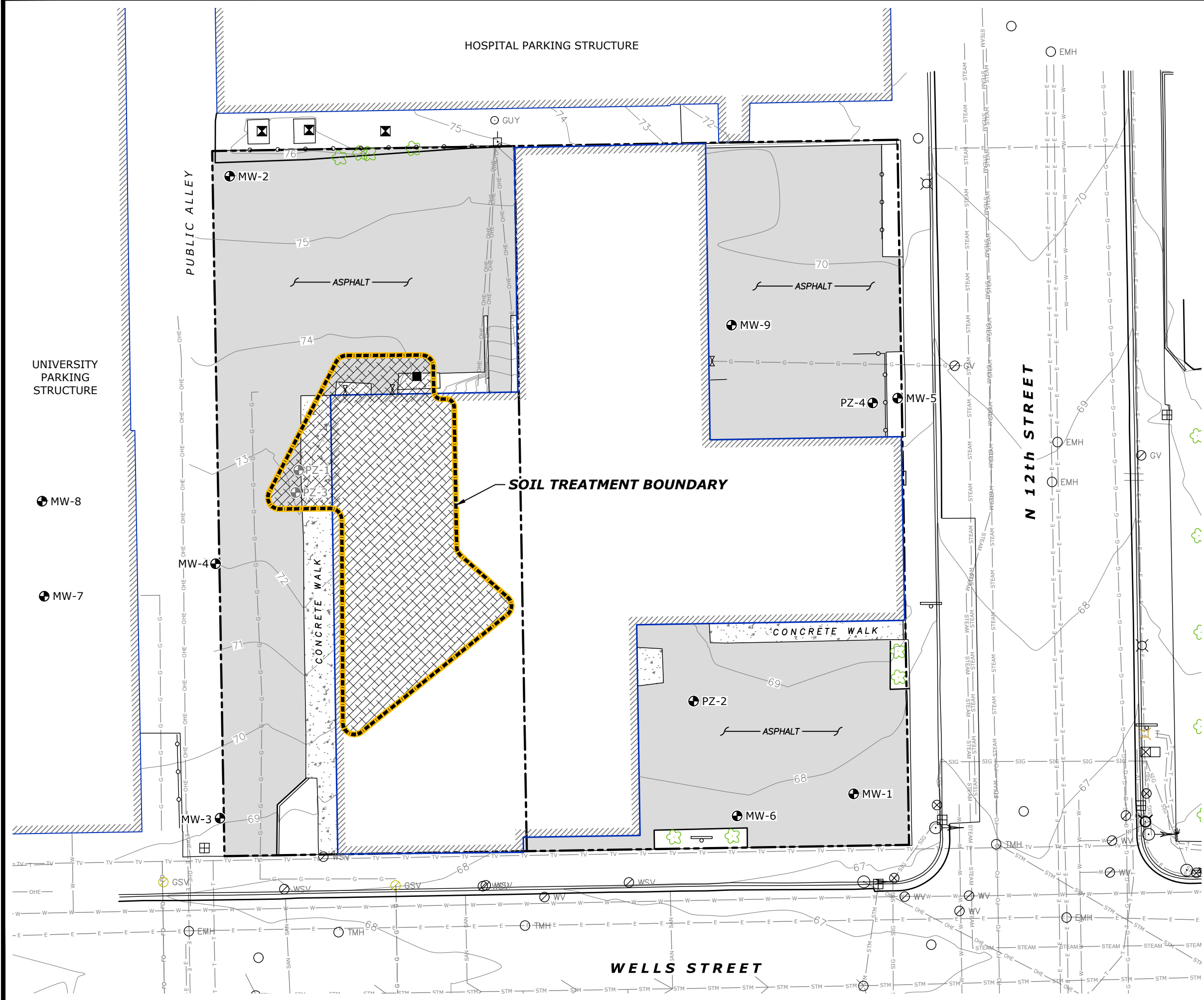


FIGURE 7

DRAFTED BY: APR

DATE: 2/7/18

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HOSPITAL PARKING STRUCTURE



LEGEND

- PROPERTY BOUNDARY
- /// BUILDING FOOTPRINT
- ▒ ASPHALT
- ▒ CONCRETE
- FENCE LINE
- 75 — 1-FT ELEVATION CONTOUR
- E — UNDERGROUND ELECTRIC
- OHE — OVERHEAD ELECTRIC
- T — TELEPHONE
- W — WATER LINE
- G — GAS
- TV — CABLE TV
- FO — FIBER OPTIC
- STM — STORMWATER SEWER
- SAN — SANITARY SEWER
- STEAM — STEAM
- ☐ CATCH BASIN
- MANHOLE
- ⊗ VALVE
- ⬇️ TRAFFIC LIGHT
- ⊠ TRANSFORMER
- ⊗ METER
- ⊗ LIGHT POLE
- ⊠ GUY UTILITY POLE / GUY
- 🌳 TREE
- ⊗ FIRE HYDRANT
- ⊗ TELEPHONE PEDESTAL
- ⊠ CONTROL BOX
- ⊕ MONITORING WELL
- SOIL TREATMENT BOUNDARY
- POST REMEDIATION SOIL SAMPLING LOCATION

NOTE: CONCEPTUAL REDEVELOPMENT PLAN MAY BE A PARKING LOT AS SHOWN, OR THE SITE MAY REMAIN A VACANT LOT FOR A PERIOD OF TIME FOLLOWING COMPLETION OF ACTIVE REMEDIAL SITE WORK.

REFERENCE: THE SITE LAYOUT, SITE FEATURES, ELEVATIONS, UTILITIES, AND OTHER FEATURES NEAR THE PROPERTY WERE OBTAINED FROM GRAEF-USA IN DECEMBER 2017.



**POST-REMEDIATION
SOIL SAMPLING LOCATIONS**
FORMER ONE-HOUR VALET DRY CLEANERS
1214 WEST WELLS STREET
MILWAUKEE, WISCONSIN

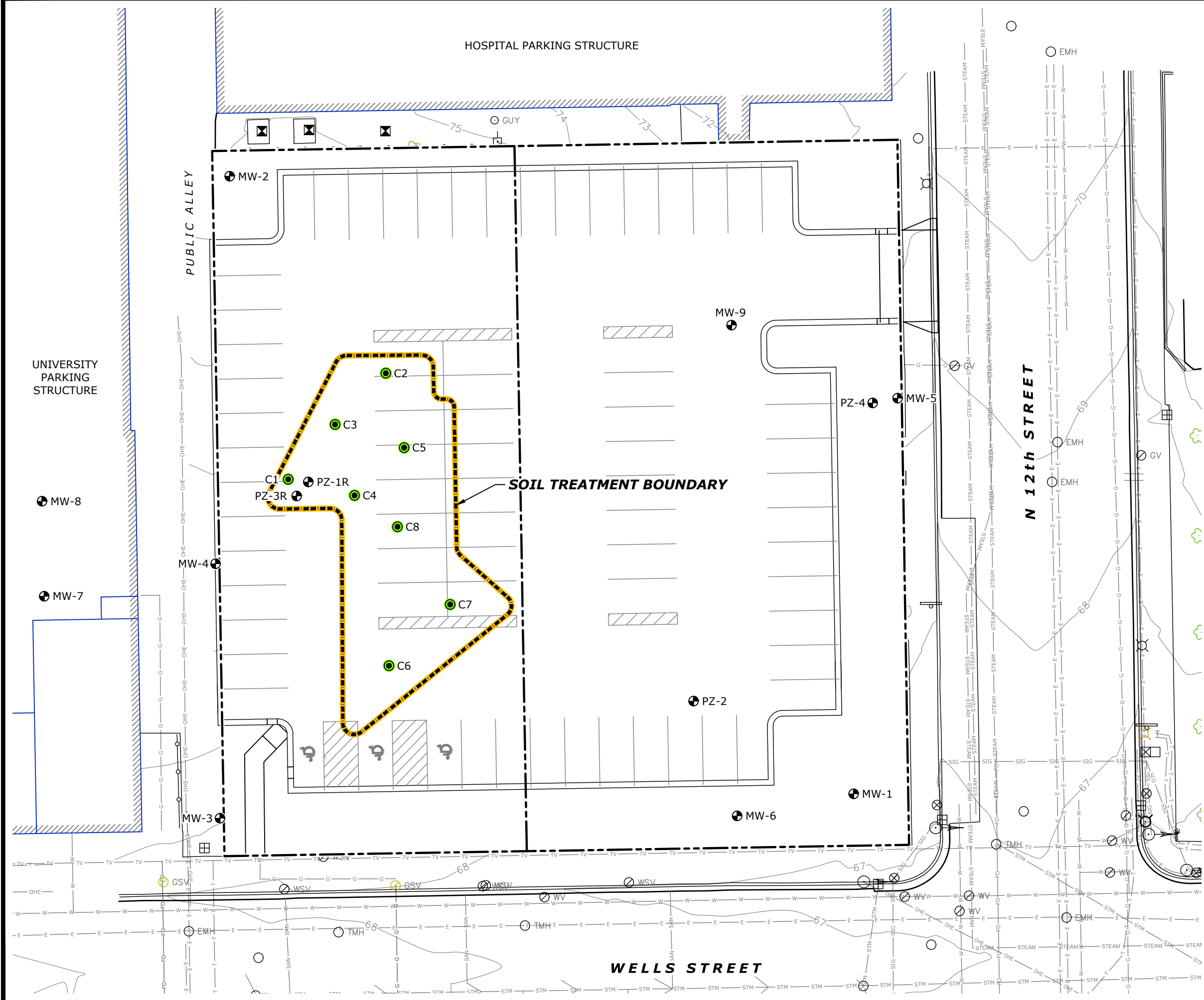


FIGURE
8

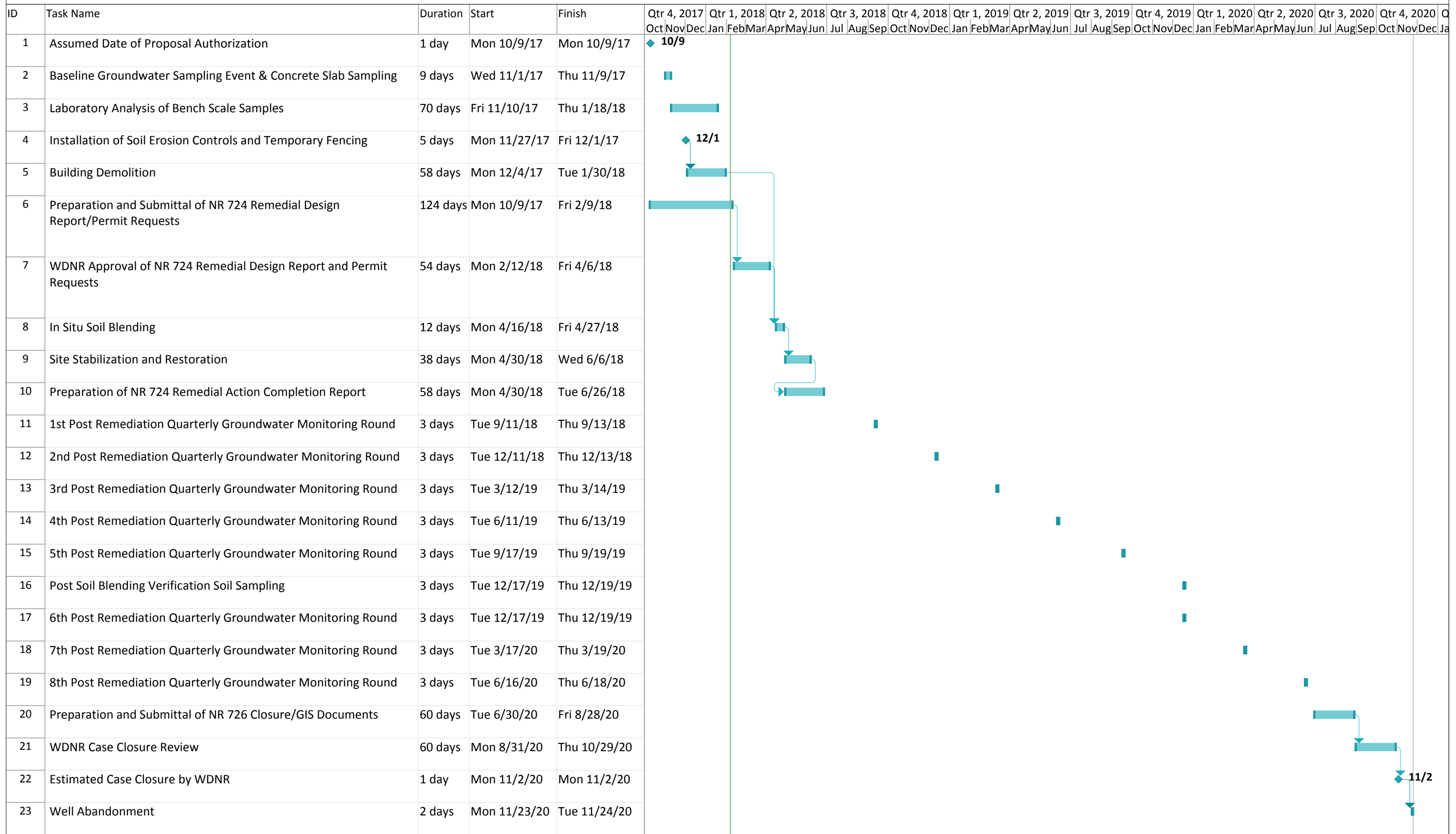
DRAFTED BY: APR

DATE: 12/25/17

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**Figure 9. Remedial Implementation Schedule
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin
Ramboll Project No. 169005819**



APPENDIX A

CVOC MASS ESTIMATE

Table A-1. Summary of CVOC Mass Estimates

Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Site Area	Total Area (sq. ft.)	Estimated Contaminant Mass (lbs)								Estimated Contaminant Mass (lb)		Percent Contaminant Mass	
		Before Treatment				After Treatment				In Soil	In Groundwater	In Soil	In Groundwater
		PCE	TCE	cDCE	tDCE	PCE	TCE	cDCE	tDCE	--	--	--	--
Treatment Zone	3,273	1,692	9	25	2	85	0	1	0	1707	22	97.1%	1.3%
Non-Treatment Zone	10,283	26	1	1	1	26	1	1	1	28	1	1.6%	0.1%
Total Contaminant Mass On-Site (lb):		1,758				115				1758		100%	
Estimated Total Mass Removal (%):		93%								--		--	

Notes:

1. Assume 95% mass reduction in the treatment zone.
2. Assume that all existing mass in the non-treatment zone will remain on-site at the end of remedial activities.

PCE - Tetrachloroethene

TCE - Trichloroethene

cDCE - cis-1,2,-dichloroethene

tDCE - trans-1,2-dichloroethene

Table A-2. Treatment Area: PCE Mass Estimate
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Contaminated Zone: Treatment Area	Area Dimensions		Area Volume		Soil Parameters		Contamination		Contaminant Mass	
	Thickness (ft)	Area (ft ²)	(ft ³)	(m ³)	Soil density (kg/m ³)	Soil porosity	Soil concentration (ug/kg)	Groundwater concentration (ug/L)	by layer (kilograms)	by layer (pounds)
Tetrachloroethene (PCE)										
Area 1										
Soil - Vadose Zone	2	400	400	11	1922		13,869		0.30	0.66
Soil (SC/CS, Saturated)	13	400	5,200	147	1922		730		0.21	0.45
Soil (S/SS, Saturated)	5	400	2,000	57	1922		0		0.00	0.00
Groundwater (SC/CS, saturated)	13	400	5,200	147				61000	2.69	5.93
Groundwater (S/SS, saturated)	5	400	2,000	57				61000	1.04	2.28
Area 2										
Soil - Vadose Zone	13	250	3,250	92	1922		384		0.07	0.15
Soil (SC/CS, Saturated)	20	250	5,000	142	1922		840		0.23	0.50
Soil (S/SS, Saturated)	2	250	500	14	1922		350,000		9.52	20.94
Groundwater (SC/CS, saturated)	20	250	5,000	142				280.7983835	0.01	0.03
Groundwater (S/SS, saturated)	2	250	500	14				116999.3264	0.50	1.09
Area 3										
Soil - Vadose Zone	2	660	1,320	37	1922		73,700		5.29	11.64
Soil (SC/CS, Saturated)	15	660	9,900	280	1922		35,550		19.14	42.12
Soil (S/SS, Saturated)	3	660	1,980	56	1922		6,700,000		721.57	1,587.46
Groundwater (SC/CS, saturated)	15	660	9,900	280				29650	2.49	5.49
Groundwater (S/SS, saturated)	3	660	1,980	56				29650	0.50	1.10
Area 4										
Soil - Vadose Zone	1	1,313	1,313	37	1922		41,600		2.97	6.53
Soil (SC/CS, Saturated)	4	1,313	5,250	149	1922		694		0.20	0.44
Soil (S/SS, Saturated)	0	1,313	0	0	1922		120		0.00	0.00
Groundwater (SC/CS, saturated)	4	1,313	5,250	149				574	0.03	0.06
Groundwater (S/SS, saturated)	0	1,313	0	0				0	0.00	0.00
Area 5										
Soil - Vadose Zone	4	650	2,600	74	1,922		15		0.00	0.00
Soil (SC/CS, Saturated)	6	650	3,900	110	1,922		11,000		2.33	5.13
Groundwater (SC/CS, saturated)	6	650	3,900	110				2000.0	0.07	0.15
Groundwater (S/SS, saturated)	0	0	0	0				0	0.00	0.00
Total - Tetrachloroethene (In pounds)										1,692

Table A-3. Treatment Area: TCE Mass Estimate
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Contaminated Zone: Treatment Area	Area Dimensions		Area Volume		Soil Parameters		Contamination		Contaminant Mass	
	Thickness (ft)	Area (ft ²)	(ft ³)	(m ³)	Soil density (kg/m ³)	Soil porosity	Soil concentration (ug/kg)	Groundwater concentration (ug/L)	by layer (kilograms)	by layer (pounds)
Trichloroethene (TCE)										
Area 1										
Soil - Vadose Zone	2	400	400	11	1922		164		0.00	0.01
Soil (SC/CS, Saturated)	13	400	5,200	147	1922		270		0.08	0.17
Soil (S/SS, Saturated)	5	400	2,000	57	1922		0		0.00	0.00
Groundwater (SC/CS, saturated)	13	400	5,200	147				0.3	0.07	0.16
Groundwater (S/SS, saturated)	5	400	2,000	57				0.3	0.03	0.06
Area 2										
Soil - Vadose Zone	13	250	3,250	92	1922		15		0.00	0.01
Soil (SC/CS, Saturated)	20	250	5,000	142	1922		15		0.00	0.01
Soil (S/SS, Saturated)	2	250	500	14	1762		9,300		0.23	0.51
Groundwater (SC/CS, saturated)	20	250	5,000	142				0.3	0.00	0.00
Groundwater (S/SS, saturated)	2	250	500	14				0.3	0.05	0.10
Area 3										
Soil - Vadose Zone	2	660	1,320	37	1922		3,680		0.26	0.58
Soil (SC/CS, Saturated)	15	660	9,900	280	1922		3,593		1.93	4.26
Soil (S/SS, Saturated)	3	660	1,980	56	1922		7,000		0.75	1.66
Groundwater (SC/CS, saturated)	15	660	9,900	280				0.3	0.19	0.42
Groundwater (S/SS, saturated)	3	660	1,980	56				0.3	0.04	0.08
Area 4										
Soil - Vadose Zone	1	1,313	1,313	37	1922		1,610		0.11	0.25
Soil (SC/CS, Saturated)	4	1,313	5,250	149	1922		23		0.01	0.01
Groundwater (SC/CS, saturated)	4	1,313	5,250	149				0.3	0.00	0.00
Groundwater (S/SS, saturated)	0	1,313	0	0				0.3	0.00	0.00
Area 5										
Soil - Vadose Zone	4	650	2,600	74	1,922		15		0.00	0.00
Soil (SC/CS, Saturated)	6	650	3,900	110	1,922		1,800		0.38	0.84
Groundwater (SC/CS, saturated)	6	650	3,900	110				0.3	0.02	0.05
Groundwater (S/SS, saturated)	0	0	0	0				0.3	0.00	0.00
Total - Trichloroethene (in pounds)										9.17

Table A-4. Treatment Area: cDCE Mass Estimate
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Contaminated Zone: Treatment Area	Area Dimensions		Area Volume		Soil Parameters		Contamination		Contaminant Mass	
	Thickness (ft)	Area (ft ²)	(ft ³)	(m ³)	Soil density (kg/m ³)	Soil porosity	Soil concentration (ug/kg)	Groundwater concentration (ug/L)	by layer (kilograms)	by layer (pounds)
cis-1,2-dichloroethene (cDCE)										
Area 1										
Soil - Vadose Zone	2	400	400	11	1922		21		0.00	0.00
Soil (SC/CS, Saturated)	13	400	5,200	147	1922		15		0.00	0.01
Soil (S/SS, Saturated)	5	400	2,000	57	1922		0		0.00	0.00
Groundwater (SC/CS, saturated)	13	400	5,200	147				2000	0.09	0.19
Groundwater (S/SS, saturated)	5	400	2,000	57				2000	0.03	0.07
Area 2										
Soil - Vadose Zone	13	250	3,250	92	1922		15		0.00	0.01
Soil (SC/CS, Saturated)	20	250	5,000	142	1922		15		0.00	0.01
Soil (S/SS, Saturated)	2	250	500	14	1762		1,400		0.03	0.08
Groundwater (SC/CS, saturated)	20	250	5,000	142				32.3	0.00	0.00
Groundwater (S/SS, saturated)	2	250	500	14				3120.8	0.01	0.03
Area 3										
Soil - Vadose Zone	2	660	1,320	37	1922		4,410		0.32	0.70
Soil (SC/CS, Saturated)	15	660	9,900	280	1922		6,918		3.72	8.19
Soil (S/SS, Saturated)	3	660	1,980	56	1922		7,000		0.75	1.66
Groundwater (SC/CS, saturated)	15	660	9,900	280				17700	1.49	3.28
Groundwater (S/SS, saturated)	3	660	1,980	56				17700	0.30	0.66
Area 4										
Soil - Vadose Zone	1	1,313	1,313	37	1922		586		0.04	0.09
Soil (SC/CS, Saturated)	4	1,313	5,250	149	1922		698		0.20	0.44
Groundwater (SC/CS, saturated)	4	1,313	5,250	149				43	0.00	0.00
Groundwater (S/SS, saturated)	0	1,313	0	0				0	0.00	0.00
Area 5										
Soil - Vadose Zone	4	650	2,600	74	1,922		3,100		0.44	0.96
Soil (SC/CS, Saturated)	6	650	3,900	110	1,922		18,000		3.82	8.40
Groundwater (SC/CS, saturated)	6	650	3,900	110				9700	0.32	0.71
Groundwater (S/SS, saturated)	0	0	0	0				0.0	0.00	0.00
Total - cis-1,2-dichloroethene (in pounds)										25.5

Table A-5. Treatment Area: tDCE Mass Estimate
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Contaminated Zone: Treatment Area	Area Dimensions		Area Volume		Soil Parameters		Contamination		Contaminant Mass	
	Thickness (ft)	Area (ft ²)	(ft ³)	(m ³)	Soil density (kg/m ³)	Soil porosity	Soil concentration (ug/kg)	Groundwater concentration (ug/L)	by layer (kilograms)	by layer (pounds)
trans-1,2-dichloroethene (tDCE)										
Area 1										
Soil - Vadose Zone	2	400	400	11	1922		14		0.00	0.00
Soil (SC/CS, Saturated)	13	400	5,200	147	1922		15		0.00	0.01
Soil (S/SS, Saturated)	5	400	2,000	57	1922		0		0.00	0.00
Groundwater (SC/CS, saturated)	13	400	5,200	147				40	0.00	0.00
Groundwater (S/SS, saturated)	5	400	2,000	57		0.3		40	0.00	0.00
Area 2										
Soil - Vadose Zone	13	250	3,250	92	1922		15		0.00	0.01
Soil (SC/CS, Saturated)	20	250	5,000	142	1922		15		0.00	0.01
Soil (S/SS, Saturated)	2	250	500	14	1762		1,400		0.03	0.08
Groundwater (SC/CS, saturated)	20	250	5,000	142		0.3		49.0	0.00	0.00
Groundwater (S/SS, saturated)	2	250	500	14		0.3		4730.9	0.02	0.04
Area 3										
Soil - Vadose Zone	2	660	1,320	37	1922		65		0.00	0.01
Soil (SC/CS, Saturated)	15	660	9,900	280	1922		87		0.05	0.10
Soil (S/SS, Saturated)	3	660	1,980	56	1922		7,000		0.75	1.66
Groundwater (SC/CS, saturated)	15	660	9,900	280		0.3		40	0.00	0.01
Groundwater (S/SS, saturated)	3	660	1,980	56		0.3		40	0.00	0.00
Area 4										
Soil - Vadose Zone	1	1,313	1,313	37	1922		19		0.00	0.00
Soil (SC/CS, Saturated)	4	1,313	5,250	149	1922		28		0.01	0.02
Groundwater (SC/CS, saturated)	4	1,313	5,250	149		0.3		0.105	0.00	0.00
Groundwater (S/SS, saturated)	0	1,313	0	0		0.3		0	0.00	0.00
Area 5										
Soil - Vadose Zone	4	650	2,600	74	1,922		79		0.01	0.02
Soil (SC/CS, Saturated)	6	650	3,900	110	1,922		220		0.05	0.10
Groundwater (SC/CS, saturated)	6	650	3,900	110		0.3		94.0	0.00	0.01
Groundwater (S/SS, saturated)	0	0	0	0		0.3		0.0	0.00	0.00
Total - trans-1,2-dichloroethene (in pounds)									2.1	

Table A-6. Non-Treatment Area: PCE Mass Estimate
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Contaminated Zone: Non-Treatment Area	Area Dimensions		Area Volume		Soil Parameters		Contamination		Contaminant Mass	
	Thickness (ft)	Area (ft ²)	(ft ³)	(m ³)	Soil density (kg/m ³)	Soil porosity	Soil concentration (ug/kg)	Groundwater concentration (ug/L)	by layer (kilograms)	by layer (pounds)
Tetrachloroethene (PCE)										
Area A										
Soil - Vadose Zone	10	1,456	14,560	412	1922		1,595		1.26	2.78
Soil (SC/CS, Saturated)	23	1,456	33,488	948	1922				0.00	0.00
Soil (S/SS, Saturated)	2	1,456	2,912	82	1922				0.00	0.00
Groundwater (SC/CS, saturated)	23	1,456	33,488	948		0.3			0.00	0.00
Groundwater (S/SS, saturated)	2	1,456	2,912	82		0.3			0.00	0.00
Area B										
Soil - Vadose Zone	10	849	8,490	240	1922		467		0.22	0.47
Soil (SC/CS, Saturated)	0	849	0	0	1922				0.00	0.00
Soil (S/SS, Saturated)	0	849	0	0	1762				0.00	0.00
Groundwater (SC/CS, saturated)	0	849	0	0		0.3			0.00	0.00
Groundwater (S/SS, saturated)	0	849	0	0		0.3			0.00	0.00
Area C										
Soil - Vadose Zone	2	613	1,226	35	1922		376		0.03	0.06
Soil (SC/CS, Saturated)	8	613	4,904	139	1922		376		0.10	0.22
Soil (S/SS, Saturated)	0	613	0	0	1922		0		0.00	0.00
Groundwater (SC/CS, saturated)	8	613	4,904	139		0.3		125.75	0.01	0.01
Groundwater (S/SS, saturated)	0	613	0	0		0.3		125.75	0.00	0.00
Area D										
Soil - Vadose Zone	2	1,879	3,758	106	1922		11		0.00	0.00
Soil (SC/CS, Saturated)	8	1,879	15,032	425	1922		11		0.01	0.02
Groundwater (SC/CS, saturated)	8	1,879	15,032	425		0.3		0.69	0.00	0.00
Groundwater (S/SS, saturated)	0	1,879	0	0		0.3		0.00	0.00	0.00
Area E										
Soil - Vadose Zone	2	991	1,982	56	1,922		10		0.00	0.00
Soil (SC/CS, Saturated)	3	991	2,973	84	1,922		10		0.00	0.00
Groundwater (SC/CS, saturated)	3	991	2,973	84		0.3		0.1	0.00	0.00
Groundwater (S/SS, saturated)	0	0	0	0		0.3		0.0	0.00	0.00
Area F										
Soil - Vadose Zone	10	1,500	15,000	425	1,922		705		0.58	1.27
Soil (SC/CS, Saturated)	0	1,500	0	0	1,922		0		0.00	0.00
Groundwater (SC/CS, saturated)	0	1,500	0	0		0.3		0.0	0.00	0.00
Groundwater (S/SS, saturated)	0	1,500	0	0		0.3		0	0.00	0.00
Area G										
Soil - Vadose Zone	10	675	6,750	191	1,922		3,486		1.28	2.82
Soil (SC/CS, Saturated)	0	675	0	0	1,922		0		0.00	0.00
Groundwater (SC/CS, saturated)	0	675	0	0		0.3		0.0	0.00	0.00
Groundwater (S/SS, saturated)	0	675	0	0		0.3		0	0.00	0.00

Table A-6. Non-Treatment Area: PCE Mass Estimate
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Contaminated Zone: Non-Treatment Area	Area Dimensions		Area Volume		Soil Parameters		Contamination		Contaminant Mass	
	Thickness (ft)	Area (ft ²)	(ft ³)	(m ³)	Soil density (kg/m ³)	Soil porosity	Soil concentration (ug/kg)	Groundwater concentration (ug/L)	by layer (kilograms)	by layer (pounds)
Area H										
Soil - Vadose Zone	21	794	16,674	472	1,922		3,900		3.54	7.78
Soil (SC/CS, Saturated)	11.5	794	9,131	258	1,922		3,900		1.94	4.26
Soil (S/SS, Saturated)	2.5	794	1,985	56	1,922		3,900		0.42	0.93
Groundwater (SC/CS, saturated)	11.5	794	9,131	258		0.3		38.0	0.00	0.01
Groundwater (S/SS, saturated)	2.5	794	1,985	56		0.3		38.0	0.00	0.00
Area I										
Soil - Vadose Zone	2	0	0	0	1,922		12,000		0.00	0.00
Soil (SC/CS, Saturated)	3	0	0	0	1,922		13,623		0.00	0.00
Groundwater (SC/CS, saturated)	3	0	0	0		0.3		4553.8	0.00	0.00
Groundwater (S/SS, saturated)	0	0	0	0		0.3		0.0	0.00	0.00
Area J										
Soil - Vadose Zone	13	500	6,500	184	1,922		586		0.21	0.46
Soil (SC/CS, Saturated)	7	500	3,500	99	1,922		586		0.11	0.25
Groundwater (SC/CS, saturated)	7	500	3,500	99		0.3		24.2	0.00	0.00
Groundwater (S/SS, saturated)	0	500	0	0		0.3		0.0	0.00	0.00
Area K										
Soil - Vadose Zone	4	344	1,376	39	1,922		730		0.05	0.12
Soil (SC/CS, Saturated)	6	344	2,064	58	1,922		730		0.08	0.18
Groundwater (SC/CS, saturated)	6	344	2,064	58		0.3		244.0	0.00	0.01
Groundwater (S/SS, saturated)	0	344	0	0		0.3		0.0	0.00	0.00
Area L										
Soil - Vadose Zone	10	682	6,820	193	1,922		384		0.14	0.31
Soil (SC/CS, Saturated)	20	682	13,640	386	1,922		840		0.62	1.37
Soil (S/SS, Saturated)	5	682	3,410	97	1,922		5,000		0.93	2.04
Groundwater (SC/CS, saturated)	20	682	13,640	386		0.3		280.8	0.03	0.07
Groundwater (S/SS, saturated)	5	682	3,410	97		0.3		1671.4	0.05	0.11
Area M										
Soil - Vadose Zone	1	0	0	0	1,922		15		0.00	0.00
Soil (SC/CS, Saturated)	7	0	0	0	1,922		11,000		0.00	0.00
Soil (S/SS, Saturated)	2	0	0	0	1,922		11,000		0.00	0.00
Groundwater (SC/CS, saturated)	7	0	0	0		0.3		574.0	0.00	0.00
Groundwater (S/SS, saturated)	2	0	0	0		0.3		574.0	0.00	0.00
Total - tetrachloroethene (in pounds)										26

Table A-7. Non-Treatment Area: TCE Mass Estimate
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Contaminated Zone: Non-Treatment Area	Area Dimensions		Area Volume		Soil Parameters		Contamination		Contaminant Mass	
	Thickness (ft)	Area (ft ²)	(ft ³)	(m ³)	Soil density (kg/m ³)	Soil porosity	Soil concentration (ug/kg)	Groundwater concentration (ug/L)	by layer (kilograms)	by layer (pounds)
Trichloroethene (TCE)										
Area A										
Soil - Vadose Zone	10	1,456	14,560	412	1922		7		0.01	0.01
Soil (SC/CS, Saturated)	23	1,456	33,488	948	1922		0		0.00	0.00
Soil (S/SS, Saturated)	2	1,456	2,912	82	1922		0		0.00	0.00
Groundwater (SC/CS, saturated)	23	1,456	33,488	948		0.3			0.00	0.00
Groundwater (S/SS, saturated)	2	1,456	2,912	82		0.3			0.00	0.00
Area B										
Soil - Vadose Zone	10	849	8,490	240	1922		16		0.01	0.02
Soil (SC/CS, Saturated)	0	849	0	0	1922				0.00	0.00
Soil (S/SS, Saturated)	0	849	0	0	1762				0.00	0.00
Groundwater (SC/CS, saturated)	0	849	0	0		0.3			0.00	0.00
Groundwater (S/SS, saturated)	0	849	0	0		0.3			0.00	0.00
Area C										
Soil - Vadose Zone	2	613	1,226	35	1922		15		0.00	0.00
Soil (SC/CS, Saturated)	8	613	4,904	139	1922		15		0.00	0.01
Soil (S/SS, Saturated)	0	613	0	0	1922		0		0.00	0.00
Groundwater (SC/CS, saturated)	8	613	4,904	139		0.3		16.67	0.00	0.00
Groundwater (S/SS, saturated)	0	613	0	0		0.3		16.67	0.00	0.00
Area D										
Soil - Vadose Zone	2	1,879	3,758	106	1922		7		0.00	0.00
Soil (SC/CS, Saturated)	8	1,879	15,032	425	1922		7		0.01	0.01
Groundwater (SC/CS, saturated)	8	1,879	15,032	425		0.3		0.11	0.00	0.00
Groundwater (S/SS, saturated)	0	1,879	0	0		0.3		0.00	0.00	0.00
Area E										
Soil - Vadose Zone	2	991	1,982	56	1,922		6		0.00	0.00
Soil (SC/CS, Saturated)	3	991	2,973	84	1,922		6		0.00	0.00
Groundwater (SC/CS, saturated)	3	991	2,973	84		0.3		0.1	0.00	0.00
Groundwater (S/SS, saturated)	0	0	0	0		0.3		0.0	0.00	0.00
Area F										
Soil - Vadose Zone	10	1,500	15,000	425	1,922		11		0.01	0.02
Soil (SC/CS, Saturated)	0	1,500	0	0	1,922		0		0.00	0.00
Groundwater (SC/CS, saturated)	0	1,500	0	0		0.3		0.0	0.00	0.00
Groundwater (S/SS, saturated)	0	1,500	0	0		0.3		0	0.00	0.00
Area G										
Soil - Vadose Zone	10	675	6,750	191	1,922		15		0.01	0.01
Soil (SC/CS, Saturated)	0	675	0	0	1,922		0		0.00	0.00
Groundwater (SC/CS, saturated)	0	675	0	0		0.3		0.0	0.00	0.00
Groundwater (S/SS, saturated)	0	675	0	0		0.3		0	0.00	0.00

Table A-7. Non-Treatment Area: TCE Mass Estimate
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Contaminated Zone: Non-Treatment Area	Area Dimensions		Area Volume		Soil Parameters		Contamination		Contaminant Mass	
	Thickness (ft)	Area (ft ²)	(ft ³)	(m ³)	Soil density (kg/m ³)	Soil porosity	Soil concentration (ug/kg)	Groundwater concentration (ug/L)	by layer (kilograms)	by layer (pounds)
Area H										
Soil - Vadose Zone	21	794	16,674	472	1,922		7		0.01	0.01
Soil (SC/CS, Saturated)	11.5	794	9,131	258	1,922		7		0.00	0.01
Soil (S/SS, Saturated)	2.5	794	1,985	56	1,922		7		0.00	0.00
Groundwater (SC/CS, saturated)	11.5	794	9,131	258		0.3		0.4	0.00	0.00
Groundwater (S/SS, saturated)	2.5	794	1,985	56		0.3		0.4	0.00	0.00
Area I										
Soil - Vadose Zone	2	0	0	0	1,922		110		0.00	0.00
Soil (SC/CS, Saturated)	3	0	0	0	1,922		2,786		0.00	0.00
Groundwater (SC/CS, saturated)	3	0	0	0		0.3		3203.2	0.00	0.00
Groundwater (S/SS, saturated)	0	0	0	0		0.3		0.0	0.00	0.00
Area J										
Soil - Vadose Zone	13	500	6,500	184	1,922		15		0.01	0.01
Soil (SC/CS, Saturated)	7	500	3,500	99	1,922		15		0.00	0.01
Groundwater (SC/CS, saturated)	7	500	3,500	99		0.3		1.1	0.00	0.00
Groundwater (S/SS, saturated)	0	500	0	0		0.3		0.0	0.00	0.00
Area K										
Soil - Vadose Zone	4	344	1,376	39	1,922		270		0.02	0.04
Soil (SC/CS, Saturated)	6	344	2,064	58	1,922		270		0.03	0.07
Groundwater (SC/CS, saturated)	6	344	2,064	58		0.3		310.4	0.01	0.01
Groundwater (S/SS, saturated)	0	344	0	0		0.3		0.0	0.00	0.00
Area L										
Soil - Vadose Zone	10	682	6,820	193	1,922		15		0.01	0.01
Soil (SC/CS, Saturated)	20	682	13,640	386	1,922		15		0.01	0.02
Soil (S/SS, Saturated)	5	682	3,410	97	1,922		1,500		0.28	0.61
Groundwater (SC/CS, saturated)	20	682	13,640	386		0.3		16.7	0.00	0.00
Groundwater (S/SS, saturated)	5	682	3,410	97		0.3		1724.6	0.05	0.11
Area M										
Soil - Vadose Zone	1	0	0	0	1,922		10		0.00	0.00
Soil (SC/CS, Saturated)	7	0	0	0	1,922		1,800		0.00	0.00
Soil (S/SS, Saturated)	2	0	0	0	1,922		1,800		0.00	0.00
Groundwater (SC/CS, saturated)	7	0	0	0		0.3		0.9	0.00	0.00
Groundwater (S/SS, saturated)	2	0	0	0		0.3		0.9	0.00	0.00
Total - trichloroethene (in pounds)									1.02	

Table A-8. Non-Treatment Area: cDCE Mass Estimate
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Contaminated Zone: Non-Treatment Area	Area Dimensions		Area Volume		Soil Parameters		Contamination		Contaminant Mass	
	Thickness (ft)	Area (ft ²)	(ft ³)	(m ³)	Soil density (kg/m ³)	Soil porosity	Soil concentration (ug/kg)	Groundwater concentration (ug/L)	by layer (kilograms)	by layer (pounds)
cis-1,2-dichloroethene (cDCE)										
Area A										
Soil - Vadose Zone	10	1,456	14,560	412	1922		6		0.00	0.01
Soil (SC/CS, Saturated)	23	1,456	33,488	948	1922		0		0.00	0.00
Soil (S/SS, Saturated)	2	1,456	2,912	82	1922		0		0.00	0.00
Groundwater (SC/CS, saturated)	23	1,456	33,488	948		0.3			0.00	0.00
Groundwater (S/SS, saturated)	2	1,456	2,912	82		0.3			0.00	0.00
Area B										
Soil - Vadose Zone	10	849	8,490	240	1922		16		0.01	0.02
Soil (SC/CS, Saturated)	0	849	0	0	1922		0		0.00	0.00
Soil (S/SS, Saturated)	0	849	0	0	1762		0		0.00	0.00
Groundwater (SC/CS, saturated)	0	849	0	0		0.3			0.00	0.00
Groundwater (S/SS, saturated)	0	849	0	0		0.3			0.00	0.00
Area C										
Soil - Vadose Zone	2	613	1,226	35	1922		170		0.01	0.02
Soil (SC/CS, Saturated)	8	613	4,904	139	1922		170		0.05	0.10
Soil (S/SS, Saturated)	0	613	0	0	1922		0		0.00	0.00
Groundwater (SC/CS, saturated)	8	613	4,904	139		0.3		378.58	0.02	0.03
Groundwater (S/SS, saturated)	0	613	0	0		0.3		378.58	0.00	0.00
Area D										
Soil - Vadose Zone	2	1,879	3,758	106	1922		12		0.00	0.01
Soil (SC/CS, Saturated)	8	1,879	15,032	425	1922		12		0.01	0.02
Groundwater (SC/CS, saturated)	8	1,879	15,032	425		0.3		0.10	0.00	0.00
Groundwater (S/SS, saturated)	0	1,879	0	0		0.3		0.00	0.00	0.00
Area E										
Soil - Vadose Zone	2	991	1,982	56	1,922		6		0.00	0.00
Soil (SC/CS, Saturated)	3	991	2,973	84	1,922		6		0.00	0.00
Groundwater (SC/CS, saturated)	3	991	2,973	84		0.3		0.2	0.00	0.00
Groundwater (S/SS, saturated)	0	0	0	0		0.3		0.0	0.00	0.00
Area F										
Soil - Vadose Zone	10	1,500	15,000	425	1,922		10		0.01	0.02
Soil (SC/CS, Saturated)	0	1,500	0	0	1,922		0		0.00	0.00
Groundwater (SC/CS, saturated)	0	1,500	0	0		0.3		0.0	0.00	0.00
Groundwater (S/SS, saturated)	0	1,500	0	0		0.3		0	0.00	0.00
Area G										
Soil - Vadose Zone	10	675	6,750	191	1,922		14		0.00	0.01
Soil (SC/CS, Saturated)	0	675	0	0	1,922		0		0.00	0.00
Groundwater (SC/CS, saturated)	0	675	0	0		0.3		0.0	0.00	0.00
Groundwater (S/SS, saturated)	0	675	0	0		0.3		0	0.00	0.00

Table A-8. Non-Treatment Area: cDCE Mass Estimate
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Contaminated Zone: Non-Treatment Area	Area Dimensions		Area Volume		Soil Parameters		Contamination		Contaminant Mass	
	Thickness (ft)	Area (ft ²)	(ft ³)	(m ³)	Soil density (kg/m ³)	Soil porosity	Soil concentration (ug/kg)	Groundwater concentration (ug/L)	by layer (kilograms)	by layer (pounds)
Area H										
Soil - Vadose Zone	21	794	16,674	472	1,922		6		0.01	0.01
Soil (SC/CS, Saturated)	11.5	794	9,131	258	1,922		6		0.00	0.01
Soil (S/SS, Saturated)	2.5	794	1,985	56	1,922		6		0.00	0.00
Groundwater (SC/CS, saturated)	11.5	794	9,131	258		0.3		0.2	0.00	0.00
Groundwater (S/SS, saturated)	2.5	794	1,985	56		0.3		0.2	0.00	0.00
Area I										
Soil - Vadose Zone	2	0	0	0	1,922		51		0.00	0.00
Soil (SC/CS, Saturated)	3	0	0	0	1,922		2,454		0.00	0.00
Groundwater (SC/CS, saturated)	3	0	0	0		0.3		5469.7	0.00	0.00
Groundwater (S/SS, saturated)	0	0	0	0		0.3		0.0	0.00	0.00
Area J										
Soil - Vadose Zone	13	500	6,500	184	1,922		31		0.01	0.02
Soil (SC/CS, Saturated)	7	500	3,500	99	1,922		31		0.01	0.01
Groundwater (SC/CS, saturated)	7	500	3,500	99		0.3		4.9	0.00	0.00
Groundwater (S/SS, saturated)	0	500	0	0		0.3		0.0	0.00	0.00
Area K										
Soil - Vadose Zone	4	344	1,376	39	1,922		15		0.00	0.00
Soil (SC/CS, Saturated)	6	344	2,064	58	1,922		15		0.00	0.00
Groundwater (SC/CS, saturated)	6	344	2,064	58		0.3		33.4	0.00	0.00
Groundwater (S/SS, saturated)	0	344	0	0		0.3		0.0	0.00	0.00
Area L										
Soil - Vadose Zone	10	682	6,820	193	1,922		15		0.01	0.01
Soil (SC/CS, Saturated)	20	682	13,640	386	1,922		15		0.01	0.02
Soil (S/SS, Saturated)	5	682	3,410	97	1,922		1,400		0.26	0.57
Groundwater (SC/CS, saturated)	20	682	13,640	386		0.3		32.3	0.00	0.01
Groundwater (S/SS, saturated)	5	682	3,410	97		0.3		3120.8	0.09	0.20
Area M										
Soil - Vadose Zone	1	0	0	0	1,922		3,100		0.00	0.00
Soil (SC/CS, Saturated)	7	0	0	0	1,922		18,000		0.00	0.00
Soil (S/SS, Saturated)	2	0	0	0	1,922		18,000		0.00	0.00
Groundwater (SC/CS, saturated)	7	0	0	0		0.3		43.0	0.00	0.00
Groundwater (S/SS, saturated)	2	0	0	0		0.3		43.0	0.00	0.00
Total - cis-1,2-dichloroethene (in pounds)									1.13	

Table A-9. Non-Treatment Area: tDE Mass Estimate
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Contaminated Zone: Non-Treatment Area	Area Dimensions		Area Volume		Soil Parameters		Contamination		Contaminant Mass	
	Thickness (ft)	Area (ft ²)	(ft ³)	(m ³)	Soil density (kg/m ³)	Soil porosity	Soil concentration (ug/kg)	Groundwater concentration (ug/L)	by layer (kilograms)	by layer (pounds)
trans-1,2-dichloroethene (tDCE)										
Area A										
Soil - Vadose Zone	10	1,456	14,560	412	1922		7		0.01	0.01
Soil (SC/CS, Saturated)	23	1,456	33,488	948	1922		0		0.00	0.00
Soil (S/SS, Saturated)	2	1,456	2,912	82	1922		0		0.00	0.00
Groundwater (SC/CS, saturated)	23	1,456	33,488	948		0.3			0.00	0.00
Groundwater (S/SS, saturated)	2	1,456	2,912	82		0.3			0.00	0.00
Area B										
Soil - Vadose Zone	10	849	8,490	240	1922		16		0.01	0.02
Soil (SC/CS, Saturated)	0	849	0	0	1922		0		0.00	0.00
Soil (S/SS, Saturated)	0	849	0	0	1762		0		0.00	0.00
Groundwater (SC/CS, saturated)	0	849	0	0		0.3			0.00	0.00
Groundwater (S/SS, saturated)	0	849	0	0		0.3			0.00	0.00
Area C										
Soil - Vadose Zone	2	613	1,226	35	1922		15		0.00	0.00
Soil (SC/CS, Saturated)	8	613	4,904	139	1922		15		0.00	0.01
Soil (S/SS, Saturated)	0	613	0	0	1922		0		0.00	0.00
Groundwater (SC/CS, saturated)	8	613	4,904	139		0.3		49.00	0.00	0.00
Groundwater (S/SS, saturated)	0	613	0	0		0.3		49.00	0.00	0.00
Area D										
Soil - Vadose Zone	2	1,879	3,758	106	1922		6		0.00	0.00
Soil (SC/CS, Saturated)	8	1,879	15,032	425	1922		6		0.01	0.01
Groundwater (SC/CS, saturated)	8	1,879	15,032	425		0.3		0.11	0.00	0.00
Groundwater (S/SS, saturated)	0	1,879	0	0		0.3		0.00	0.00	0.00
Area E										
Soil - Vadose Zone	2	991	1,982	56	1,922		6		0.00	0.00
Soil (SC/CS, Saturated)	3	991	2,973	84	1,922		6		0.00	0.00
Groundwater (SC/CS, saturated)	3	991	2,973	84		0.3		0.1	0.00	0.00
Groundwater (S/SS, saturated)	0	0	0	0		0.3		0.0	0.00	0.00
Area F										
Soil - Vadose Zone	10	1,500	15,000	425	1,922		11		0.01	0.02
Soil (SC/CS, Saturated)	0	1,500	0	0	1,922		0		0.00	0.00
Groundwater (SC/CS, saturated)	0	1,500	0	0		0.3		0.0	0.00	0.00
Groundwater (S/SS, saturated)	0	1,500	0	0		0.3		0	0.00	0.00
Area G										
Soil - Vadose Zone	10	675	6,750	191	1,922		15		0.01	0.01
Soil (SC/CS, Saturated)	0	675	0	0	1,922		0		0.00	0.00
Groundwater (SC/CS, saturated)	0	675	0	0		0.3		0.0	0.00	0.00
Groundwater (S/SS, saturated)	0	675	0	0		0.3		0	0.00	0.00

Table A-9. Non-Treatment Area: tDE Mass Estimate
Former One-Hour Valet Dry Cleaners Property, Milwaukee, Wisconsin

Contaminated Zone: Non-Treatment Area	Area Dimensions		Area Volume		Soil Parameters		Contamination		Contaminant Mass	
	Thickness (ft)	Area (ft ²)	(ft ³)	(m ³)	Soil density (kg/m ³)	Soil porosity	Soil concentration (ug/kg)	Groundwater concentration (ug/L)	by layer (kilograms)	by layer (pounds)
Area H										
Soil - Vadose Zone	21	794	16,674	472	1,922		7		0.01	0.01
Soil (SC/CS, Saturated)	11.5	794	9,131	258	1,922		7		0.00	0.01
Soil (S/SS, Saturated)	2.5	794	1,985	56	1,922		7		0.00	0.00
Groundwater (SC/CS, saturated)	11.5	794	9,131	258		0.3		0.1	0.00	0.00
Groundwater (S/SS, saturated)	2.5	794	1,985	56		0.3		0.1	0.00	0.00
Area I										
Soil - Vadose Zone	2	0	0	0	1,922		15		0.00	0.00
Soil (SC/CS, Saturated)	3	0	0	0	1,922		43		0.00	0.00
Groundwater (SC/CS, saturated)	3	0	0	0		0.3		143.6	0.00	0.00
Groundwater (S/SS, saturated)	0	0	0	0		0.3		0.0	0.00	0.00
Area J										
Soil - Vadose Zone	13	500	6,500	184	1,922		15		0.01	0.01
Soil (SC/CS, Saturated)	7	500	3,500	99	1,922		15		0.00	0.01
Groundwater (SC/CS, saturated)	7	500	3,500	99		0.3		0.5	0.00	0.00
Groundwater (S/SS, saturated)	0	500	0	0		0.3		0.0	0.00	0.00
Area K										
Soil - Vadose Zone	4	344	1,376	39	1,922		15		0.00	0.00
Soil (SC/CS, Saturated)	6	344	2,064	58	1,922		15		0.00	0.00
Groundwater (SC/CS, saturated)	6	344	2,064	58		0.3		50.7	0.00	0.00
Groundwater (S/SS, saturated)	0	344	0	0		0.3		0.0	0.00	0.00
Area L										
Soil - Vadose Zone	10	682	6,820	193	1,922		15		0.01	0.01
Soil (SC/CS, Saturated)	20	682	13,640	386	1,922		15		0.01	0.02
Soil (S/SS, Saturated)	5	682	3,410	97	1,922		1,400		0.26	0.57
Groundwater (SC/CS, saturated)	20	682	13,640	386		0.3		49.0	0.01	0.01
Groundwater (S/SS, saturated)	5	682	3,410	97		0.3		4730.9	0.14	0.30
Area M										
Soil - Vadose Zone	1	0	0	0	1,922		79		0.00	0.00
Soil (SC/CS, Saturated)	7	0	0	0	1,922		220		0.00	0.00
Soil (S/SS, Saturated)	2	0	0	0	1,922		220		0.00	0.00
Groundwater (SC/CS, saturated)	7	0	0	0		0.3		0.1	0.00	0.00
Groundwater (S/SS, saturated)	2	0	0	0		0.3		0.1	0.00	0.00
Total - trans-1,2-dichloroethene (in pounds)									1.06	

APPENDIX B

LABORATORY ANALYTICAL RESULTS FOR PRE-REMEDICATION GROUNDWATER AND CONCRETE SAMPLING ACTIVITIES

November 21, 2017

Jeanne Tarvin
Ramboll Environ
175 North Corporate Drive
Suite 160
Brookfield, WI 53045

RE: Project: 1690005819 FORMER 1-HOUR VALET
Pace Project No.: 40160138

Dear Jeanne Tarvin:

Enclosed are the analytical results for sample(s) received by the laboratory on November 03, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Steven Mleczo
steve.mleczo@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Jim Hutchens, Ramboll Environ
Jim Kane, Ramboll Environ
Snejana Karakis, Environ
David L. Markelz, Ramboll Environ
Michelle Murphy, Environ
Susan Petrofske, Ramboll Environ
Scott Tarmann, Ramboll Environ
Abigail M. Wedig, Environ International Corp



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, 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 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

Mississippi Certification #: MN00064

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 NwTPH 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

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DW Certification #: 9952 C

West Virginia DEP Certification #: 382

Wisconsin Certification #: 999407970

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40160138001	PZ-2	Water	11/01/17 13:20	11/03/17 14:35
40160138002	MW-1	Water	11/01/17 14:35	11/03/17 14:35
40160138003	MW-2	Water	11/01/17 15:45	11/03/17 14:35
40160138004	MW-3	Water	11/01/17 16:46	11/03/17 14:35
40160138005	PZ-4	Water	11/02/17 08:00	11/03/17 14:35
40160138006	PZ-3	Water	11/02/17 09:05	11/03/17 14:35
40160138007	MW-4	Water	11/02/17 09:50	11/03/17 14:35
40160138008	MW-4 DUP	Water	11/02/17 09:53	11/03/17 14:35
40160138009	MW-5	Water	11/02/17 10:50	11/03/17 14:35
40160138010	MW-5 DUP	Water	11/02/17 10:53	11/03/17 14:35
40160138011	PZ-1	Water	11/02/17 11:40	11/03/17 14:35
40160138012	TRIP BLANK	Water	11/02/17 00:00	11/03/17 14:35

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SAMPLE ANALYTE COUNT

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40160138001	PZ-2	EPA 8015B Modified	ALD	3	PASI-G
		SM 3500-Fe B	AJM	1	PASI-M
		EPA 6020A	RJS	1	PASI-M
		EPA 8260	HNW	65	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Fe B	DCL	1	PASI-M
		EPA 353.2	DAW	1	PASI-G
		SM 5310C	TJJ	1	PASI-G
40160138002	MW-1	EPA 8015B Modified	ALD	3	PASI-G
		SM 3500-Fe B	AJM	1	PASI-M
		EPA 6020A	RJS	1	PASI-M
		EPA 8260	HNW	65	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Fe B	DCL	1	PASI-M
		EPA 353.2	DAW	1	PASI-G
		SM 5310C	TJJ	1	PASI-G
40160138003	MW-2	EPA 8015B Modified	ALD	3	PASI-G
		SM 3500-Fe B	AJM	1	PASI-M
		EPA 6020A	RJS	1	PASI-M
		EPA 8260	HNW	65	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Fe B	DCL	1	PASI-M
		EPA 353.2	DAW	1	PASI-G
		SM 5310C	TJJ	1	PASI-G
40160138004	MW-3	EPA 8260	HNW	65	PASI-G
40160138005	PZ-4	EPA 8260	HNW	65	PASI-G
40160138006	PZ-3	EPA 8260	HNW	65	PASI-G
40160138007	MW-4	EPA 8260	HNW	65	PASI-G
40160138008	MW-4 DUP	EPA 8260	HNW	65	PASI-G
40160138009	MW-5	EPA 8260	HNW	65	PASI-G
40160138010	MW-5 DUP	EPA 8260	HNW	65	PASI-G
40160138011	PZ-1	EPA 8015B Modified	ALD	3	PASI-G
		SM 3500-Fe B	AJM	1	PASI-M
		EPA 6020A	RJS	1	PASI-M
		EPA 8260	HNW	65	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Fe B	DCL	1	PASI-M

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SAMPLE ANALYTE COUNT

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 353.2	DAW	1	PASI-G
		SM 5310C	TJJ	1	PASI-G
40160138012	TRIP BLANK	EPA 8260	HNW	65	PASI-G

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SUMMARY OF DETECTION

Project: 1690005819 FORMER 1-HOUR VALET
 Pace Project No.: 40160138

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40160138001	PZ-2					
EPA 8015B Modified	Methane	23.1	ug/L	2.8	11/08/17 07:52	
SM 3500-Fe B	Iron, Ferric	5.7	mg/L	0.050	11/20/17 15:02	N2
EPA 6020A	Iron	8820	ug/L	19.0	11/15/17 02:46	
EPA 8260	cis-1,2-Dichloroethene	4.1	ug/L	1.0	11/07/17 08:53	
EPA 8260	Vinyl chloride	11.0	ug/L	1.0	11/07/17 08:53	
EPA 300.0	Sulfate	178	mg/L	15.0	11/15/17 00:16	
SM 3500-Fe B	Iron, Ferrous	3.1	mg/L	0.40	11/17/17 13:29	H6
40160138002	MW-1					
EPA 6020A	Iron	12.6J	ug/L	19.0	11/15/17 02:32	
40160138003	MW-2					
SM 3500-Fe B	Iron, Ferric	0.54	mg/L	0.050	11/20/17 15:02	N2
EPA 6020A	Iron	1770	ug/L	19.0	11/15/17 02:37	
EPA 300.0	Sulfate	93.5	mg/L	30.0	11/14/17 13:23	
SM 3500-Fe B	Iron, Ferrous	1.2	mg/L	0.20	11/17/17 13:55	H6
40160138005	PZ-4					
EPA 8260	Vinyl chloride	1.3	ug/L	1.0	11/06/17 16:48	
40160138006	PZ-3					
EPA 8260	cis-1,2-Dichloroethene	2060	ug/L	50.0	11/06/17 14:58	
EPA 8260	trans-1,2-Dichloroethene	22.4J	ug/L	50.0	11/06/17 14:58	
EPA 8260	Trichloroethene	144	ug/L	50.0	11/06/17 14:58	
40160138007	MW-4					
EPA 8260	Tetrachloroethene	7.8	ug/L	1.0	11/06/17 17:09	
40160138008	MW-4 DUP					
EPA 8260	Tetrachloroethene	7.9	ug/L	1.0	11/06/17 13:25	
40160138009	MW-5					
EPA 8260	cis-1,2-Dichloroethene	73.6	ug/L	1.0	11/06/17 15:42	
EPA 8260	trans-1,2-Dichloroethene	1.5	ug/L	1.0	11/06/17 15:42	
EPA 8260	Tetrachloroethene	30.3	ug/L	1.0	11/06/17 15:42	
EPA 8260	Trichloroethene	3.2	ug/L	1.0	11/06/17 15:42	
EPA 8260	Vinyl chloride	0.45J	ug/L	1.0	11/06/17 15:42	
40160138010	MW-5 DUP					
EPA 8260	cis-1,2-Dichloroethene	80.2	ug/L	1.0	11/06/17 12:20	
EPA 8260	trans-1,2-Dichloroethene	1.4	ug/L	1.0	11/06/17 12:20	
EPA 8260	Tetrachloroethene	28.3	ug/L	1.0	11/06/17 12:20	
EPA 8260	Trichloroethene	3.4	ug/L	1.0	11/06/17 12:20	
EPA 8260	Vinyl chloride	0.55J	ug/L	1.0	11/06/17 12:20	
40160138011	PZ-1					
SM 3500-Fe B	Iron, Ferric	2.2	mg/L	0.050	11/20/17 15:02	N2
EPA 6020A	Iron	2290	ug/L	19.0	11/15/17 02:42	
EPA 8260	cis-1,2-Dichloroethene	414	ug/L	250	11/06/17 14:36	
EPA 8260	Tetrachloroethene	16200	ug/L	250	11/06/17 14:36	
EPA 8260	Trichloroethene	435	ug/L	250	11/06/17 14:36	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40160138011	PZ-1					
EPA 300.0	Sulfate	155	mg/L	30.0	11/14/17 13:33	
SM 3500-Fe B	Iron, Ferrous	0.060	mg/L	0.040	11/17/17 13:31	H6
EPA 353.2	Nitrogen, NO2 plus NO3	0.33	mg/L	0.25	11/10/17 10:15	
SM 5310C	Total Organic Carbon	0.50J	mg/L	0.84	11/09/17 11:44	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: PZ-2 **Lab ID: 40160138001** Collected: 11/01/17 13:20 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV		Analytical Method: EPA 8015B Modified							
Ethane	<0.58	ug/L	5.6	0.58	1		11/08/17 07:52	74-84-0	
Ethene	<0.52	ug/L	5.0	0.52	1		11/08/17 07:52	74-85-1	
Methane	23.1	ug/L	2.8	1.4	1		11/08/17 07:52	74-82-8	
Iron, Ferric (Calculation)		Analytical Method: SM 3500-Fe B							
Iron, Ferric	5.7	mg/L	0.050		1		11/20/17 15:02	7439-89-6	N2
6020A MET ICPMS		Analytical Method: EPA 6020A Preparation Method: EPA 3020							
Iron	8820	ug/L	19.0	5.7	1	11/13/17 18:26	11/15/17 02:46	7439-89-6	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/07/17 08:53	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/07/17 08:53	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/07/17 08:53	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/07/17 08:53	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/07/17 08:53	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/07/17 08:53	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/07/17 08:53	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/07/17 08:53	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/07/17 08:53	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/07/17 08:53	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/07/17 08:53	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/07/17 08:53	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/07/17 08:53	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/07/17 08:53	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/07/17 08:53	75-35-4	
cis-1,2-Dichloroethene	4.1	ug/L	1.0	0.26	1		11/07/17 08:53	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/07/17 08:53	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/07/17 08:53	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/07/17 08:53	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/07/17 08:53	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/07/17 08:53	10061-02-6	L2

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: PZ-2 **Lab ID: 40160138001** Collected: 11/01/17 13:20 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/07/17 08:53	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/07/17 08:53	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/07/17 08:53	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/07/17 08:53	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/07/17 08:53	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/07/17 08:53	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/07/17 08:53	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/07/17 08:53	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/07/17 08:53	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/07/17 08:53	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/07/17 08:53	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/07/17 08:53	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	108-67-8	
Vinyl chloride	11.0	ug/L	1.0	0.18	1		11/07/17 08:53	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/07/17 08:53	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/07/17 08:53	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/07/17 08:53	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	61-130		1		11/07/17 08:53	460-00-4	
Dibromofluoromethane (S)	92	%	67-130		1		11/07/17 08:53	1868-53-7	
Toluene-d8 (S)	91	%	70-130		1		11/07/17 08:53	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	178	mg/L	15.0	5.0	5		11/15/17 00:16	14808-79-8	
3500FE B Iron, Ferrous Analytical Method: SM 3500-Fe B									
Iron, Ferrous	3.1	mg/L	0.40	0.17	10		11/17/17 13:29		H6
353.2 Nitrogen, NO2/NO3 pres. Analytical Method: EPA 353.2									
Nitrogen, NO2 plus NO3	<0.095	mg/L	0.25	0.095	1		11/10/17 10:08		
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	<0.25	mg/L	0.84	0.25	1		11/08/17 17:50	7440-44-0	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: MW-1 Lab ID: 40160138002 Collected: 11/01/17 14:35 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV		Analytical Method: EPA 8015B Modified							
Ethane	<0.58	ug/L	5.6	0.58	1		11/08/17 07:59	74-84-0	
Ethene	<0.52	ug/L	5.0	0.52	1		11/08/17 07:59	74-85-1	
Methane	<1.4	ug/L	2.8	1.4	1		11/08/17 07:59	74-82-8	
Iron, Ferric (Calculation)		Analytical Method: SM 3500-Fe B							
Iron, Ferric	0.0J	mg/L	0.050		1		11/20/17 15:02	7439-89-6	N2
6020A MET ICPMS		Analytical Method: EPA 6020A Preparation Method: EPA 3020							
Iron	12.6J	ug/L	19.0	5.7	1	11/13/17 18:26	11/15/17 02:32	7439-89-6	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/06/17 11:14	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/06/17 11:14	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	75-25-2	M1
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/06/17 11:14	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 11:14	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/06/17 11:14	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/06/17 11:14	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/06/17 11:14	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/06/17 11:14	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/06/17 11:14	96-12-8	M1
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/06/17 11:14	106-93-4	M1
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/06/17 11:14	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/06/17 11:14	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/06/17 11:14	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/06/17 11:14	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/06/17 11:14	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 11:14	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 11:14	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/06/17 11:14	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/06/17 11:14	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/06/17 11:14	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/06/17 11:14	10061-02-6	L2,M0

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: MW-1 Lab ID: 40160138002 Collected: 11/01/17 14:35 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/06/17 11:14	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/06/17 11:14	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/06/17 11:14	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/06/17 11:14	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/06/17 11:14	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/06/17 11:14	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/06/17 11:14	79-34-5	M1
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/06/17 11:14	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 11:14	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/06/17 11:14	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/06/17 11:14	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/06/17 11:14	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		11/06/17 11:14	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/06/17 11:14	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/06/17 11:14	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/06/17 11:14	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	61-130		1		11/06/17 11:14	460-00-4	
Dibromofluoromethane (S)	94	%	67-130		1		11/06/17 11:14	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		11/06/17 11:14	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	<100	mg/L	300	100	100		11/15/17 15:21	14808-79-8	D3
3500FE B Iron, Ferrous Analytical Method: SM 3500-Fe B									
Iron, Ferrous	<0.017	mg/L	0.040	0.017	1		11/17/17 13:30		H6
353.2 Nitrogen, NO2/NO3 pres. Analytical Method: EPA 353.2									
Nitrogen, NO2 plus NO3	<0.095	mg/L	0.25	0.095	1		11/10/17 10:13		
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	<0.25	mg/L	0.84	0.25	1		11/09/17 11:23	7440-44-0	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: MW-2 **Lab ID: 40160138003** Collected: 11/01/17 15:45 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV		Analytical Method: EPA 8015B Modified							
Ethane	<0.58	ug/L	5.6	0.58	1		11/08/17 08:07	74-84-0	
Ethene	<0.52	ug/L	5.0	0.52	1		11/08/17 08:07	74-85-1	
Methane	<1.4	ug/L	2.8	1.4	1		11/08/17 08:07	74-82-8	
Iron, Ferric (Calculation)		Analytical Method: SM 3500-Fe B							
Iron, Ferric	0.54	mg/L	0.050		1		11/20/17 15:02	7439-89-6	N2
6020A MET ICPMS		Analytical Method: EPA 6020A Preparation Method: EPA 3020							
Iron	1770	ug/L	19.0	5.7	1	11/13/17 18:26	11/15/17 02:37	7439-89-6	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/06/17 16:04	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/06/17 16:04	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/06/17 16:04	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 16:04	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/06/17 16:04	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/06/17 16:04	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/06/17 16:04	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/06/17 16:04	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/06/17 16:04	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/06/17 16:04	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/06/17 16:04	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/06/17 16:04	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/06/17 16:04	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/06/17 16:04	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/06/17 16:04	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 16:04	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 16:04	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/06/17 16:04	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/06/17 16:04	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/06/17 16:04	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/06/17 16:04	10061-02-6	L2

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: MW-2 **Lab ID: 40160138003** Collected: 11/01/17 15:45 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/06/17 16:04	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/06/17 16:04	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/06/17 16:04	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/06/17 16:04	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/06/17 16:04	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/06/17 16:04	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/06/17 16:04	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/06/17 16:04	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 16:04	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/06/17 16:04	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/06/17 16:04	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/06/17 16:04	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		11/06/17 16:04	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/06/17 16:04	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/06/17 16:04	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:04	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	89	%	61-130		1		11/06/17 16:04	460-00-4	
Dibromofluoromethane (S)	97	%	67-130		1		11/06/17 16:04	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		11/06/17 16:04	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	93.5	mg/L	30.0	10.0	10		11/14/17 13:23	14808-79-8	
3500FE B Iron, Ferrous Analytical Method: SM 3500-Fe B									
Iron, Ferrous	1.2	mg/L	0.20	0.086	5		11/17/17 13:55		H6
353.2 Nitrogen, NO2/NO3 pres. Analytical Method: EPA 353.2									
Nitrogen, NO2 plus NO3	<0.095	mg/L	0.25	0.095	1		11/10/17 10:14		
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	<0.25	mg/L	0.84	0.25	1		11/08/17 18:32	7440-44-0	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Sample Project No.: 40160138

Sample: MW-3 **Lab ID: 40160138004** Collected: 11/01/17 16:46 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/06/17 16:26	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/06/17 16:26	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/06/17 16:26	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 16:26	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/06/17 16:26	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/06/17 16:26	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/06/17 16:26	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/06/17 16:26	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/06/17 16:26	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/06/17 16:26	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/06/17 16:26	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/06/17 16:26	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/06/17 16:26	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/06/17 16:26	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/06/17 16:26	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 16:26	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 16:26	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/06/17 16:26	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/06/17 16:26	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/06/17 16:26	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/06/17 16:26	10061-02-6	L2
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/06/17 16:26	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/06/17 16:26	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/06/17 16:26	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/06/17 16:26	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/06/17 16:26	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/06/17 16:26	630-20-6	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: MW-3 **Lab ID: 40160138004** Collected: 11/01/17 16:46 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/06/17 16:26	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/06/17 16:26	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 16:26	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/06/17 16:26	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/06/17 16:26	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/06/17 16:26	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		11/06/17 16:26	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/06/17 16:26	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/06/17 16:26	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:26	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	85	%	61-130		1		11/06/17 16:26	460-00-4	
Dibromofluoromethane (S)	84	%	67-130		1		11/06/17 16:26	1868-53-7	
Toluene-d8 (S)	106	%	70-130		1		11/06/17 16:26	2037-26-5	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Sample Project No.: 40160138

Sample: PZ-4 Lab ID: 40160138005 Collected: 11/02/17 08:00 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/06/17 16:48	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/06/17 16:48	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/06/17 16:48	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 16:48	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/06/17 16:48	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/06/17 16:48	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/06/17 16:48	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/06/17 16:48	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/06/17 16:48	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/06/17 16:48	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/06/17 16:48	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/06/17 16:48	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/06/17 16:48	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/06/17 16:48	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/06/17 16:48	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 16:48	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 16:48	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/06/17 16:48	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/06/17 16:48	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/06/17 16:48	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/06/17 16:48	10061-02-6	L2
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/06/17 16:48	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/06/17 16:48	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/06/17 16:48	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/06/17 16:48	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/06/17 16:48	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/06/17 16:48	630-20-6	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET
Pace Project No.: 40160138

Sample: PZ-4 **Lab ID: 40160138005** Collected: 11/02/17 08:00 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/06/17 16:48	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/06/17 16:48	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 16:48	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/06/17 16:48	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/06/17 16:48	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/06/17 16:48	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	108-67-8	
Vinyl chloride	1.3	ug/L	1.0	0.18	1		11/06/17 16:48	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/06/17 16:48	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/06/17 16:48	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/06/17 16:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	89	%	61-130		1		11/06/17 16:48	460-00-4	
Dibromofluoromethane (S)	87	%	67-130		1		11/06/17 16:48	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		11/06/17 16:48	2037-26-5	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: PZ-3 **Lab ID: 40160138006** Collected: 11/02/17 09:05 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	71-43-2	
Bromobenzene	<11.5	ug/L	50.0	11.5	50		11/06/17 14:58	108-86-1	
Bromochloromethane	<17.0	ug/L	50.0	17.0	50		11/06/17 14:58	74-97-5	
Bromodichloromethane	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	75-27-4	
Bromoform	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	75-25-2	
Bromomethane	<122	ug/L	250	122	50		11/06/17 14:58	74-83-9	
n-Butylbenzene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	104-51-8	
sec-Butylbenzene	<109	ug/L	250	109	50		11/06/17 14:58	135-98-8	
tert-Butylbenzene	<9.0	ug/L	50.0	9.0	50		11/06/17 14:58	98-06-6	
Carbon tetrachloride	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	56-23-5	
Chlorobenzene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	108-90-7	
Chloroethane	<18.7	ug/L	50.0	18.7	50		11/06/17 14:58	75-00-3	
Chloroform	<125	ug/L	250	125	50		11/06/17 14:58	67-66-3	
Chloromethane	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	74-87-3	
2-Chlorotoluene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	95-49-8	
4-Chlorotoluene	<10.7	ug/L	50.0	10.7	50		11/06/17 14:58	106-43-4	
1,2-Dibromo-3-chloropropane	<108	ug/L	250	108	50		11/06/17 14:58	96-12-8	
Dibromochloromethane	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	124-48-1	
1,2-Dibromoethane (EDB)	<8.9	ug/L	50.0	8.9	50		11/06/17 14:58	106-93-4	
Dibromomethane	<21.3	ug/L	50.0	21.3	50		11/06/17 14:58	74-95-3	
1,2-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	95-50-1	
1,3-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	541-73-1	
1,4-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	106-46-7	
Dichlorodifluoromethane	<11.2	ug/L	50.0	11.2	50		11/06/17 14:58	75-71-8	
1,1-Dichloroethane	<12.1	ug/L	50.0	12.1	50		11/06/17 14:58	75-34-3	
1,2-Dichloroethane	<8.4	ug/L	50.0	8.4	50		11/06/17 14:58	107-06-2	
1,1-Dichloroethene	<20.5	ug/L	50.0	20.5	50		11/06/17 14:58	75-35-4	
cis-1,2-Dichloroethene	2060	ug/L	50.0	12.8	50		11/06/17 14:58	156-59-2	
trans-1,2-Dichloroethene	22.4J	ug/L	50.0	12.8	50		11/06/17 14:58	156-60-5	
1,2-Dichloropropane	<11.7	ug/L	50.0	11.7	50		11/06/17 14:58	78-87-5	
1,3-Dichloropropane	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	142-28-9	
2,2-Dichloropropane	<24.2	ug/L	50.0	24.2	50		11/06/17 14:58	594-20-7	
1,1-Dichloropropene	<22.1	ug/L	50.0	22.1	50		11/06/17 14:58	563-58-6	
cis-1,3-Dichloropropene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	10061-01-5	
trans-1,3-Dichloropropene	<11.5	ug/L	50.0	11.5	50		11/06/17 14:58	10061-02-6	L2
Diisopropyl ether	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	108-20-3	
Ethylbenzene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	100-41-4	
Hexachloro-1,3-butadiene	<105	ug/L	250	105	50		11/06/17 14:58	87-68-3	
Isopropylbenzene (Cumene)	<7.2	ug/L	50.0	7.2	50		11/06/17 14:58	98-82-8	
p-Isopropyltoluene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	99-87-6	
Methylene Chloride	<11.6	ug/L	50.0	11.6	50		11/06/17 14:58	75-09-2	
Methyl-tert-butyl ether	<8.7	ug/L	50.0	8.7	50		11/06/17 14:58	1634-04-4	
Naphthalene	<125	ug/L	250	125	50		11/06/17 14:58	91-20-3	
n-Propylbenzene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	103-65-1	
Styrene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	100-42-5	
1,1,1,2-Tetrachloroethane	<9.0	ug/L	50.0	9.0	50		11/06/17 14:58	630-20-6	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: PZ-3 **Lab ID: 40160138006** Collected: 11/02/17 09:05 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<12.5	ug/L	50.0	12.5	50		11/06/17 14:58	79-34-5	
Tetrachloroethene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	127-18-4	
Toluene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	108-88-3	
1,2,3-Trichlorobenzene	<107	ug/L	250	107	50		11/06/17 14:58	87-61-6	
1,2,4-Trichlorobenzene	<110	ug/L	250	110	50		11/06/17 14:58	120-82-1	
1,1,1-Trichloroethane	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	71-55-6	
1,1,2-Trichloroethane	<9.9	ug/L	50.0	9.9	50		11/06/17 14:58	79-00-5	
Trichloroethene	144	ug/L	50.0	16.5	50		11/06/17 14:58	79-01-6	
Trichlorofluoromethane	<9.2	ug/L	50.0	9.2	50		11/06/17 14:58	75-69-4	
1,2,3-Trichloropropane	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	96-18-4	
1,2,4-Trimethylbenzene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	95-63-6	
1,3,5-Trimethylbenzene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	108-67-8	
Vinyl chloride	<8.8	ug/L	50.0	8.8	50		11/06/17 14:58	75-01-4	
Xylene (Total)	<75.0	ug/L	150	75.0	50		11/06/17 14:58	1330-20-7	
m&p-Xylene	<50.0	ug/L	100	50.0	50		11/06/17 14:58	179601-23-1	
o-Xylene	<25.0	ug/L	50.0	25.0	50		11/06/17 14:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	61-130		50		11/06/17 14:58	460-00-4	
Dibromofluoromethane (S)	95	%	67-130		50		11/06/17 14:58	1868-53-7	
Toluene-d8 (S)	95	%	70-130		50		11/06/17 14:58	2037-26-5	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: MW-4 **Lab ID: 40160138007** Collected: 11/02/17 09:50 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/06/17 17:09	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/06/17 17:09	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/06/17 17:09	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 17:09	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/06/17 17:09	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/06/17 17:09	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/06/17 17:09	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/06/17 17:09	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/06/17 17:09	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/06/17 17:09	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/06/17 17:09	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/06/17 17:09	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/06/17 17:09	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/06/17 17:09	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/06/17 17:09	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 17:09	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 17:09	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/06/17 17:09	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/06/17 17:09	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/06/17 17:09	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/06/17 17:09	10061-02-6	L2
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/06/17 17:09	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/06/17 17:09	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/06/17 17:09	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/06/17 17:09	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/06/17 17:09	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/06/17 17:09	630-20-6	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: MW-4 **Lab ID: 40160138007** Collected: 11/02/17 09:50 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/06/17 17:09	79-34-5	
Tetrachloroethene	7.8	ug/L	1.0	0.50	1		11/06/17 17:09	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/06/17 17:09	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 17:09	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/06/17 17:09	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/06/17 17:09	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/06/17 17:09	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		11/06/17 17:09	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/06/17 17:09	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/06/17 17:09	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/06/17 17:09	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	89	%	61-130		1		11/06/17 17:09	460-00-4	
Dibromofluoromethane (S)	93	%	67-130		1		11/06/17 17:09	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		11/06/17 17:09	2037-26-5	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: MW-4 DUP **Lab ID: 40160138008** Collected: 11/02/17 09:53 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/06/17 13:25	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/06/17 13:25	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/06/17 13:25	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 13:25	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/06/17 13:25	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/06/17 13:25	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/06/17 13:25	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/06/17 13:25	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/06/17 13:25	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/06/17 13:25	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/06/17 13:25	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/06/17 13:25	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/06/17 13:25	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/06/17 13:25	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/06/17 13:25	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 13:25	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 13:25	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/06/17 13:25	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/06/17 13:25	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/06/17 13:25	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/06/17 13:25	10061-02-6	L2
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/06/17 13:25	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/06/17 13:25	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/06/17 13:25	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/06/17 13:25	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/06/17 13:25	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/06/17 13:25	630-20-6	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: MW-4 DUP **Lab ID: 40160138008** Collected: 11/02/17 09:53 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/06/17 13:25	79-34-5	
Tetrachloroethene	7.9	ug/L	1.0	0.50	1		11/06/17 13:25	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/06/17 13:25	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 13:25	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/06/17 13:25	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/06/17 13:25	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/06/17 13:25	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		11/06/17 13:25	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/06/17 13:25	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/06/17 13:25	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/06/17 13:25	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	61-130		1		11/06/17 13:25	460-00-4	
Dibromofluoromethane (S)	95	%	67-130		1		11/06/17 13:25	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		11/06/17 13:25	2037-26-5	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Sample Project No.: 40160138

Sample: MW-5 **Lab ID: 40160138009** Collected: 11/02/17 10:50 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/06/17 15:42	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/06/17 15:42	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/06/17 15:42	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 15:42	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/06/17 15:42	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/06/17 15:42	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/06/17 15:42	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/06/17 15:42	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/06/17 15:42	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/06/17 15:42	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/06/17 15:42	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/06/17 15:42	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/06/17 15:42	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/06/17 15:42	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/06/17 15:42	75-35-4	
cis-1,2-Dichloroethene	73.6	ug/L	1.0	0.26	1		11/06/17 15:42	156-59-2	
trans-1,2-Dichloroethene	1.5	ug/L	1.0	0.26	1		11/06/17 15:42	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/06/17 15:42	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/06/17 15:42	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/06/17 15:42	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/06/17 15:42	10061-02-6	L2
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/06/17 15:42	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/06/17 15:42	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/06/17 15:42	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/06/17 15:42	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/06/17 15:42	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/06/17 15:42	630-20-6	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: MW-5 **Lab ID: 40160138009** Collected: 11/02/17 10:50 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/06/17 15:42	79-34-5	
Tetrachloroethene	30.3	ug/L	1.0	0.50	1		11/06/17 15:42	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/06/17 15:42	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 15:42	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/06/17 15:42	79-00-5	
Trichloroethene	3.2	ug/L	1.0	0.33	1		11/06/17 15:42	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/06/17 15:42	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	108-67-8	
Vinyl chloride	0.45J	ug/L	1.0	0.18	1		11/06/17 15:42	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/06/17 15:42	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/06/17 15:42	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/06/17 15:42	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	89	%	61-130		1		11/06/17 15:42	460-00-4	
Dibromofluoromethane (S)	90	%	67-130		1		11/06/17 15:42	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		11/06/17 15:42	2037-26-5	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: **MW-5 DUP** Lab ID: **40160138010** Collected: 11/02/17 10:53 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/06/17 12:20	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/06/17 12:20	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/06/17 12:20	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 12:20	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/06/17 12:20	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/06/17 12:20	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/06/17 12:20	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/06/17 12:20	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/06/17 12:20	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/06/17 12:20	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/06/17 12:20	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/06/17 12:20	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/06/17 12:20	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/06/17 12:20	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/06/17 12:20	75-35-4	
cis-1,2-Dichloroethene	80.2	ug/L	1.0	0.26	1		11/06/17 12:20	156-59-2	
trans-1,2-Dichloroethene	1.4	ug/L	1.0	0.26	1		11/06/17 12:20	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/06/17 12:20	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/06/17 12:20	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/06/17 12:20	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/06/17 12:20	10061-02-6	L2
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/06/17 12:20	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/06/17 12:20	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/06/17 12:20	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/06/17 12:20	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/06/17 12:20	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/06/17 12:20	630-20-6	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: MW-5 DUP **Lab ID: 40160138010** Collected: 11/02/17 10:53 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/06/17 12:20	79-34-5	
Tetrachloroethene	28.3	ug/L	1.0	0.50	1		11/06/17 12:20	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/06/17 12:20	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 12:20	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/06/17 12:20	79-00-5	
Trichloroethene	3.4	ug/L	1.0	0.33	1		11/06/17 12:20	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/06/17 12:20	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	108-67-8	
Vinyl chloride	0.55J	ug/L	1.0	0.18	1		11/06/17 12:20	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/06/17 12:20	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/06/17 12:20	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/06/17 12:20	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	61-130		1		11/06/17 12:20	460-00-4	
Dibromofluoromethane (S)	93	%	67-130		1		11/06/17 12:20	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		11/06/17 12:20	2037-26-5	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: PZ-1 **Lab ID: 40160138011** Collected: 11/02/17 11:40 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV		Analytical Method: EPA 8015B Modified							
Ethane	<0.58	ug/L	5.6	0.58	1		11/08/17 08:13	74-84-0	
Ethene	<0.52	ug/L	5.0	0.52	1		11/08/17 08:13	74-85-1	
Methane	<1.4	ug/L	2.8	1.4	1		11/08/17 08:13	74-82-8	
Iron, Ferric (Calculation)		Analytical Method: SM 3500-Fe B							
Iron, Ferric	2.2	mg/L	0.050		1		11/20/17 15:02	7439-89-6	N2
6020A MET ICPMS		Analytical Method: EPA 6020A Preparation Method: EPA 3020							
Iron	2290	ug/L	19.0	5.7	1	11/13/17 18:26	11/15/17 02:42	7439-89-6	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<125	ug/L	250	125	250		11/06/17 14:36	71-43-2	
Bromobenzene	<57.5	ug/L	250	57.5	250		11/06/17 14:36	108-86-1	
Bromochloromethane	<85.1	ug/L	250	85.1	250		11/06/17 14:36	74-97-5	
Bromodichloromethane	<125	ug/L	250	125	250		11/06/17 14:36	75-27-4	
Bromoform	<125	ug/L	250	125	250		11/06/17 14:36	75-25-2	
Bromomethane	<609	ug/L	1250	609	250		11/06/17 14:36	74-83-9	
n-Butylbenzene	<125	ug/L	250	125	250		11/06/17 14:36	104-51-8	
sec-Butylbenzene	<547	ug/L	1250	547	250		11/06/17 14:36	135-98-8	
tert-Butylbenzene	<45.1	ug/L	250	45.1	250		11/06/17 14:36	98-06-6	
Carbon tetrachloride	<125	ug/L	250	125	250		11/06/17 14:36	56-23-5	
Chlorobenzene	<125	ug/L	250	125	250		11/06/17 14:36	108-90-7	
Chloroethane	<93.6	ug/L	250	93.6	250		11/06/17 14:36	75-00-3	
Chloroform	<625	ug/L	1250	625	250		11/06/17 14:36	67-66-3	
Chloromethane	<125	ug/L	250	125	250		11/06/17 14:36	74-87-3	
2-Chlorotoluene	<125	ug/L	250	125	250		11/06/17 14:36	95-49-8	
4-Chlorotoluene	<53.4	ug/L	250	53.4	250		11/06/17 14:36	106-43-4	
1,2-Dibromo-3-chloropropane	<541	ug/L	1250	541	250		11/06/17 14:36	96-12-8	
Dibromochloromethane	<125	ug/L	250	125	250		11/06/17 14:36	124-48-1	
1,2-Dibromoethane (EDB)	<44.4	ug/L	250	44.4	250		11/06/17 14:36	106-93-4	
Dibromomethane	<107	ug/L	250	107	250		11/06/17 14:36	74-95-3	
1,2-Dichlorobenzene	<125	ug/L	250	125	250		11/06/17 14:36	95-50-1	
1,3-Dichlorobenzene	<125	ug/L	250	125	250		11/06/17 14:36	541-73-1	
1,4-Dichlorobenzene	<125	ug/L	250	125	250		11/06/17 14:36	106-46-7	
Dichlorodifluoromethane	<56.0	ug/L	250	56.0	250		11/06/17 14:36	75-71-8	
1,1-Dichloroethane	<60.4	ug/L	250	60.4	250		11/06/17 14:36	75-34-3	
1,2-Dichloroethane	<42.0	ug/L	250	42.0	250		11/06/17 14:36	107-06-2	
1,1-Dichloroethene	<103	ug/L	250	103	250		11/06/17 14:36	75-35-4	
cis-1,2-Dichloroethene	414	ug/L	250	64.0	250		11/06/17 14:36	156-59-2	
trans-1,2-Dichloroethene	<64.1	ug/L	250	64.1	250		11/06/17 14:36	156-60-5	
1,2-Dichloropropane	<58.3	ug/L	250	58.3	250		11/06/17 14:36	78-87-5	
1,3-Dichloropropane	<125	ug/L	250	125	250		11/06/17 14:36	142-28-9	
2,2-Dichloropropane	<121	ug/L	250	121	250		11/06/17 14:36	594-20-7	
1,1-Dichloropropene	<110	ug/L	250	110	250		11/06/17 14:36	563-58-6	
cis-1,3-Dichloropropene	<125	ug/L	250	125	250		11/06/17 14:36	10061-01-5	
trans-1,3-Dichloropropene	<57.4	ug/L	250	57.4	250		11/06/17 14:36	10061-02-6	L2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: PZ-1 **Lab ID: 40160138011** Collected: 11/02/17 11:40 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Diisopropyl ether	<125	ug/L	250	125	250		11/06/17 14:36	108-20-3	
Ethylbenzene	<125	ug/L	250	125	250		11/06/17 14:36	100-41-4	
Hexachloro-1,3-butadiene	<526	ug/L	1250	526	250		11/06/17 14:36	87-68-3	
Isopropylbenzene (Cumene)	<35.8	ug/L	250	35.8	250		11/06/17 14:36	98-82-8	
p-Isopropyltoluene	<125	ug/L	250	125	250		11/06/17 14:36	99-87-6	
Methylene Chloride	<58.1	ug/L	250	58.1	250		11/06/17 14:36	75-09-2	
Methyl-tert-butyl ether	<43.6	ug/L	250	43.6	250		11/06/17 14:36	1634-04-4	
Naphthalene	<625	ug/L	1250	625	250		11/06/17 14:36	91-20-3	
n-Propylbenzene	<125	ug/L	250	125	250		11/06/17 14:36	103-65-1	
Styrene	<125	ug/L	250	125	250		11/06/17 14:36	100-42-5	
1,1,1,2-Tetrachloroethane	<45.1	ug/L	250	45.1	250		11/06/17 14:36	630-20-6	
1,1,2,2-Tetrachloroethane	<62.3	ug/L	250	62.3	250		11/06/17 14:36	79-34-5	
Tetrachloroethene	16200	ug/L	250	125	250		11/06/17 14:36	127-18-4	
Toluene	<125	ug/L	250	125	250		11/06/17 14:36	108-88-3	
1,2,3-Trichlorobenzene	<533	ug/L	1250	533	250		11/06/17 14:36	87-61-6	
1,2,4-Trichlorobenzene	<552	ug/L	1250	552	250		11/06/17 14:36	120-82-1	
1,1,1-Trichloroethane	<125	ug/L	250	125	250		11/06/17 14:36	71-55-6	
1,1,2-Trichloroethane	<49.3	ug/L	250	49.3	250		11/06/17 14:36	79-00-5	
Trichloroethene	435	ug/L	250	82.7	250		11/06/17 14:36	79-01-6	
Trichlorofluoromethane	<46.2	ug/L	250	46.2	250		11/06/17 14:36	75-69-4	
1,2,3-Trichloropropane	<125	ug/L	250	125	250		11/06/17 14:36	96-18-4	
1,2,4-Trimethylbenzene	<125	ug/L	250	125	250		11/06/17 14:36	95-63-6	
1,3,5-Trimethylbenzene	<125	ug/L	250	125	250		11/06/17 14:36	108-67-8	
Vinyl chloride	<43.9	ug/L	250	43.9	250		11/06/17 14:36	75-01-4	
Xylene (Total)	<375	ug/L	750	375	250		11/06/17 14:36	1330-20-7	
m&p-Xylene	<250	ug/L	500	250	250		11/06/17 14:36	179601-23-1	
o-Xylene	<125	ug/L	250	125	250		11/06/17 14:36	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	61-130		250		11/06/17 14:36	460-00-4	
Dibromofluoromethane (S)	87	%	67-130		250		11/06/17 14:36	1868-53-7	
Toluene-d8 (S)	99	%	70-130		250		11/06/17 14:36	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	155	mg/L	30.0	10.0	10		11/14/17 13:33	14808-79-8	
3500FE B Iron, Ferrous Analytical Method: SM 3500-Fe B									
Iron, Ferrous	0.060	mg/L	0.040	0.017	1		11/17/17 13:31		H6
353.2 Nitrogen, NO2/NO3 pres. Analytical Method: EPA 353.2									
Nitrogen, NO2 plus NO3	0.33	mg/L	0.25	0.095	1		11/10/17 10:15		
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	0.50J	mg/L	0.84	0.25	1		11/09/17 11:44	7440-44-0	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: TRIP BLANK **Lab ID: 40160138012** Collected: 11/02/17 00:00 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/06/17 10:52	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/06/17 10:52	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/06/17 10:52	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 10:52	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/06/17 10:52	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/06/17 10:52	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/06/17 10:52	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/06/17 10:52	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/06/17 10:52	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/06/17 10:52	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/06/17 10:52	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/06/17 10:52	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/06/17 10:52	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/06/17 10:52	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/06/17 10:52	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 10:52	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/06/17 10:52	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/06/17 10:52	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/06/17 10:52	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/06/17 10:52	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/06/17 10:52	10061-02-6	L2
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/06/17 10:52	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/06/17 10:52	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/06/17 10:52	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/06/17 10:52	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/06/17 10:52	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/06/17 10:52	630-20-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Sample: TRIP BLANK **Lab ID: 40160138012** Collected: 11/02/17 00:00 Received: 11/03/17 14:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/06/17 10:52	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/06/17 10:52	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/06/17 10:52	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/06/17 10:52	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/06/17 10:52	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/06/17 10:52	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		11/06/17 10:52	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/06/17 10:52	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/06/17 10:52	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/06/17 10:52	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	87	%	61-130		1		11/06/17 10:52	460-00-4	
Dibromofluoromethane (S)	92	%	67-130		1		11/06/17 10:52	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		11/06/17 10:52	2037-26-5	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR VALET
Pace Project No.: 40160138

QC Batch: 273356 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 8015B Modified Analysis Description: Methane, Ethane, Ethene GCV
Associated Lab Samples: 40160138001, 40160138002, 40160138003, 40160138011

METHOD BLANK: 1608396 Matrix: Water
Associated Lab Samples: 40160138001, 40160138002, 40160138003, 40160138011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	<0.58	5.6	11/08/17 07:21	
Ethene	ug/L	<0.52	5.0	11/08/17 07:21	
Methane	ug/L	<1.4	2.8	11/08/17 07:21	

LABORATORY CONTROL SAMPLE & LCSD: 1608397

Parameter	Units	1608398									
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Ethane	ug/L	53.6	57.8	58.4	108	109	80-120	1	20		
Ethene	ug/L	50	53.5	54.0	107	108	80-119	1	20		
Methane	ug/L	28.6	31.2	31.4	109	110	80-120	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1608726

Parameter	Units	1608727										
		40160138002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Ethane	ug/L	<0.58	53.6	53.6	58.4	56.4	109	105	79-120	3	20	
Ethene	ug/L	<0.52	50	50	54.6	52.7	109	105	78-119	4	20	
Methane	ug/L	<1.4	28.6	28.6	32.5	31.3	114	110	10-200	4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR VALET
Pace Project No.: 40160138

QC Batch: 507314 Analysis Method: EPA 6020A
QC Batch Method: EPA 3020 Analysis Description: 6020A Water UPD4
Associated Lab Samples: 40160138001, 40160138002, 40160138003, 40160138011

METHOD BLANK: 2757509 Matrix: Water
Associated Lab Samples: 40160138001, 40160138002, 40160138003, 40160138011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	<5.7	19.0	11/15/17 02:28	

LABORATORY CONTROL SAMPLE: 2757510

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2000	1990	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757511 2757512

Parameter	Units	2757511		2757512		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40160138001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Iron	ug/L	8820	2000	2000	11100	11000	113	109	75-125	1	20

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

QC Batch: 273088 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40160138001, 40160138002, 40160138003, 40160138004, 40160138005, 40160138006, 40160138007, 40160138008, 40160138009, 40160138010, 40160138011, 40160138012

METHOD BLANK: 1607173 Matrix: Water
Associated Lab Samples: 40160138001, 40160138002, 40160138003, 40160138004, 40160138005, 40160138006, 40160138007, 40160138008, 40160138009, 40160138010, 40160138011, 40160138012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	11/06/17 08:07	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	11/06/17 08:07	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	11/06/17 08:07	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	11/06/17 08:07	
1,1-Dichloroethane	ug/L	<0.24	1.0	11/06/17 08:07	
1,1-Dichloroethene	ug/L	<0.41	1.0	11/06/17 08:07	
1,1-Dichloropropene	ug/L	<0.44	1.0	11/06/17 08:07	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	11/06/17 08:07	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	11/06/17 08:07	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	11/06/17 08:07	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	11/06/17 08:07	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	11/06/17 08:07	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	11/06/17 08:07	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	11/06/17 08:07	
1,2-Dichloroethane	ug/L	<0.17	1.0	11/06/17 08:07	
1,2-Dichloropropane	ug/L	<0.23	1.0	11/06/17 08:07	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	11/06/17 08:07	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	11/06/17 08:07	
1,3-Dichloropropane	ug/L	<0.50	1.0	11/06/17 08:07	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	11/06/17 08:07	
2,2-Dichloropropane	ug/L	<0.48	1.0	11/06/17 08:07	
2-Chlorotoluene	ug/L	<0.50	1.0	11/06/17 08:07	
4-Chlorotoluene	ug/L	<0.21	1.0	11/06/17 08:07	
Benzene	ug/L	<0.50	1.0	11/06/17 08:07	
Bromobenzene	ug/L	<0.23	1.0	11/06/17 08:07	
Bromochloromethane	ug/L	<0.34	1.0	11/06/17 08:07	
Bromodichloromethane	ug/L	<0.50	1.0	11/06/17 08:07	
Bromoform	ug/L	<0.50	1.0	11/06/17 08:07	
Bromomethane	ug/L	<2.4	5.0	11/06/17 08:07	
Carbon tetrachloride	ug/L	<0.50	1.0	11/06/17 08:07	
Chlorobenzene	ug/L	<0.50	1.0	11/06/17 08:07	
Chloroethane	ug/L	<0.37	1.0	11/06/17 08:07	
Chloroform	ug/L	<2.5	5.0	11/06/17 08:07	
Chloromethane	ug/L	<0.50	1.0	11/06/17 08:07	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	11/06/17 08:07	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	11/06/17 08:07	
Dibromochloromethane	ug/L	<0.50	1.0	11/06/17 08:07	
Dibromomethane	ug/L	<0.43	1.0	11/06/17 08:07	
Dichlorodifluoromethane	ug/L	<0.22	1.0	11/06/17 08:07	
Diisopropyl ether	ug/L	<0.50	1.0	11/06/17 08:07	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

METHOD BLANK: 1607173

Matrix: Water

Associated Lab Samples: 40160138001, 40160138002, 40160138003, 40160138004, 40160138005, 40160138006, 40160138007, 40160138008, 40160138009, 40160138010, 40160138011, 40160138012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/L	<0.50	1.0	11/06/17 08:07	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	11/06/17 08:07	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	11/06/17 08:07	
m&p-Xylene	ug/L	<1.0	2.0	11/06/17 08:07	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	11/06/17 08:07	
Methylene Chloride	ug/L	<0.23	1.0	11/06/17 08:07	
n-Butylbenzene	ug/L	<0.50	1.0	11/06/17 08:07	
n-Propylbenzene	ug/L	<0.50	1.0	11/06/17 08:07	
Naphthalene	ug/L	<2.5	5.0	11/06/17 08:07	
o-Xylene	ug/L	<0.50	1.0	11/06/17 08:07	
p-Isopropyltoluene	ug/L	<0.50	1.0	11/06/17 08:07	
sec-Butylbenzene	ug/L	<2.2	5.0	11/06/17 08:07	
Styrene	ug/L	<0.50	1.0	11/06/17 08:07	
tert-Butylbenzene	ug/L	<0.18	1.0	11/06/17 08:07	
Tetrachloroethene	ug/L	<0.50	1.0	11/06/17 08:07	
Toluene	ug/L	<0.50	1.0	11/06/17 08:07	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	11/06/17 08:07	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	11/06/17 08:07	
Trichloroethene	ug/L	<0.33	1.0	11/06/17 08:07	
Trichlorofluoromethane	ug/L	<0.18	1.0	11/06/17 08:07	
Vinyl chloride	ug/L	<0.18	1.0	11/06/17 08:07	
Xylene (Total)	ug/L	<1.5	3.0	11/06/17 08:07	
4-Bromofluorobenzene (S)	%	94	61-130	11/06/17 08:07	
Dibromofluoromethane (S)	%	97	67-130	11/06/17 08:07	
Toluene-d8 (S)	%	94	70-130	11/06/17 08:07	

LABORATORY CONTROL SAMPLE: 1607174

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	49.6	49.7	100	70-130	
1,1,2,2-Tetrachloroethane	ug/L	49.6	35.2	71	70-130	
1,1,2-Trichloroethane	ug/L	49.6	37.4	75	70-130	
1,1-Dichloroethane	ug/L	49.6	54.5	110	71-132	
1,1-Dichloroethene	ug/L	49.6	53.0	107	75-130	
1,2,4-Trichlorobenzene	ug/L	49.6	42.2	85	70-130	
1,2-Dibromo-3-chloropropane	ug/L	49.6	36.5	74	63-123	
1,2-Dibromoethane (EDB)	ug/L	49.6	36.4	73	70-130	
1,2-Dichlorobenzene	ug/L	49.6	44.3	89	70-130	
1,2-Dichloroethane	ug/L	49.6	45.0	91	70-131	
1,2-Dichloropropane	ug/L	49.6	45.3	91	80-120	
1,3-Dichlorobenzene	ug/L	49.6	44.5	90	70-130	
1,4-Dichlorobenzene	ug/L	49.6	43.0	87	70-130	
Benzene	ug/L	49.6	47.7	96	73-145	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

LABORATORY CONTROL SAMPLE: 1607174

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	49.6	45.8	92	70-130	
Bromoform	ug/L	49.6	34.8	70	67-130	
Bromomethane	ug/L	50	30.6	61	26-128	
Carbon tetrachloride	ug/L	49.6	44.0	89	70-133	
Chlorobenzene	ug/L	49.6	44.2	89	70-130	
Chloroethane	ug/L	50	48.8	98	58-120	
Chloroform	ug/L	49.6	47.4	96	80-121	
Chloromethane	ug/L	50	29.6	59	40-127	
cis-1,2-Dichloroethene	ug/L	49.6	45.4	92	70-130	
cis-1,3-Dichloropropene	ug/L	49.6	41.0	83	70-130	
Dibromochloromethane	ug/L	49.6	36.5	74	70-130	
Dichlorodifluoromethane	ug/L	50	40.9	82	20-135	
Ethylbenzene	ug/L	49.6	45.9	93	87-129	
Isopropylbenzene (Cumene)	ug/L	49.6	42.6	86	70-130	
m&p-Xylene	ug/L	99.2	82.3	83	70-130	
Methyl-tert-butyl ether	ug/L	49.6	47.1	95	66-143	
Methylene Chloride	ug/L	49.6	47.0	95	70-130	
o-Xylene	ug/L	49.6	44.5	90	70-130	
Styrene	ug/L	49.6	40.5	82	70-130	
Tetrachloroethene	ug/L	49.6	42.6	86	70-130	
Toluene	ug/L	49.6	43.1	87	82-130	
trans-1,2-Dichloroethene	ug/L	49.6	53.9	109	75-132	
trans-1,3-Dichloropropene	ug/L	49.6	33.9	68	70-130 L2	
Trichloroethene	ug/L	49.6	50.3	101	70-130	
Trichlorofluoromethane	ug/L	50	53.0	106	76-133	
Vinyl chloride	ug/L	50	49.9	100	57-136	
Xylene (Total)	ug/L	149	127	85	70-130	
4-Bromofluorobenzene (S)	%			103	61-130	
Dibromofluoromethane (S)	%			97	67-130	
Toluene-d8 (S)	%			92	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1607217 1607218

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40160138002 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1-Trichloroethane	ug/L	<0.50	49.6	49.6	45.1	48.7	91	98	70-134	8	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	49.6	49.6	31.6	34.7	64	70	70-130	9	20	M1
1,1,2-Trichloroethane	ug/L	<0.20	49.6	49.6	35.7	36.6	72	74	70-130	3	20	
1,1-Dichloroethane	ug/L	<0.24	49.6	49.6	52.5	55.8	106	113	71-133	6	20	
1,1-Dichloroethene	ug/L	<0.41	49.6	49.6	51.6	53.8	104	109	75-136	4	20	
1,2,4-Trichlorobenzene	ug/L	<2.2	49.6	49.6	40.3	42.1	81	85	70-130	4	20	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	49.6	49.6	28.8	31.9	58	64	63-123	10	20	M1
1,2-Dibromoethane (EDB)	ug/L	<0.18	49.6	49.6	33.2	35.6	67	72	70-130	7	20	M1
1,2-Dichlorobenzene	ug/L	<0.50	49.6	49.6	41.7	44.2	84	89	70-130	6	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1607217												1607218											
Parameter	Units	40160138002		MS	MSD	MS		MSD	% Rec		Max		Qual										
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD											
1,2-Dichloroethane	ug/L	<0.17	49.6	49.6	49.6	41.4	45.5	83	92	70-131	9	20											
1,2-Dichloropropane	ug/L	<0.23	49.6	49.6	49.6	39.8	45.6	80	92	80-120	13	20											
1,3-Dichlorobenzene	ug/L	<0.50	49.6	49.6	49.6	43.9	45.5	89	92	70-130	3	20											
1,4-Dichlorobenzene	ug/L	<0.50	49.6	49.6	49.6	42.0	43.7	85	88	70-130	4	20											
Benzene	ug/L	<0.50	49.6	49.6	49.6	44.7	48.3	90	97	73-145	8	20											
Bromodichloromethane	ug/L	<0.50	49.6	49.6	49.6	40.7	44.7	82	90	70-130	9	20											
Bromoform	ug/L	<0.50	49.6	49.6	49.6	32.3	33.6	65	68	67-130	4	20	M1										
Bromomethane	ug/L	<2.4	50	50	50	35.5	36.2	71	72	26-129	2	20											
Carbon tetrachloride	ug/L	<0.50	49.6	49.6	49.6	42.5	44.8	86	90	70-134	5	20											
Chlorobenzene	ug/L	<0.50	49.6	49.6	49.6	43.6	45.2	88	91	70-130	4	20											
Chloroethane	ug/L	<0.37	50	50	50	57.2	52.0	114	104	58-120	10	20											
Chloroform	ug/L	<2.5	49.6	49.6	49.6	44.2	48.5	89	98	80-121	9	20											
Chloromethane	ug/L	<0.50	50	50	50	30.7	30.3	61	61	40-128	1	20											
cis-1,2-Dichloroethene	ug/L	<0.26	49.6	49.6	49.6	41.3	46.7	83	94	70-130	12	20											
cis-1,3-Dichloropropene	ug/L	<0.50	49.6	49.6	49.6	36.3	40.5	73	82	70-130	11	20											
Dibromochloromethane	ug/L	<0.50	49.6	49.6	49.6	34.7	35.1	70	71	70-130	1	20											
Dichlorodifluoromethane	ug/L	<0.22	50	50	50	32.9	34.8	66	70	20-146	6	20											
Ethylbenzene	ug/L	<0.50	49.6	49.6	49.6	45.9	46.4	93	94	87-129	1	20											
Isopropylbenzene (Cumene)	ug/L	<0.14	49.6	49.6	49.6	42.4	44.0	86	89	70-130	4	20											
m&p-Xylene	ug/L	<1.0	99.2	99.2	99.2	82.5	84.1	83	85	70-130	2	20											
Methyl-tert-butyl ether	ug/L	<0.17	49.6	49.6	49.6	43.3	47.0	87	95	66-143	8	20											
Methylene Chloride	ug/L	<0.23	49.6	49.6	49.6	45.7	49.0	92	99	70-130	7	20											
o-Xylene	ug/L	<0.50	49.6	49.6	49.6	45.0	46.5	91	94	70-130	3	20											
Styrene	ug/L	<0.50	49.6	49.6	49.6	40.3	41.3	81	83	70-130	2	20											
Tetrachloroethene	ug/L	<0.50	49.6	49.6	49.6	41.8	44.6	84	90	70-130	7	20											
Toluene	ug/L	<0.50	49.6	49.6	49.6	43.0	44.3	87	89	82-131	3	20											
trans-1,2-Dichloroethene	ug/L	<0.26	49.6	49.6	49.6	52.9	55.9	107	113	75-135	5	20											
trans-1,3-Dichloropropene	ug/L	<0.23	49.6	49.6	49.6	33.4	33.2	67	67	70-130	0	20	M0										
Trichloroethene	ug/L	<0.33	49.6	49.6	49.6	45.4	50.7	92	102	70-130	11	20											
Trichlorofluoromethane	ug/L	<0.18	50	50	50	56.4	55.6	113	111	76-150	1	20											
Vinyl chloride	ug/L	<0.18	50	50	50	53.1	51.2	106	102	56-143	3	20											
Xylene (Total)	ug/L	<1.5	149	149	149	128	131	86	88	70-130	2	20											
4-Bromofluorobenzene (S)	%							103	101	61-130													
Dibromofluoromethane (S)	%							99	98	67-130													
Toluene-d8 (S)	%							95	92	70-130													

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR VALET
Pace Project No.: 40160138

QC Batch: 273685 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40160138001, 40160138002

METHOD BLANK: 1610282 Matrix: Water
Associated Lab Samples: 40160138001, 40160138002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	<1.0	3.0	11/14/17 18:07	

LABORATORY CONTROL SAMPLE: 1610283

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	21.2	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1610284 1610285

Parameter	Units	40160380001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Sulfate	mg/L	40.5J	400	400	460	456	105	104	90-110	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1610286 1610287

Parameter	Units	40160138002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Sulfate	mg/L	<100	2000	2000	2150	2170	103	104	90-110	1	15	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

QC Batch: 273812 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40160138003, 40160138011

METHOD BLANK: 1611033 Matrix: Water

Associated Lab Samples: 40160138003, 40160138011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	<1.0	3.0	11/14/17 11:06	

LABORATORY CONTROL SAMPLE: 1611034

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	20.7	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1611035 1611036

Parameter	Units	40160534003 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Sulfate	mg/L	96.2	400	400	520	519	106	106	90-110	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1611037 1611038

Parameter	Units	40160318001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Sulfate	mg/L	88.4	400	400	503	508	104	105	90-110	1	15	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR VALET
Pace Project No.: 40160138

QC Batch: 509196 Analysis Method: SM 3500-Fe B
QC Batch Method: SM 3500-Fe B Analysis Description: 3500FE B Iron, Ferrous
Associated Lab Samples: 40160138001, 40160138002, 40160138003, 40160138011

METHOD BLANK: 2767971 Matrix: Water
Associated Lab Samples: 40160138001, 40160138002, 40160138003, 40160138011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.017	0.040	11/17/17 13:21	H6

LABORATORY CONTROL SAMPLE: 2767972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.5	0.50	101	90-110	H6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2767973 2767974

Parameter	Units	40160138001		40160138002		40160138003		40160138011		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Iron, Ferrous	mg/L	3.1	5	5	5	8.3	8.2	104	101	80-120	2	20	H6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2767975 2767976

Parameter	Units	40160138002		40160138003		40160138011		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Iron, Ferrous	mg/L	<0.017	.5	.5	.5	0.50	0.49	98	95	80-120	2	20	H6

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

QC Batch: 273669	Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2	Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 40160138001	

METHOD BLANK: 1610025 Matrix: Water
Associated Lab Samples: 40160138001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.095	0.25	11/10/17 09:33	

LABORATORY CONTROL SAMPLE: 1610026

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.5	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1610027 1610028

Parameter	Units	40160104009 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Nitrogen, NO2 plus NO3	mg/L	8.0	5	5	12.7	12.6	95	92	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1610029 1610030

Parameter	Units	40160138001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Nitrogen, NO2 plus NO3	mg/L	<0.095	2.5	2.5	2.4	2.4	96	96	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR VALET
Pace Project No.: 40160138

QC Batch: 273670 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 40160138002, 40160138003, 40160138011

METHOD BLANK: 1610060 Matrix: Water
Associated Lab Samples: 40160138002, 40160138003, 40160138011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.095	0.25	11/10/17 10:11	

LABORATORY CONTROL SAMPLE: 1610061

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.5	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1610062 1610063

Parameter	Units	40160348003		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Nitrogen, NO2 plus NO3	mg/L	0.43	2.5	2.5	2.9	2.9	97	98	90-110	0	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1610064 1610065

Parameter	Units	40160369002		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Nitrogen, NO2 plus NO3	mg/L	<1250 ug/L	12.5	12.5	12.3	12.4	98	98	90-110	0	20		

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

QC Batch: 273395 Analysis Method: SM 5310C
 QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
 Associated Lab Samples: 40160138001, 40160138002, 40160138003, 40160138011

METHOD BLANK: 1608542 Matrix: Water
 Associated Lab Samples: 40160138001, 40160138002, 40160138003, 40160138011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.25	0.84	11/08/17 13:19	

LABORATORY CONTROL SAMPLE: 1608543

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1608544 1608545

Parameter	Units	40160023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	2890 ug/L	1	1	4.0	4.1	109	120	80-120	3	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1608546 1608547

Parameter	Units	40160095001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	<840 ug/L	1	1	1.1	1.1	51	51	80-120	0	10	M0

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QUALIFIERS

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

PASI-M Pace Analytical Services - Minneapolis

WORKORDER QUALIFIERS

WO: 40160138

[1] Revised - PM - Revised report to fix Sample ID errors on -009 & -010 to match COC. Login error. SVM 11/21/17

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

N2 The lab does not hold NELAC/TNI accreditation for this parameter.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1690005819 FORMER 1-HOUR VALET

Pace Project No.: 40160138

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40160138001	PZ-2	EPA 8015B Modified	273356		
40160138002	MW-1	EPA 8015B Modified	273356		
40160138003	MW-2	EPA 8015B Modified	273356		
40160138011	PZ-1	EPA 8015B Modified	273356		
40160138001	PZ-2	SM 3500-Fe B	509757		
40160138002	MW-1	SM 3500-Fe B	509757		
40160138003	MW-2	SM 3500-Fe B	509757		
40160138011	PZ-1	SM 3500-Fe B	509757		
40160138001	PZ-2	EPA 3020	507314	EPA 6020A	508510
40160138002	MW-1	EPA 3020	507314	EPA 6020A	508510
40160138003	MW-2	EPA 3020	507314	EPA 6020A	508510
40160138011	PZ-1	EPA 3020	507314	EPA 6020A	508510
40160138001	PZ-2	EPA 8260	273088		
40160138002	MW-1	EPA 8260	273088		
40160138003	MW-2	EPA 8260	273088		
40160138004	MW-3	EPA 8260	273088		
40160138005	PZ-4	EPA 8260	273088		
40160138006	PZ-3	EPA 8260	273088		
40160138007	MW-4	EPA 8260	273088		
40160138008	MW-4 DUP	EPA 8260	273088		
40160138009	MW-5	EPA 8260	273088		
40160138010	MW-5 DUP	EPA 8260	273088		
40160138011	PZ-1	EPA 8260	273088		
40160138012	TRIP BLANK	EPA 8260	273088		
40160138001	PZ-2	EPA 300.0	273685		
40160138002	MW-1	EPA 300.0	273685		
40160138003	MW-2	EPA 300.0	273812		
40160138011	PZ-1	EPA 300.0	273812		
40160138001	PZ-2	SM 3500-Fe B	509196		
40160138002	MW-1	SM 3500-Fe B	509196		
40160138003	MW-2	SM 3500-Fe B	509196		
40160138011	PZ-1	SM 3500-Fe B	509196		
40160138001	PZ-2	EPA 353.2	273669		
40160138002	MW-1	EPA 353.2	273670		
40160138003	MW-2	EPA 353.2	273670		
40160138011	PZ-1	EPA 353.2	273670		
40160138001	PZ-2	SM 5310C	273395		
40160138002	MW-1	SM 5310C	273395		
40160138003	MW-2	SM 5310C	273395		
40160138011	PZ-1	SM 5310C	273395		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: **Ramboll**
 Branch/Location: **Brookfield**
 Project Contact: **Susan Petrosfke**
 Phone: **(262) 901-3501**
 Project Number: **1690005819**
 Project Name: **Former 1-Hour Valet**
 Project State: **WI**
 Sampled By (Print): **Jonathan Fuora**
 Sampled By (Sign): *[Signature]*
 PO #: **Regulatory**

Data Package Options
 (billable) EPA Level III
 EPA Level IV
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Bacteria DW = Drinking Water
 C = Chemical GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil MW = Waste Water
 SI = Sludge WP = Wipes

CLIENT FIELD ID
 D01 PZ-2
 D02 MW-1
 D03 MW-2
 D04 MW-3
 D05 PZ-4
 D06 PZ-3
 D07 MW-4
 D08 MW-4 DUP
 D09 MW-S
 D10 MW-S DUP
 D11 PZ-1
 D12 TRIP BLANK

DATE **TIME** **MATRIX**
 11/17 1320 GW
 11/17 1435
 11/17 1545
 11/17 1646
 11/21/17 0800
 0905
 0950
 0953
 1050
 1053
 1140



CHAIN OF CUSTODY

As=None B=HCL C=H2SO4
 H=Sodium Bisulfate Solution D=HNO3 E=DI Water
 I=Sodium Thiosulfate F=Methanol G=NaOH
 J=Other

FILTERED?
 (YES/NO)
PRESERVATION
 (CODE)*

V/N	Pick Letter	Analyses Requested
N	B	VOCs (8200)
N	B	Methane / Ethane / Ethene (8015)
N	C	Total Organic Carbon (SM 5310C)
N	A	Sulfate (300.0)
N	C	Nitrate + Nitrite (353.2)
N	D	Total Iron (6020)
Y	B	Ferrous Iron (SM 3500)
		Ferric Iron

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
<i>[Signature]</i>	11/3/17 11:00	<i>[Signature]</i>	11/3/17 11:00	<i>[Signature]</i>	11/3/17 1300	<i>[Signature]</i>	11/3/17 1300
<i>[Signature]</i>	11/3/17 1435	<i>[Signature]</i>	11/3/17 1435	<i>[Signature]</i>	11/3/17 1435	<i>[Signature]</i>	11/3/17 1435

① added per client call see 11/3/17

2-40ml WB
 3-40ml WB
 8-40ml WB: 11/15/17 by 3-250ml WB

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

Quote #: **40160138**

Receipt Temp = **101 °C**
 Sample Receipt pH **OK/ Adjusted**
 Cooler Custody Seal Present / Not Present **Intact / Not Intact**



Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project #: WO#: 40160138



Client Name: Ramboll

Courier: Fed Ex UPS Client Pace Other:

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used: NA Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature: Uncorr: /Corr: R01 Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

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

Person examining contents:
Date: 11/3/17
Initials: [Signature]

Comments:

Table with 15 rows of sample condition checks. Columns include description, checkboxes (Yes/No/N/A), and a comments column. Items include Chain of Custody, Short Hold Time Analysis, Containers Intact, and Trip Blank Present.

Client Notification/ Resolution:
Person Contacted: _____ Date/Time: _____
Comments/ Resolution: _____

Project Manager Review: [Signature] Date: 11/3/17

November 30, 2017

Jeanne Tarvin
Ramboll Environ
175 North Corporate Drive
Suite 160
Brookfield, WI 53045

RE: Project: 1690005819 FORMER 1-HOUR CLEAN
Pace Project No.: 40160676

Dear Jeanne Tarvin:

Enclosed are the analytical results for sample(s) received by the laboratory between November 10, 2017 and November 11, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on November 30, 2017 to delete additional compounds not requested by the client..

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Steven Mleczko
steve.mleczko@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Jim Hutchens, Ramboll Environ
Jim Kane, Ramboll Environ
Snejana Karakis, Environ
David L. Markelz, Ramboll Environ
Michelle Murphy, Environ

Susan Petrofske, Ramboll Environ
Scott Tarmann, Ramboll Environ
Abigail M. Wedig, Environ International Corp



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1690005819 FORMER 1-HOUR CLEAN
Pace Project No.: 40160676

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, 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 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
Mississippi Certification #: MN00064
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 NwTPH 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
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150

Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40160676001	MW-6	Water	11/09/17 12:40	11/11/17 10:00
40160676002	MW-6 DUP	Water	11/09/17 12:45	11/11/17 10:00
40160676003	MW-7	Water	11/09/17 15:35	11/11/17 10:00
40160676004	MW-9	Water	11/09/17 11:15	11/11/17 10:00
40160676005	TRIP BLANK	Water	11/09/17 00:00	11/10/17 11:45

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SAMPLE ANALYTE COUNT

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40160676001	MW-6	EPA 8015B Modified	ALD	3	PASI-G
		SM 3500-Fe B	RAM	1	PASI-M
		EPA 6020A	TT3	1	PASI-M
		EPA 8260	LAP	65	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Fe B	DCL	1	PASI-M
		EPA 353.2	DAW	1	PASI-G
		SM 5310C	TJJ	1	PASI-G
40160676002	MW-6 DUP	EPA 8260	HNW	65	PASI-G
40160676003	MW-7	EPA 8260	LAP	65	PASI-G
40160676004	MW-9	EPA 8260	LAP	65	PASI-G
40160676005	TRIP BLANK	EPA 8260	HNW	65	PASI-G

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SUMMARY OF DETECTION

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40160676001	MW-6					
SM 3500-Fe B	Iron, Ferric	8.3	mg/L	0.050	11/30/17 14:50	N2
EPA 6020A	Iron	13600	ug/L	190	11/30/17 10:56	M6
EPA 8260	cis-1,2-Dichloroethene	4.5	ug/L	1.0	11/17/17 14:43	
EPA 8260	Vinyl chloride	1.0	ug/L	1.0	11/17/17 14:43	
EPA 300.0	Sulfate	82.4	mg/L	15.0	11/28/17 05:26	
SM 3500-Fe B	Iron, Ferrous	5.2	mg/L	0.40	11/17/17 13:56	H6
40160676002	MW-6 DUP					
EPA 8260	cis-1,2-Dichloroethene	3.8	ug/L	1.0	11/15/17 11:13	
EPA 8260	Vinyl chloride	0.91J	ug/L	1.0	11/15/17 11:13	
40160676004	MW-9					
EPA 8260	Toluene	0.59J	ug/L	1.0	11/17/17 15:05	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Sample: MW-6 **Lab ID: 40160676001** Collected: 11/09/17 12:40 Received: 11/11/17 10:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV		Analytical Method: EPA 8015B Modified							
Ethane	<0.58	ug/L	5.6	0.58	1		11/16/17 09:54	74-84-0	
Ethene	<0.52	ug/L	5.0	0.52	1		11/16/17 09:54	74-85-1	
Methane	<1.4	ug/L	2.8	1.4	1		11/16/17 09:54	74-82-8	
Iron, Ferric (Calculation)		Analytical Method: SM 3500-Fe B							
Iron, Ferric	8.3	mg/L	0.050		1		11/30/17 14:50	7439-89-6	N2
6020A MET ICPMS		Analytical Method: EPA 6020A Preparation Method: EPA 3020							
Iron	13600	ug/L	190	57.0	10	11/16/17 18:41	11/30/17 10:56	7439-89-6	M6
8260 MSV		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/17/17 14:43	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/17/17 14:43	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/17/17 14:43	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/17/17 14:43	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/17/17 14:43	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/17/17 14:43	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/17/17 14:43	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/17/17 14:43	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/17/17 14:43	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/17/17 14:43	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/17/17 14:43	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/17/17 14:43	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/17/17 14:43	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/17/17 14:43	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/17/17 14:43	75-35-4	
cis-1,2-Dichloroethene	4.5	ug/L	1.0	0.26	1		11/17/17 14:43	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/17/17 14:43	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/17/17 14:43	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/17/17 14:43	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/17/17 14:43	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/17/17 14:43	10061-02-6	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Sample: MW-6 **Lab ID: 40160676001** Collected: 11/09/17 12:40 Received: 11/11/17 10:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/17/17 14:43	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/17/17 14:43	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/17/17 14:43	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/17/17 14:43	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/17/17 14:43	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/17/17 14:43	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/17/17 14:43	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/17/17 14:43	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/17/17 14:43	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/17/17 14:43	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/17/17 14:43	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/17/17 14:43	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	108-67-8	
Vinyl chloride	1.0	ug/L	1.0	0.18	1		11/17/17 14:43	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/17/17 14:43	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/17/17 14:43	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/17/17 14:43	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	84	%	61-130		1		11/17/17 14:43	460-00-4	
Dibromofluoromethane (S)	107	%	67-130		1		11/17/17 14:43	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		11/17/17 14:43	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	82.4	mg/L	15.0	5.0	5		11/28/17 05:26	14808-79-8	
3500FE B Iron, Ferrous Analytical Method: SM 3500-Fe B									
Iron, Ferrous	5.2	mg/L	0.40	0.17	10		11/17/17 13:56		H6
353.2 Nitrogen, NO2/NO3 pres. Analytical Method: EPA 353.2									
Nitrogen, NO2 plus NO3	<0.095	mg/L	0.25	0.095	1		11/21/17 13:37		
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	<0.25	mg/L	0.84	0.25	1		11/27/17 19:30	7440-44-0	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Sample: MW-6 DUP **Lab ID: 40160676002** Collected: 11/09/17 12:45 Received: 11/11/17 10:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/15/17 11:13	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/15/17 11:13	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/15/17 11:13	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/15/17 11:13	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/15/17 11:13	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/15/17 11:13	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/15/17 11:13	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/15/17 11:13	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/15/17 11:13	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/15/17 11:13	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/15/17 11:13	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/15/17 11:13	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/15/17 11:13	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/15/17 11:13	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/15/17 11:13	75-35-4	
cis-1,2-Dichloroethene	3.8	ug/L	1.0	0.26	1		11/15/17 11:13	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/15/17 11:13	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/15/17 11:13	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/15/17 11:13	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/15/17 11:13	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/15/17 11:13	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/15/17 11:13	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/15/17 11:13	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/15/17 11:13	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/15/17 11:13	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/15/17 11:13	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/15/17 11:13	630-20-6	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Sample: MW-6 DUP **Lab ID: 40160676002** Collected: 11/09/17 12:45 Received: 11/11/17 10:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/15/17 11:13	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/15/17 11:13	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/15/17 11:13	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/15/17 11:13	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/15/17 11:13	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/15/17 11:13	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	108-67-8	
Vinyl chloride	0.91J	ug/L	1.0	0.18	1		11/15/17 11:13	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/15/17 11:13	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/15/17 11:13	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/15/17 11:13	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	84	%	61-130		1		11/15/17 11:13	460-00-4	
Dibromofluoromethane (S)	92	%	67-130		1		11/15/17 11:13	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		11/15/17 11:13	2037-26-5	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Sample: MW-7 **Lab ID: 40160676003** Collected: 11/09/17 15:35 Received: 11/11/17 10:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/17/17 15:27	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/17/17 15:27	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/17/17 15:27	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/17/17 15:27	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/17/17 15:27	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/17/17 15:27	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/17/17 15:27	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/17/17 15:27	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/17/17 15:27	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/17/17 15:27	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/17/17 15:27	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/17/17 15:27	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/17/17 15:27	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/17/17 15:27	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/17/17 15:27	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/17/17 15:27	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/17/17 15:27	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/17/17 15:27	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/17/17 15:27	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/17/17 15:27	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/17/17 15:27	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/17/17 15:27	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/17/17 15:27	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/17/17 15:27	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/17/17 15:27	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/17/17 15:27	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/17/17 15:27	630-20-6	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Sample: MW-7 **Lab ID: 40160676003** Collected: 11/09/17 15:35 Received: 11/11/17 10:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/17/17 15:27	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/17/17 15:27	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/17/17 15:27	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/17/17 15:27	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/17/17 15:27	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/17/17 15:27	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		11/17/17 15:27	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/17/17 15:27	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/17/17 15:27	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:27	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	61-130		1		11/17/17 15:27	460-00-4	
Dibromofluoromethane (S)	104	%	67-130		1		11/17/17 15:27	1868-53-7	
Toluene-d8 (S)	103	%	70-130		1		11/17/17 15:27	2037-26-5	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Sample: MW-9 **Lab ID: 40160676004** Collected: 11/09/17 11:15 Received: 11/11/17 10:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/17/17 15:05	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/17/17 15:05	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/17/17 15:05	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/17/17 15:05	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/17/17 15:05	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/17/17 15:05	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/17/17 15:05	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/17/17 15:05	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/17/17 15:05	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/17/17 15:05	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/17/17 15:05	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/17/17 15:05	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/17/17 15:05	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/17/17 15:05	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/17/17 15:05	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/17/17 15:05	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/17/17 15:05	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/17/17 15:05	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/17/17 15:05	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/17/17 15:05	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/17/17 15:05	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/17/17 15:05	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/17/17 15:05	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/17/17 15:05	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/17/17 15:05	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/17/17 15:05	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/17/17 15:05	630-20-6	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Sample: MW-9 **Lab ID: 40160676004** Collected: 11/09/17 11:15 Received: 11/11/17 10:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/17/17 15:05	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	127-18-4	
Toluene	0.59J	ug/L	1.0	0.50	1		11/17/17 15:05	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/17/17 15:05	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/17/17 15:05	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/17/17 15:05	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/17/17 15:05	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/17/17 15:05	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		11/17/17 15:05	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/17/17 15:05	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/17/17 15:05	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/17/17 15:05	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	84	%	61-130		1		11/17/17 15:05	460-00-4	
Dibromofluoromethane (S)	110	%	67-130		1		11/17/17 15:05	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		11/17/17 15:05	2037-26-5	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Sample: TRIP BLANK **Lab ID: 40160676005** Collected: 11/09/17 00:00 Received: 11/10/17 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/21/17 00:25	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		11/21/17 00:25	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		11/21/17 00:25	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		11/21/17 00:25	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		11/21/17 00:25	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		11/21/17 00:25	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		11/21/17 00:25	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		11/21/17 00:25	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		11/21/17 00:25	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		11/21/17 00:25	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		11/21/17 00:25	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		11/21/17 00:25	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		11/21/17 00:25	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		11/21/17 00:25	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		11/21/17 00:25	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/21/17 00:25	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		11/21/17 00:25	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		11/21/17 00:25	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		11/21/17 00:25	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		11/21/17 00:25	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		11/21/17 00:25	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		11/21/17 00:25	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		11/21/17 00:25	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		11/21/17 00:25	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		11/21/17 00:25	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		11/21/17 00:25	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		11/21/17 00:25	630-20-6	

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Sample: TRIP BLANK **Lab ID: 40160676005** Collected: 11/09/17 00:00 Received: 11/10/17 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		11/21/17 00:25	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		11/21/17 00:25	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		11/21/17 00:25	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		11/21/17 00:25	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		11/21/17 00:25	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		11/21/17 00:25	75-69-4	L1
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		11/21/17 00:25	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		11/21/17 00:25	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		11/21/17 00:25	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		11/21/17 00:25	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	61-130		1		11/21/17 00:25	460-00-4	
Dibromofluoromethane (S)	109	%	67-130		1		11/21/17 00:25	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		11/21/17 00:25	2037-26-5	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN
Pace Project No.: 40160676

QC Batch: 274201 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 8015B Modified Analysis Description: Methane, Ethane, Ethene GCV
Associated Lab Samples: 40160676001

METHOD BLANK: 1613563 Matrix: Water
Associated Lab Samples: 40160676001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	<0.58	5.6	11/16/17 06:24	
Ethene	ug/L	<0.52	5.0	11/16/17 06:24	
Methane	ug/L	<1.4	2.8	11/16/17 06:24	

LABORATORY CONTROL SAMPLE & LCSD: 1613564

Parameter	Units	1613565					% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec				
Ethane	ug/L	53.6	58.5	58.6	109	109	80-120	0	20	
Ethene	ug/L	50	54.1	54.2	108	108	80-119	0	20	
Methane	ug/L	28.6	30.5	30.7	107	107	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1614682

Parameter	Units	1614683										
		40160607006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Ethane	ug/L	<0.58	53.6	53.6	56.6	56.6	106	106	79-120	0	20	
Ethene	ug/L	<0.52	50	50	52.8	52.9	106	106	78-119	0	20	
Methane	ug/L	<1.4	28.6	28.6	29.9	30.0	105	105	10-200	0	20	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

QC Batch: 508614	Analysis Method: EPA 6020A
QC Batch Method: EPA 3020	Analysis Description: 6020A Water UPD4
Associated Lab Samples: 40160676001	

METHOD BLANK: 2764414 Matrix: Water
Associated Lab Samples: 40160676001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	<5.7	19.0	11/30/17 10:28	

LABORATORY CONTROL SAMPLE: 2764415

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2000	2190	110	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2764416 2764417

Parameter	Units	2764416		2764417		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40160676001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Iron	ug/L	13600	2000	2000	16100	16400	127	140	75-125	2	20 M6

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN
Pace Project No.: 40160676

QC Batch: 273887 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40160676002

METHOD BLANK: 1612241 Matrix: Water
Associated Lab Samples: 40160676002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	11/15/17 07:13	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	11/15/17 07:13	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	11/15/17 07:13	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	11/15/17 07:13	
1,1-Dichloroethane	ug/L	<0.24	1.0	11/15/17 07:13	
1,1-Dichloroethene	ug/L	<0.41	1.0	11/15/17 07:13	
1,1-Dichloropropene	ug/L	<0.44	1.0	11/15/17 07:13	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	11/15/17 07:13	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	11/15/17 07:13	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	11/15/17 07:13	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	11/15/17 07:13	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	11/15/17 07:13	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	11/15/17 07:13	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	11/15/17 07:13	
1,2-Dichloroethane	ug/L	<0.17	1.0	11/15/17 07:13	
1,2-Dichloropropane	ug/L	<0.23	1.0	11/15/17 07:13	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	11/15/17 07:13	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	11/15/17 07:13	
1,3-Dichloropropane	ug/L	<0.50	1.0	11/15/17 07:13	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	11/15/17 07:13	
2,2-Dichloropropane	ug/L	<0.48	1.0	11/15/17 07:13	
2-Chlorotoluene	ug/L	<0.50	1.0	11/15/17 07:13	
4-Chlorotoluene	ug/L	<0.21	1.0	11/15/17 07:13	
Benzene	ug/L	<0.50	1.0	11/15/17 07:13	
Bromobenzene	ug/L	<0.23	1.0	11/15/17 07:13	
Bromochloromethane	ug/L	<0.34	1.0	11/15/17 07:13	
Bromodichloromethane	ug/L	<0.50	1.0	11/15/17 07:13	
Bromoform	ug/L	<0.50	1.0	11/15/17 07:13	
Bromomethane	ug/L	<2.4	5.0	11/15/17 07:13	
Carbon tetrachloride	ug/L	<0.50	1.0	11/15/17 07:13	
Chlorobenzene	ug/L	<0.50	1.0	11/15/17 07:13	
Chloroethane	ug/L	<0.37	1.0	11/15/17 07:13	
Chloroform	ug/L	<2.5	5.0	11/15/17 07:13	
Chloromethane	ug/L	<0.50	1.0	11/15/17 07:13	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	11/15/17 07:13	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	11/15/17 07:13	
Dibromochloromethane	ug/L	<0.50	1.0	11/15/17 07:13	
Dibromomethane	ug/L	<0.43	1.0	11/15/17 07:13	
Dichlorodifluoromethane	ug/L	<0.22	1.0	11/15/17 07:13	
Diisopropyl ether	ug/L	<0.50	1.0	11/15/17 07:13	
Ethylbenzene	ug/L	<0.50	1.0	11/15/17 07:13	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

METHOD BLANK: 1612241

Matrix: Water

Associated Lab Samples: 40160676002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	11/15/17 07:13	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	11/15/17 07:13	
m&p-Xylene	ug/L	<1.0	2.0	11/15/17 07:13	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	11/15/17 07:13	
Methylene Chloride	ug/L	<0.23	1.0	11/15/17 07:13	
n-Butylbenzene	ug/L	<0.50	1.0	11/15/17 07:13	
n-Propylbenzene	ug/L	<0.50	1.0	11/15/17 07:13	
Naphthalene	ug/L	<2.5	5.0	11/15/17 07:13	
o-Xylene	ug/L	<0.50	1.0	11/15/17 07:13	
p-Isopropyltoluene	ug/L	<0.50	1.0	11/15/17 07:13	
sec-Butylbenzene	ug/L	<2.2	5.0	11/15/17 07:13	
Styrene	ug/L	<0.50	1.0	11/15/17 07:13	
tert-Butylbenzene	ug/L	<0.18	1.0	11/15/17 07:13	
Tetrachloroethene	ug/L	<0.50	1.0	11/15/17 07:13	
Toluene	ug/L	<0.50	1.0	11/15/17 07:13	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	11/15/17 07:13	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	11/15/17 07:13	
Trichloroethene	ug/L	<0.33	1.0	11/15/17 07:13	
Trichlorofluoromethane	ug/L	<0.18	1.0	11/15/17 07:13	
Vinyl chloride	ug/L	<0.18	1.0	11/15/17 07:13	
Xylene (Total)	ug/L	<1.5	3.0	11/15/17 07:13	
4-Bromofluorobenzene (S)	%	90	61-130	11/15/17 07:13	
Dibromofluoromethane (S)	%	92	67-130	11/15/17 07:13	
Toluene-d8 (S)	%	99	70-130	11/15/17 07:13	

LABORATORY CONTROL SAMPLE: 1612242

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	49.6	45.6	92	70-130	
1,1,2,2-Tetrachloroethane	ug/L	49.6	49.1	99	70-130	
1,1,2-Trichloroethane	ug/L	49.6	50.2	101	70-130	
1,1-Dichloroethane	ug/L	49.6	53.1	107	71-132	
1,1-Dichloroethene	ug/L	49.6	52.7	106	75-130	
1,2,4-Trichlorobenzene	ug/L	49.6	55.3	111	70-130	
1,2-Dibromo-3-chloropropane	ug/L	49.6	44.5	90	63-123	
1,2-Dibromoethane (EDB)	ug/L	49.6	49.5	100	70-130	
1,2-Dichlorobenzene	ug/L	49.6	55.1	111	70-130	
1,2-Dichloroethane	ug/L	49.6	45.5	92	70-131	
1,2-Dichloropropane	ug/L	49.6	48.1	97	80-120	
1,3-Dichlorobenzene	ug/L	49.6	54.5	110	70-130	
1,4-Dichlorobenzene	ug/L	49.6	54.0	109	70-130	
Benzene	ug/L	49.6	46.3	93	73-145	
Bromodichloromethane	ug/L	49.6	49.5	100	70-130	
Bromoform	ug/L	49.6	42.7	86	67-130	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

LABORATORY CONTROL SAMPLE: 1612242

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromomethane	ug/L	50	22.9	46	26-128	
Carbon tetrachloride	ug/L	49.6	40.3	81	70-133	
Chlorobenzene	ug/L	49.6	53.0	107	70-130	
Chloroethane	ug/L	50	47.6	95	58-120	
Chloroform	ug/L	49.6	46.2	93	80-121	
Chloromethane	ug/L	50	21.5	43	40-127	
cis-1,2-Dichloroethene	ug/L	49.6	47.2	95	70-130	
cis-1,3-Dichloropropene	ug/L	49.6	42.5	86	70-130	
Dibromochloromethane	ug/L	49.6	44.6	90	70-130	
Dichlorodifluoromethane	ug/L	50	21.6	43	20-135	
Ethylbenzene	ug/L	49.6	53.5	108	87-129	
Isopropylbenzene (Cumene)	ug/L	49.6	50.0	101	70-130	
m&p-Xylene	ug/L	99.2	96.6	97	70-130	
Methyl-tert-butyl ether	ug/L	49.6	49.7	100	66-143	
Methylene Chloride	ug/L	49.6	50.4	102	70-130	
o-Xylene	ug/L	49.6	54.4	110	70-130	
Styrene	ug/L	49.6	48.8	98	70-130	
Tetrachloroethene	ug/L	49.6	51.8	104	70-130	
Toluene	ug/L	49.6	50.1	101	82-130	
trans-1,2-Dichloroethene	ug/L	49.6	53.7	108	75-132	
trans-1,3-Dichloropropene	ug/L	49.6	39.7	80	70-130	
Trichloroethene	ug/L	49.6	54.5	110	70-130	
Trichlorofluoromethane	ug/L	50	45.2	90	76-133	
Vinyl chloride	ug/L	50	43.9	88	57-136	
Xylene (Total)	ug/L	149	151	101	70-130	
4-Bromofluorobenzene (S)	%			95	61-130	
Dibromofluoromethane (S)	%			89	67-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1612243 1612244

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40160644007 Result	Spike Conc.	Spike Conc.	MS Result								
1,1,1-Trichloroethane	ug/L	<0.50	49.6	49.6	42.9	42.7	87	86	70-134	0	20		
1,1,2,2-Tetrachloroethane	ug/L	<0.25	49.6	49.6	43.6	43.7	88	88	70-130	0	20		
1,1,2-Trichloroethane	ug/L	<0.20	49.6	49.6	45.8	43.5	92	88	70-130	5	20		
1,1-Dichloroethane	ug/L	<0.24	49.6	49.6	45.6	45.4	92	91	71-133	1	20		
1,1-Dichloroethene	ug/L	<0.41	49.6	49.6	45.9	45.2	93	91	75-136	2	20		
1,2,4-Trichlorobenzene	ug/L	<2.2	49.6	49.6	57.9	56.3	117	114	70-130	3	20		
1,2-Dibromo-3-chloropropane	ug/L	<2.2	49.6	49.6	44.7	42.3	90	85	63-123	6	20		
1,2-Dibromoethane (EDB)	ug/L	<0.18	49.6	49.6	45.2	43.4	91	87	70-130	4	20		
1,2-Dichlorobenzene	ug/L	<0.50	49.6	49.6	50.6	48.8	102	98	70-130	4	20		
1,2-Dichloroethane	ug/L	<0.17	49.6	49.6	40.7	41.7	82	84	70-131	2	20		
1,2-Dichloropropane	ug/L	<0.23	49.6	49.6	40.2	40.6	81	82	80-120	1	20		

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1612243		1612244		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40160644007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,3-Dichlorobenzene	ug/L	<0.50	49.6	49.6	50.8	48.5	102	98	70-130	5	20		
1,4-Dichlorobenzene	ug/L	0.62J	49.6	49.6	49.2	47.2	98	94	70-130	4	20		
Benzene	ug/L	1.6	49.6	49.6	43.2	43.7	84	85	73-145	1	20		
Bromodichloromethane	ug/L	<0.50	49.6	49.6	42.7	42.5	86	86	70-130	1	20		
Bromoform	ug/L	<0.50	49.6	49.6	38.9	38.0	78	77	67-130	2	20		
Bromomethane	ug/L	<2.4	50	50	18.4	20.3	37	41	26-129	10	20		
Carbon tetrachloride	ug/L	<0.50	49.6	49.6	37.6	38.0	76	77	70-134	1	20		
Chlorobenzene	ug/L	<0.50	49.6	49.6	47.3	46.9	95	95	70-130	1	20		
Chloroethane	ug/L	<0.37	50	50	42.6	40.1	85	80	58-120	6	20		
Chloroform	ug/L	<2.5	49.6	49.6	41.7	43.2	84	87	80-121	4	20		
Chloromethane	ug/L	<0.50	50	50	17.2	17.3	34	35	40-128	1	20	M1	
cis-1,2-Dichloroethene	ug/L	<0.26	49.6	49.6	43.3	45.1	87	91	70-130	4	20		
cis-1,3-Dichloropropene	ug/L	<0.50	49.6	49.6	37.5	37.2	76	75	70-130	1	20		
Dibromochloromethane	ug/L	<0.50	49.6	49.6	40.1	39.1	81	79	70-130	2	20		
Dichlorodifluoromethane	ug/L	<0.22	50	50	18.8	19.2	38	38	20-146	2	20		
Ethylbenzene	ug/L	<0.50	49.6	49.6	49.1	48.3	98	97	87-129	2	20		
Isopropylbenzene (Cumene)	ug/L	1.8	49.6	49.6	50.8	49.1	99	96	70-130	3	20		
m&p-Xylene	ug/L	4.1	99.2	99.2	95.9	93.9	93	91	70-130	2	20		
Methyl-tert-butyl ether	ug/L	<0.17	49.6	49.6	43.5	44.8	88	90	66-143	3	20		
Methylene Chloride	ug/L	<0.23	49.6	49.6	42.8	43.2	86	87	70-130	1	20		
o-Xylene	ug/L	0.80J	49.6	49.6	50.1	47.7	99	95	70-130	5	20		
Styrene	ug/L	<0.50	49.6	49.6	44.3	42.8	89	86	70-130	3	20		
Tetrachloroethene	ug/L	<0.50	49.6	49.6	47.1	45.5	95	92	70-130	4	20		
Toluene	ug/L	<0.50	49.6	49.6	46.3	44.9	93	90	82-131	3	20		
trans-1,2-Dichloroethene	ug/L	<0.26	49.6	49.6	45.9	48.6	93	98	75-135	6	20		
trans-1,3-Dichloropropene	ug/L	<0.23	49.6	49.6	34.7	34.4	70	69	70-130	1	20	M1	
Trichloroethene	ug/L	<0.33	49.6	49.6	45.9	47.0	93	95	70-130	2	20		
Trichlorofluoromethane	ug/L	<0.18	50	50	36.7	37.4	73	75	76-150	2	20	M1	
Vinyl chloride	ug/L	<0.18	50	50	37.1	35.7	74	71	56-143	4	20		
Xylene (Total)	ug/L	4.9	149	149	146	142	95	92	70-130	3	20		
4-Bromofluorobenzene (S)	%						98	97	61-130				
Dibromofluoromethane (S)	%						92	93	67-130				
Toluene-d8 (S)	%						98	99	70-130				

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

QC Batch: 274446 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40160676001, 40160676003, 40160676004

METHOD BLANK: 1614835 Matrix: Water

Associated Lab Samples: 40160676001, 40160676003, 40160676004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	11/17/17 06:40	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	11/17/17 06:40	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	11/17/17 06:40	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	11/17/17 06:40	
1,1-Dichloroethane	ug/L	<0.24	1.0	11/17/17 06:40	
1,1-Dichloroethene	ug/L	<0.41	1.0	11/17/17 06:40	
1,1-Dichloropropene	ug/L	<0.44	1.0	11/17/17 06:40	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	11/17/17 06:40	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	11/17/17 06:40	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	11/17/17 06:40	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	11/17/17 06:40	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	11/17/17 06:40	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	11/17/17 06:40	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	11/17/17 06:40	
1,2-Dichloroethane	ug/L	<0.17	1.0	11/17/17 06:40	
1,2-Dichloropropane	ug/L	<0.23	1.0	11/17/17 06:40	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	11/17/17 06:40	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	11/17/17 06:40	
1,3-Dichloropropane	ug/L	<0.50	1.0	11/17/17 06:40	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	11/17/17 06:40	
2,2-Dichloropropane	ug/L	<0.48	1.0	11/17/17 06:40	
2-Chlorotoluene	ug/L	<0.50	1.0	11/17/17 06:40	
4-Chlorotoluene	ug/L	<0.21	1.0	11/17/17 06:40	
Benzene	ug/L	<0.50	1.0	11/17/17 06:40	
Bromobenzene	ug/L	<0.23	1.0	11/17/17 06:40	
Bromochloromethane	ug/L	<0.34	1.0	11/17/17 06:40	
Bromodichloromethane	ug/L	<0.50	1.0	11/17/17 06:40	
Bromoform	ug/L	<0.50	1.0	11/17/17 06:40	
Bromomethane	ug/L	<2.4	5.0	11/17/17 06:40	
Carbon tetrachloride	ug/L	<0.50	1.0	11/17/17 06:40	
Chlorobenzene	ug/L	<0.50	1.0	11/17/17 06:40	
Chloroethane	ug/L	<0.37	1.0	11/17/17 06:40	
Chloroform	ug/L	<2.5	5.0	11/17/17 06:40	
Chloromethane	ug/L	<0.50	1.0	11/17/17 06:40	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	11/17/17 06:40	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	11/17/17 06:40	
Dibromochloromethane	ug/L	<0.50	1.0	11/17/17 06:40	
Dibromomethane	ug/L	<0.43	1.0	11/17/17 06:40	
Dichlorodifluoromethane	ug/L	<0.22	1.0	11/17/17 06:40	
Diisopropyl ether	ug/L	<0.50	1.0	11/17/17 06:40	
Ethylbenzene	ug/L	<0.50	1.0	11/17/17 06:40	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

METHOD BLANK: 1614835

Matrix: Water

Associated Lab Samples: 40160676001, 40160676003, 40160676004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	11/17/17 06:40	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	11/17/17 06:40	
m&p-Xylene	ug/L	<1.0	2.0	11/17/17 06:40	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	11/17/17 06:40	
Methylene Chloride	ug/L	<0.23	1.0	11/17/17 06:40	
n-Butylbenzene	ug/L	<0.50	1.0	11/17/17 06:40	
n-Propylbenzene	ug/L	<0.50	1.0	11/17/17 06:40	
Naphthalene	ug/L	<2.5	5.0	11/17/17 06:40	
o-Xylene	ug/L	<0.50	1.0	11/17/17 06:40	
p-Isopropyltoluene	ug/L	<0.50	1.0	11/17/17 06:40	
sec-Butylbenzene	ug/L	<2.2	5.0	11/17/17 06:40	
Styrene	ug/L	<0.50	1.0	11/17/17 06:40	
tert-Butylbenzene	ug/L	<0.18	1.0	11/17/17 06:40	
Tetrachloroethene	ug/L	<0.50	1.0	11/17/17 06:40	
Toluene	ug/L	<0.50	1.0	11/17/17 06:40	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	11/17/17 06:40	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	11/17/17 06:40	
Trichloroethene	ug/L	<0.33	1.0	11/17/17 06:40	
Trichlorofluoromethane	ug/L	<0.18	1.0	11/17/17 06:40	
Vinyl chloride	ug/L	<0.18	1.0	11/17/17 06:40	
Xylene (Total)	ug/L	<1.5	3.0	11/17/17 06:40	
4-Bromofluorobenzene (S)	%	85	61-130	11/17/17 06:40	
Dibromofluoromethane (S)	%	107	67-130	11/17/17 06:40	
Toluene-d8 (S)	%	99	70-130	11/17/17 06:40	

LABORATORY CONTROL SAMPLE: 1614836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	49.6	56.8	114	70-130	
1,1,2,2-Tetrachloroethane	ug/L	49.6	53.1	107	70-130	
1,1,2-Trichloroethane	ug/L	49.6	51.0	103	70-130	
1,1-Dichloroethane	ug/L	49.6	59.3	120	71-132	
1,1-Dichloroethene	ug/L	49.6	56.2	113	75-130	
1,2,4-Trichlorobenzene	ug/L	49.6	41.8	84	70-130	
1,2-Dibromo-3-chloropropane	ug/L	49.6	48.0	97	63-123	
1,2-Dibromoethane (EDB)	ug/L	49.6	50.1	101	70-130	
1,2-Dichlorobenzene	ug/L	49.6	46.6	94	70-130	
1,2-Dichloroethane	ug/L	49.6	55.4	112	70-131	
1,2-Dichloropropane	ug/L	49.6	52.9	107	80-120	
1,3-Dichlorobenzene	ug/L	49.6	49.2	99	70-130	
1,4-Dichlorobenzene	ug/L	49.6	50.4	102	70-130	
Benzene	ug/L	49.6	54.1	109	73-145	
Bromodichloromethane	ug/L	49.6	54.0	109	70-130	
Bromoform	ug/L	49.6	47.0	95	67-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

LABORATORY CONTROL SAMPLE: 1614836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromomethane	ug/L	50	46.7	93	26-128	
Carbon tetrachloride	ug/L	49.6	58.4	118	70-133	
Chlorobenzene	ug/L	49.6	52.0	105	70-130	
Chloroethane	ug/L	50	57.8	116	58-120	
Chloroform	ug/L	49.6	54.2	109	80-121	
Chloromethane	ug/L	50	40.1	80	40-127	
cis-1,2-Dichloroethene	ug/L	49.6	54.8	111	70-130	
cis-1,3-Dichloropropene	ug/L	49.6	47.5	96	70-130	
Dibromochloromethane	ug/L	49.6	52.7	106	70-130	
Dichlorodifluoromethane	ug/L	50	35.9	72	20-135	
Ethylbenzene	ug/L	49.6	55.3	111	87-129	
Isopropylbenzene (Cumene)	ug/L	49.6	54.0	109	70-130	
m&p-Xylene	ug/L	99.2	112	113	70-130	
Methyl-tert-butyl ether	ug/L	49.6	56.1	113	66-143	
Methylene Chloride	ug/L	49.6	55.3	111	70-130	
o-Xylene	ug/L	49.6	55.3	111	70-130	
Styrene	ug/L	49.6	49.1	99	70-130	
Tetrachloroethene	ug/L	49.6	51.9	105	70-130	
Toluene	ug/L	49.6	51.1	103	82-130	
trans-1,2-Dichloroethene	ug/L	49.6	57.5	116	75-132	
trans-1,3-Dichloropropene	ug/L	49.6	47.7	96	70-130	
Trichloroethene	ug/L	49.6	55.3	112	70-130	
Trichlorofluoromethane	ug/L	50	57.5	115	76-133	
Vinyl chloride	ug/L	50	48.6	97	57-136	
Xylene (Total)	ug/L	149	167	113	70-130	
4-Bromofluorobenzene (S)	%			100	61-130	
Dibromofluoromethane (S)	%			107	67-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616416 1616417

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40160669002 Result	Spike Conc.	Spike Conc.	Result								
1,1,1-Trichloroethane	ug/L	<0.50	49.6	49.6	56.5	56.6	114	114	70-134	0	20		
1,1,2,2-Tetrachloroethane	ug/L	<0.25	49.6	49.6	52.6	53.5	106	108	70-130	2	20		
1,1,2-Trichloroethane	ug/L	<0.20	49.6	49.6	54.4	52.3	110	106	70-130	4	20		
1,1-Dichloroethane	ug/L	<0.24	49.6	49.6	59.4	59.6	120	120	71-133	0	20		
1,1-Dichloroethene	ug/L	<0.41	49.6	49.6	57.0	56.9	115	115	75-136	0	20		
1,2,4-Trichlorobenzene	ug/L	<2.2	49.6	49.6	43.4	43.5	88	88	70-130	0	20		
1,2-Dibromo-3-chloropropane	ug/L	<2.2	49.6	49.6	50.3	47.3	101	95	63-123	6	20		
1,2-Dibromoethane (EDB)	ug/L	<0.18	49.6	49.6	54.3	51.3	110	104	70-130	6	20		
1,2-Dichlorobenzene	ug/L	<0.50	49.6	49.6	47.4	47.8	95	96	70-130	1	20		
1,2-Dichloroethane	ug/L	<0.17	49.6	49.6	53.7	56.0	108	113	70-131	4	20		
1,2-Dichloropropane	ug/L	<0.23	49.6	49.6	52.8	56.8	106	115	80-120	7	20		

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616416		1616417		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40160669002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,3-Dichlorobenzene	ug/L	<0.50	49.6	49.6	49.8	51.0	100	103	70-130	2	20		
1,4-Dichlorobenzene	ug/L	<0.50	49.6	49.6	51.1	50.2	103	101	70-130	2	20		
Benzene	ug/L	<0.50	49.6	49.6	55.1	56.7	111	114	73-145	3	20		
Bromodichloromethane	ug/L	<0.50	49.6	49.6	53.7	57.5	108	116	70-130	7	20		
Bromoform	ug/L	<0.50	49.6	49.6	49.8	48.6	100	98	67-130	2	20		
Bromomethane	ug/L	<2.4	50	50	48.1	51.9	96	104	26-129	8	20		
Carbon tetrachloride	ug/L	<0.50	49.6	49.6	58.1	58.5	117	118	70-134	1	20		
Chlorobenzene	ug/L	<0.50	49.6	49.6	52.8	51.9	106	105	70-130	2	20		
Chloroethane	ug/L	<0.37	50	50	57.6	58.2	115	116	58-120	1	20		
Chloroform	ug/L	<2.5	49.6	49.6	54.9	55.3	111	112	80-121	1	20		
Chloromethane	ug/L	<0.50	50	50	41.1	40.5	82	81	40-128	1	20		
cis-1,2-Dichloroethene	ug/L	<0.26	49.6	49.6	55.5	56.7	112	114	70-130	2	20		
cis-1,3-Dichloropropene	ug/L	<0.50	49.6	49.6	49.8	52.8	100	107	70-130	6	20		
Dibromochloromethane	ug/L	<0.50	49.6	49.6	56.2	52.9	113	107	70-130	6	20		
Dichlorodifluoromethane	ug/L	<0.22	50	50	35.8	36.1	72	72	20-146	1	20		
Ethylbenzene	ug/L	<0.50	49.6	49.6	57.8	55.8	117	113	87-129	4	20		
Isopropylbenzene (Cumene)	ug/L	<0.14	49.6	49.6	56.9	55.8	115	112	70-130	2	20		
m&p-Xylene	ug/L	<1.0	99.2	99.2	117	112	118	113	70-130	4	20		
Methyl-tert-butyl ether	ug/L	<0.17	49.6	49.6	56.6	57.5	114	116	66-143	1	20		
Methylene Chloride	ug/L	<0.23	49.6	49.6	56.2	56.1	113	113	70-130	0	20		
o-Xylene	ug/L	<0.50	49.6	49.6	57.1	56.2	115	113	70-130	2	20		
Styrene	ug/L	<0.50	49.6	49.6	52.9	51.1	107	103	70-130	3	20		
Tetrachloroethene	ug/L	<0.50	49.6	49.6	51.6	49.8	104	100	70-130	3	20		
Toluene	ug/L	<0.50	49.6	49.6	53.2	51.7	107	104	82-131	3	20		
trans-1,2-Dichloroethene	ug/L	<0.26	49.6	49.6	59.4	60.1	120	121	75-135	1	20		
trans-1,3-Dichloropropene	ug/L	<0.23	49.6	49.6	49.7	49.0	100	99	70-130	1	20		
Trichloroethene	ug/L	<0.33	49.6	49.6	52.8	56.5	107	114	70-130	7	20		
Trichlorofluoromethane	ug/L	<0.18	50	50	55.8	56.3	112	113	76-150	1	20		
Vinyl chloride	ug/L	<0.18	50	50	48.7	48.2	97	96	56-143	1	20		
Xylene (Total)	ug/L	<1.5	149	149	174	168	117	113	70-130	3	20		
4-Bromofluorobenzene (S)	%						104	99	61-130				
Dibromofluoromethane (S)	%						107	108	67-130				
Toluene-d8 (S)	%						105	99	70-130				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

QC Batch:	274754	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV
Associated Lab Samples:	40160676005		

METHOD BLANK: 1616844 Matrix: Water

Associated Lab Samples: 40160676005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	11/20/17 15:49	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	11/20/17 15:49	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	11/20/17 15:49	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	11/20/17 15:49	
1,1-Dichloroethane	ug/L	<0.24	1.0	11/20/17 15:49	
1,1-Dichloroethene	ug/L	<0.41	1.0	11/20/17 15:49	
1,1-Dichloropropene	ug/L	<0.44	1.0	11/20/17 15:49	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	11/20/17 15:49	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	11/20/17 15:49	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	11/20/17 15:49	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	11/20/17 15:49	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	11/20/17 15:49	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	11/20/17 15:49	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	11/20/17 15:49	
1,2-Dichloroethane	ug/L	<0.17	1.0	11/20/17 15:49	
1,2-Dichloropropane	ug/L	<0.23	1.0	11/20/17 15:49	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	11/20/17 15:49	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	11/20/17 15:49	
1,3-Dichloropropane	ug/L	<0.50	1.0	11/20/17 15:49	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	11/20/17 15:49	
2,2-Dichloropropane	ug/L	<0.48	1.0	11/20/17 15:49	
2-Chlorotoluene	ug/L	<0.50	1.0	11/20/17 15:49	
4-Chlorotoluene	ug/L	<0.21	1.0	11/20/17 15:49	
Benzene	ug/L	<0.50	1.0	11/20/17 15:49	
Bromobenzene	ug/L	<0.23	1.0	11/20/17 15:49	
Bromochloromethane	ug/L	<0.34	1.0	11/20/17 15:49	
Bromodichloromethane	ug/L	<0.50	1.0	11/20/17 15:49	
Bromoform	ug/L	<0.50	1.0	11/20/17 15:49	
Bromomethane	ug/L	<2.4	5.0	11/20/17 15:49	
Carbon tetrachloride	ug/L	<0.50	1.0	11/20/17 15:49	
Chlorobenzene	ug/L	<0.50	1.0	11/20/17 15:49	
Chloroethane	ug/L	<0.37	1.0	11/20/17 15:49	
Chloroform	ug/L	<2.5	5.0	11/20/17 15:49	
Chloromethane	ug/L	<0.50	1.0	11/20/17 15:49	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	11/20/17 15:49	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	11/20/17 15:49	
Dibromochloromethane	ug/L	<0.50	1.0	11/20/17 15:49	
Dibromomethane	ug/L	<0.43	1.0	11/20/17 15:49	
Dichlorodifluoromethane	ug/L	<0.22	1.0	11/20/17 15:49	
Diisopropyl ether	ug/L	<0.50	1.0	11/20/17 15:49	
Ethylbenzene	ug/L	<0.50	1.0	11/20/17 15:49	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

METHOD BLANK: 1616844

Matrix: Water

Associated Lab Samples: 40160676005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	11/20/17 15:49	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	11/20/17 15:49	
m&p-Xylene	ug/L	<1.0	2.0	11/20/17 15:49	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	11/20/17 15:49	
Methylene Chloride	ug/L	<0.23	1.0	11/20/17 15:49	
n-Butylbenzene	ug/L	<0.50	1.0	11/20/17 15:49	
n-Propylbenzene	ug/L	<0.50	1.0	11/20/17 15:49	
Naphthalene	ug/L	<2.5	5.0	11/20/17 15:49	
o-Xylene	ug/L	<0.50	1.0	11/20/17 15:49	
p-Isopropyltoluene	ug/L	<0.50	1.0	11/20/17 15:49	
sec-Butylbenzene	ug/L	<2.2	5.0	11/20/17 15:49	
Styrene	ug/L	<0.50	1.0	11/20/17 15:49	
tert-Butylbenzene	ug/L	<0.18	1.0	11/20/17 15:49	
Tetrachloroethene	ug/L	<0.50	1.0	11/20/17 15:49	
Toluene	ug/L	<0.50	1.0	11/20/17 15:49	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	11/20/17 15:49	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	11/20/17 15:49	
Trichloroethene	ug/L	<0.33	1.0	11/20/17 15:49	
Trichlorofluoromethane	ug/L	<0.18	1.0	11/20/17 15:49	
Vinyl chloride	ug/L	<0.18	1.0	11/20/17 15:49	
Xylene (Total)	ug/L	<1.5	3.0	11/20/17 15:49	
4-Bromofluorobenzene (S)	%	88	61-130	11/20/17 15:49	
Dibromofluoromethane (S)	%	107	67-130	11/20/17 15:49	
Toluene-d8 (S)	%	99	70-130	11/20/17 15:49	

LABORATORY CONTROL SAMPLE: 1616845

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	49.6	50.2	101	70-130	
1,1,2,2-Tetrachloroethane	ug/L	49.6	48.7	98	70-130	
1,1,2-Trichloroethane	ug/L	49.6	50.5	102	70-130	
1,1-Dichloroethane	ug/L	49.6	57.5	116	71-132	
1,1-Dichloroethene	ug/L	49.6	44.3	89	75-130	
1,2,4-Trichlorobenzene	ug/L	49.6	42.7	86	70-130	
1,2-Dibromo-3-chloropropane	ug/L	49.6	51.4	104	63-123	
1,2-Dibromoethane (EDB)	ug/L	49.6	50.9	103	70-130	
1,2-Dichlorobenzene	ug/L	49.6	49.5	100	70-130	
1,2-Dichloroethane	ug/L	49.6	58.9	119	70-131	
1,2-Dichloropropane	ug/L	49.6	54.6	110	80-120	
1,3-Dichlorobenzene	ug/L	49.6	47.2	95	70-130	
1,4-Dichlorobenzene	ug/L	49.6	51.4	104	70-130	
Benzene	ug/L	49.6	40.7	82	73-145	
Bromodichloromethane	ug/L	49.6	57.3	116	70-130	
Bromoform	ug/L	49.6	59.9	121	67-130	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

LABORATORY CONTROL SAMPLE: 1616845

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromomethane	ug/L	50	41.6	83	26-128	
Carbon tetrachloride	ug/L	49.6	55.0	111	70-133	
Chlorobenzene	ug/L	49.6	53.1	107	70-130	
Chloroethane	ug/L	50	46.8	94	58-120	
Chloroform	ug/L	49.6	48.8	98	80-121	
Chloromethane	ug/L	50	29.4	59	40-127	
cis-1,2-Dichloroethene	ug/L	49.6	39.4	79	70-130	
cis-1,3-Dichloropropene	ug/L	49.6	45.4	92	70-130	
Dibromochloromethane	ug/L	49.6	53.7	108	70-130	
Dichlorodifluoromethane	ug/L	50	24.4	49	20-135	
Ethylbenzene	ug/L	49.6	52.2	105	87-129	
Isopropylbenzene (Cumene)	ug/L	49.6	52.4	106	70-130	
m&p-Xylene	ug/L	99.2	104	105	70-130	
Methyl-tert-butyl ether	ug/L	49.6	51.1	103	66-143	
Methylene Chloride	ug/L	49.6	47.1	95	70-130	
o-Xylene	ug/L	49.6	50.4	102	70-130	
Styrene	ug/L	49.6	52.8	106	70-130	
Tetrachloroethene	ug/L	49.6	54.8	111	70-130	
Toluene	ug/L	49.6	49.0	99	82-130	
trans-1,2-Dichloroethene	ug/L	49.6	46.8	94	75-132	
trans-1,3-Dichloropropene	ug/L	49.6	44.4	90	70-130	
Trichloroethene	ug/L	49.6	52.7	106	70-130	
Trichlorofluoromethane	ug/L	50	67.4	135	76-133 L1	
Vinyl chloride	ug/L	50	36.1	72	57-136	
Xylene (Total)	ug/L	149	155	104	70-130	
4-Bromofluorobenzene (S)	%			108	61-130	
Dibromofluoromethane (S)	%			100	67-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616846 1616847

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40161038001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1-Trichloroethane	ug/L	<0.50	50	50	53.3	53.0	107	106	70-134	0	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	49.3	50.1	99	100	70-130	2	20	
1,1,2-Trichloroethane	ug/L	<0.20	50	50	53.2	53.8	106	108	70-130	1	20	
1,1-Dichloroethane	ug/L	<0.24	50	50	61.4	62.0	123	124	71-133	1	20	
1,1-Dichloroethene	ug/L	<0.41	50	50	53.3	53.1	106	106	75-136	0	20	
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	45.3	46.4	90	92	70-130	2	20	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	52.2	53.6	104	107	63-123	3	20	
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	53.1	53.6	106	107	70-130	1	20	
1,2-Dichlorobenzene	ug/L	<0.50	50	50	50.4	50.5	101	101	70-130	0	20	
1,2-Dichloroethane	ug/L	2.6	50	50	63.5	63.6	122	122	70-131	0	20	
1,2-Dichloropropane	ug/L	<0.23	50	50	56.3	57.3	113	115	80-120	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1616846		1616847		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40161038001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,3-Dichlorobenzene	ug/L	<0.50	50	50	48.2	49.0	96	98	70-130	2	20		
1,4-Dichlorobenzene	ug/L	<0.50	50	50	52.0	53.9	103	107	70-130	4	20		
Benzene	ug/L	<0.50	50	50	43.3	43.5	86	86	73-145	0	20		
Bromodichloromethane	ug/L	<0.50	50	50	59.1	59.6	118	119	70-130	1	20		
Bromoform	ug/L	<0.50	50	50	61.1	61.0	122	122	67-130	0	20		
Bromomethane	ug/L	<2.4	50	50	55.3	58.5	109	116	26-129	6	20		
Carbon tetrachloride	ug/L	<0.50	50	50	58.7	58.2	117	116	70-134	1	20		
Chlorobenzene	ug/L	<0.50	50	50	54.0	54.2	108	108	70-130	0	20		
Chloroethane	ug/L	2.6	50	50	56.7	58.5	108	112	58-120	3	20		
Chloroform	ug/L	<2.5	50	50	50.8	50.3	102	101	80-121	1	20		
Chloromethane	ug/L	<0.50	50	50	46.4	50.2	93	100	40-128	8	20		
cis-1,2-Dichloroethene	ug/L	43.9	50	50	84.0	84.8	80	82	70-130	1	20		
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	48.3	49.6	97	99	70-130	3	20		
Dibromochloromethane	ug/L	<0.50	50	50	56.0	55.4	112	111	70-130	1	20		
Dichlorodifluoromethane	ug/L	<0.22	50	50	49.3	49.9	99	100	20-146	1	20		
Ethylbenzene	ug/L	<0.50	50	50	53.6	54.1	107	108	87-129	1	20		
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	54.3	54.2	109	108	70-130	0	20		
m&p-Xylene	ug/L	<1.0	100	100	107	108	107	108	70-130	1	20		
Methyl-tert-butyl ether	ug/L	<0.17	50	50	55.4	55.1	111	110	66-143	1	20		
Methylene Chloride	ug/L	<0.23	50	50	51.4	51.8	103	104	70-130	1	20		
o-Xylene	ug/L	<0.50	50	50	51.8	52.4	104	105	70-130	1	20		
Styrene	ug/L	<0.50	50	50	54.2	54.0	108	108	70-130	0	20		
Tetrachloroethene	ug/L	<0.50	50	50	58.6	58.2	117	116	70-130	1	20		
Toluene	ug/L	<0.50	50	50	51.8	52.0	104	104	82-131	0	20		
trans-1,2-Dichloroethene	ug/L	1.5	50	50	54.2	53.7	105	104	75-135	1	20		
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	47.9	48.5	96	97	70-130	1	20		
Trichloroethene	ug/L	0.34J	50	50	55.7	56.7	111	113	70-130	2	20		
Trichlorofluoromethane	ug/L	<0.18	50	50	79.2	78.7	158	157	76-150	1	20	MO	
Vinyl chloride	ug/L	4.8	50	50	56.4	58.8	103	108	56-143	4	20		
Xylene (Total)	ug/L	<1.5	150	150	159	161	106	107	70-130	1	20		
4-Bromofluorobenzene (S)	%						107	106	61-130				
Dibromofluoromethane (S)	%						102	101	67-130				
Toluene-d8 (S)	%						101	101	70-130				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN
Pace Project No.: 40160676

QC Batch: 275138 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40160676001

METHOD BLANK: 1618568 Matrix: Water
Associated Lab Samples: 40160676001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	<1.0	3.0	11/28/17 02:27	

LABORATORY CONTROL SAMPLE: 1618569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	20.8	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1618570 1618571

Parameter	Units	40160617004 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
Sulfate	mg/L	35.4	20	20	56.0	56.1	103	103	90-110	0	15

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1618572 1618573

Parameter	Units	40160933001 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
Sulfate	mg/L	144J	1000	1000	1200	1200	105	105	90-110	0	15

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160676

QC Batch: 509196	Analysis Method: SM 3500-Fe B
QC Batch Method: SM 3500-Fe B	Analysis Description: 3500FE B Iron, Ferrous
Associated Lab Samples: 40160676001	

METHOD BLANK: 2767971 Matrix: Water

Associated Lab Samples: 40160676001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.017	0.040	11/17/17 13:21	H6

LABORATORY CONTROL SAMPLE: 2767972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.5	0.50	101	90-110	H6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2767973 2767974

Parameter	Units	40160138001		40160138002		40160138003		40160138004		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Iron, Ferrous	mg/L	3.1	5	5	8.3	8.2	104	101	80-120	2	20	H6	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2767975 2767976

Parameter	Units	40160138002		40160138003		40160138004		40160138005		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Iron, Ferrous	mg/L	<0.017	.5	.5	0.50	0.49	98	95	80-120	2	20	H6	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN
Pace Project No.: 40160676

QC Batch: 274984 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 40160676001

METHOD BLANK: 1617733 Matrix: Water
Associated Lab Samples: 40160676001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.095	0.25	11/21/17 13:17	

LABORATORY CONTROL SAMPLE: 1617734

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.4	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1617735 1617736

Parameter	Units	40161194008 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Spike Conc.	MSD Result						
Nitrogen, NO2 plus NO3	mg/L	<0.095	2.5	2.3	2.5	2.3	91	91	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1617737 1617738

Parameter	Units	40160680008 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Spike Conc.	MSD Result						
Nitrogen, NO2 plus NO3	mg/L	<0.25	2.5	2.5	2.5	2.5	93	93	90-110	0	20	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN
Pace Project No.: 40160676

QC Batch: 274606 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Associated Lab Samples: 40160676001

METHOD BLANK: 1615659 Matrix: Water
Associated Lab Samples: 40160676001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.25	0.84	11/27/17 17:25	

LABORATORY CONTROL SAMPLE: 1615660

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.5	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1615661 1615662

Parameter	Units	40160635006		1615661		1615662		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Total Organic Carbon	mg/L	3.7	3	3	3	7.0	6.9	110	107	80-120	1 10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1615663 1615664

Parameter	Units	40160694001		1615663		1615664		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Total Organic Carbon	mg/L	<0.84	1	1	1	0.76J	0.80J	38	42	80-120	10 M0

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1690005819 FORMER 1-HOUR CLEAN
Pace Project No.: 40160676

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay
PASI-M Pace Analytical Services - Minneapolis

WORKORDER QUALIFIERS

WO: 40160676

[1] Revised - Sub Lab (MN) - Incorrect 6020 metals list reported and autoshipped to client. SVM 11/30/17

ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA required holding time.

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.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

N2 The lab does not hold NELAC/TNI accreditation for this parameter.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1690005819 FORMER 1-HOUR CLEAN
Pace Project No.: 40160676

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40160676001	MW-6	EPA 8015B Modified	274201		
40160676001	MW-6	SM 3500-Fe B	511207		
40160676001	MW-6	EPA 3020	508614	EPA 6020A	509781
40160676001	MW-6	EPA 8260	274446		
40160676002	MW-6 DUP	EPA 8260	273887		
40160676003	MW-7	EPA 8260	274446		
40160676004	MW-9	EPA 8260	274446		
40160676005	TRIP BLANK	EPA 8260	274754		
40160676001	MW-6	EPA 300.0	275138		
40160676001	MW-6	SM 3500-Fe B	509196		
40160676001	MW-6	EPA 353.2	274984		
40160676001	MW-6	SM 5310C	274606		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: **Ramboll**
 Branch/Location: **Brookfield, WI**
 Project Contact: **Susan Petrofske**
 Phone: **(262) 901-3501**
 Project Number: **169000 5819**
 Project Name: **Former 1-Hour Cleaners**
 Project State: **WI**
 Sampled By (Print): **Jonathan Fava**
 Sampled By (Sign): *[Signature]*
 PO #: _____
 Regulatory Program: _____

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD (billable)
 On your sample
 NOT needed on your sample

Matrix Codes
 A = Air
 B = Biota
 C = Charcoal
 O = Oil
 S = Soil
 SI = Sludge
 W = Water
 DW = Drinking Water
 GW = Ground Water
 SW = Surface Water
 WW = Waste Water
 WP = Wipe

PAGE LAB # | **CLIENT FIELD ID** | **DATE** | **COLLECTION TIME** | **MATRIX**

PACE Analytical
 www.pacelabs.com

CHAIN OF CUSTODY

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

Filtered? (YES/NO) _____
 Preservation (CODE) _____

A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

PAGE LAB #	CLIENT FIELD ID	DATE	COLLECTION TIME	MATRIX	Analyses Requested		Y/N	Pick Letter	Date/Time	Received By	Date/Time	Comments	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N	Pick Letter								
001	MW-6	11/9/17	1240	GW	X	VOCs (8260)	N	B	11/16/17 11:45	Mary Fanni	11/17 1300	3.250ml p Acd	175 Corporate Dr Suite 160 Brookfield, WI 53045	
002	MW-6 DUP		1245		X	Methan/Ethane/Ethene (8015)	N	B						
003	MW-7		1535		X	Total Organic Carbon (SM 5310C)	N	C						
004	MW-9		1115		X	Sulfate (300.0)	N	A						
	TRIP BLANK				X	Nitrate + Nitrite (353.2)	N	C						
					X	Total Iron (6020)	N	D						
					X	Ferrous Iron (SM 3500)	Y	B						

Rush Turnaround Time Requested - Prelims
 (Rush TAT subject to approval/surcharge)
 Date Needed: _____

Transmit Prelim Rush Results by (complete what you want):
 Email #1: _____
 Email #2: _____
 Telephone: _____
 Fax: _____

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *[Signature]* Date/Time: 11/16/17 11:45
 Relinquished By: *[Signature]* Date/Time: 11/16/17 1300
 Relinquished By: _____ Date/Time: _____
 Relinquished By: _____ Date/Time: _____

Received By: *[Signature]* Date/Time: 11/17 11:45
 Received By: *[Signature]* Date/Time: 11/17 1000
 Received By: _____ Date/Time: _____
 Received By: _____ Date/Time: _____

PACE Project No.
40160676

Receipt Temp = **KOI** °C
 Sample Receipt pH **OK / Adjusted**
 Cooler Custody Seal **Present / Not Present**
 (Intact / Not Intact)

Page 1 of 1
 Page 36 of 40

40160676

(Please Print Clearly)



www.faceanals.com

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

Page 1 of 1

CHAIN OF CUSTODY

Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=D1 Water F=Methanol G=NaOH
 H= Sodium Bisulfate Solution I= Sodium Thiosulfate J= Other

Filtered?
 (YES/NO)
Preservation
 (CODE)

Company Name: Ramboll
 Branch/Location: Brookfield, WI
 Project Contact: Susan Petrofske
 Phone: (262) 901-3501
 Project Number: 169000 5819
 Project Name: Former 1-Hour cleaners
 Project State: WI
 Sampled By (Print): Jonathan Fava
 Sampled By (Sign): [Signature]
 PO #: _____

Data Package Options
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air
 B = Biotin
 C = Charcoal
 O = Oil
 S = Soil
 SI = Sludge
 W = Water
 DW = Drinking Water
 GW = Ground Water
 SW = Surface Water
 WW = Waste Water
 WP = Wipe

PAGE LAB #	CLIENT FIELD ID	DATE	COLLECTION TIME	MATRIX	Analyses Requested	
					Pick Letter	Y/N
	MW-6	11/9/17	1240	GW	X	VOCs (8260)
	MW-6 DUP		1245		X	Methan/Ethane/Ethene (8015)
	MW-7		1535		X	Total Organic Carbon (SM 5310C)
	MW-9		1115		X	Sulfate (300.0)
	TRIP BLANK				X	Nitrate + Nitrite (353.2)
					X	Total Iron (6020)
					X	Ferrous Iron (SM 3500)

Quote #: _____

Mail To Contact: _____

Mail To Company: _____

Mail To Address: _____

Invoice To Contact: Susan Petrofske

Invoice To Company: Ramboll

Invoice To Address: 175 N Corporate Dr
Suite 160
Brookfield WI 53005

Invoice To Phone: (262) 901-3501

CLIENT COMMENTS: only 1 vial

LAB COMMENTS (Lab Use Only): _____

Profile #: _____

Rush Turnaround Time Requested - Prelims
 (Rush TAT subject to approval/surcharge)
 Date Needed: _____

Transmit Prelim Rush Results by (complete what you want):
 Email #1: _____
 Email #2: _____
 Telephone: _____
 Fax: _____

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
<u>[Signature]</u>	<u>11/01/17 11:45</u>	<u>[Signature]</u>	<u>11/01/17 11:45</u>
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PAGE Project No. _____

Receipt Temp = _____ °C

Sample Receipt pH _____

OK / Adjusted _____

Cooler Custody Seal Present / Not Present _____

Intact / Not Intact _____

(Please Print Clearly)

Company Name: Ramboll
Branch/Location: Brookfield, WI
Project Contact: Susan Petrofske
Phone: (262) 901-3501
Project Number: 169000 5819
Project Name: Former 1-Hour Cleaners
Project State: WI
Sampled By (Print): Jonathan Faura
Sampled By (Sign): *[Signature]*
PO #:

Matrix Codes
 A=Air, B=Biota, C=Charcoal, O=Oil, S=Soil, SI=Sludge
 W=Water, DW=Drinking Water, GW=Ground Water, SW=Surface Water, WW=Waste Water, WP=Wipe
Matrix Codes
 W=Water, DW=Drinking Water, GW=Ground Water, SW=Surface Water, WW=Waste Water, WP=Wipe
Regulatory Program:

Filtered? (YES/NO)
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

Data Package Options
 EPA Level III
 EPA Level IV
 On your sample (billable)
 NOT needed on your sample

PAGE LAB #	CLIENT FIELD ID	DATE	TIME	MATRIX
	MW-6	11/9/17	12:40	GW
	MW-6 DUP		12:45	
	MW-7		1:35	
	MW-9		1:15	
	005 TRIP BLANK			

ANALYSES REQUESTED	V/I/N	P/SK	L/ITER
VOCs (8260)	X	B	
Methan/Ethane/Ethene (8015)	X	B	
Total Organic Carbon (SM 5310C)	X	C	
Sulfate (300.0)	X	A	
Nitrate + Nitrite (353.2)	X	C	
Total Iron (6020)	X	D	
Ferrous Iron (SM 3500)	X	B	

CHAIN OF CUSTODY



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

Page 1 of 1

Page 38 of 40

Quote #:
Mail To Contact:
Mail To Company:
Mail To Address:
Invoice To Contact: Susan Petrofske
Invoice To Company: Ramboll
Invoice To Address: 175 N Corporate Dr Suite 160 Brookfield, WI 53005
Invoice To Phone: (262) 901-3501

CLIENT COMMENTS (Lab Use Only)
 Profile #
 only 1 vial
 2-40ml v3

Rush Turnaround Time Requested - Prelims
 (Rush TAT subject to approval/surcharge)
 Date Needed:

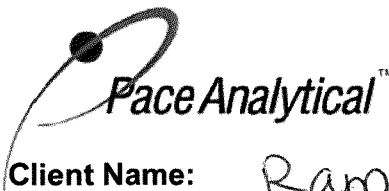
Relinquished By:	Date/Time:	Received By:	Date/Time:
<i>[Signature]</i>	11/17 11:45	<i>[Signature]</i>	11/17 11:45
<i>[Signature]</i>	11/17 08:00	<i>[Signature]</i>	11/17 10:50

Transmit Prelim Rush Results by (complete what you want):
 Email #1:
 Email #2:
 Telephone:
 Fax:

Relinquished By: *[Signature]* Date/Time: *[Signature]*
Relinquished By: *[Signature]* Date/Time: *[Signature]*
Relinquished By: *[Signature]* Date/Time: *[Signature]*
Relinquished By: *[Signature]* Date/Time: *[Signature]*

Special pricing and release of liability
 Samples on HOLD are subject to special pricing and release of liability

Receipt Temp = 20.1 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present (Intact) / Not Intact



Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project #:

Client Name: Ramboll

AFFIX WORKORDER LABEL HERE

Courier: Fed Ex UPS Client Pace Other CS Logistics
Tracking #:

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used N/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ICorr: RO Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Person examining contents:
Date: 11/18/12
Initials: [Signature]

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

Comments:

Table with 15 rows of checklist items and checkboxes. Items include Chain of Custody Present, Short Hold Time Analysis, Rush Turn Around Time Requested, Sufficient Volume, Containers Intact, etc.

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: Date/Time:

Comments/ Resolution: Trip Blanks received Sun 11/18/12

Project Manager Review:

Date: 11/18/12



Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Client Name: Ranboll

Project # WO#: 40160676



Courier: Fed Ex UPS Client Pace Other: CS Logistics

Custody Seal on Cooler/Box Present: Yes no Seals intact: Yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used N/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROT ICorr: Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Person examining contents:
Date: 4/11/12
Initials: SSM

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

Comments:

Table with 15 rows of inspection items and checkboxes. Includes items like Chain of Custody Present, Samples Arrived within Hold Time, Short Hold Time Analysis, Rush Turn Around Time Requested, Sufficient Volume, Containers Intact, Sample Labels match COC, All containers needing preservation have been checked, Headspace in VOA Vials, Trip Blank Present.

Client Notification/ Resolution:
Person Contacted: Date/Time:
Comments/ Resolution:

Project Manager Review: [Signature] Date: 4/13/12

November 28, 2017

Jeanne Tarvin
Ramboll Environ
175 North Corporate Drive
Suite 160
Brookfield, WI 53045

RE: Project: 1690005819 FORMER 1-HOUR CLEAN
Pace Project No.: 40160674

Dear Jeanne Tarvin:

Enclosed are the analytical results for sample(s) received by the laboratory on November 11, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Steven Mleczko
steve.mleczko@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Jim Hutchens, Ramboll Environ
Jim Kane, Ramboll Environ
Snejana Karakis, Environ
David L. Markelz, Ramboll Environ
Michelle Murphy, Environ

Susan Petrofske, Ramboll Environ
Scott Tarmann, Ramboll Environ
Abigail M. Wedig, Environ International Corp



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40160674001	CONCRETE-1	Solid	11/09/17 14:30	11/11/17 10:00
40160674002	CONCRETE-2	Solid	11/09/17 14:55	11/11/17 10:00
40160674003	CONCRETE-3	Solid	11/09/17 15:00	11/11/17 10:00
40160674004	CONCRETE-4	Solid	11/09/17 15:10	11/11/17 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40160674001	CONCRETE-1	EPA 8260	LAP, SMT	65	PASI-G
		EPA 8260	LAP	13	PASI-G
		ASTM D2974-87	RMV	1	PASI-G
40160674002	CONCRETE-2	EPA 8260	LAP	65	PASI-G
		EPA 8260	LAP	13	PASI-G
		ASTM D2974-87	RMV	1	PASI-G
40160674003	CONCRETE-3	EPA 8260	LAP	65	PASI-G
		EPA 8260	LAP	13	PASI-G
		ASTM D2974-87	RMV	1	PASI-G
40160674004	CONCRETE-4	EPA 8260	LAP	65	PASI-G
		EPA 8260	LAP	13	PASI-G
		ASTM D2974-87	RMV	1	PASI-G

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40160674001	CONCRETE-1					
EPA 8260	Tetrachloroethene	115000	ug/kg	1570	11/27/17 10:39	H1,M1
EPA 8260	n-Butylbenzene	104J	ug/kg	126	11/23/17 00:44	
EPA 8260	n-Propylbenzene	112J	ug/kg	126	11/23/17 00:44	
EPA 8260	Tetrachloroethene	28.4	ug/L	10.0	11/22/17 12:13	
ASTM D2974-87	Percent Moisture	4.7	%	0.10	11/27/17 14:29	
40160674002	CONCRETE-2					
EPA 8260	Tetrachloroethene	243	ug/kg	61.9	11/22/17 21:38	
EPA 8260	Tetrachloroethene	37.9	ug/L	10.0	11/22/17 11:51	
ASTM D2974-87	Percent Moisture	3.1	%	0.10	11/27/17 14:29	
40160674003	CONCRETE-3					
EPA 8260	Tetrachloroethene	47.3J	ug/kg	63.1	11/22/17 22:01	
EPA 8260	Tetrachloroethene	16.1	ug/L	10.0	11/22/17 12:36	
ASTM D2974-87	Percent Moisture	4.9	%	0.10	11/27/17 14:29	
40160674004	CONCRETE-4					
EPA 8260	Tetrachloroethene	1760	ug/kg	63.9	11/22/17 22:25	
EPA 8260	Tetrachloroethene	95.0	ug/L	10.0	11/22/17 12:58	
ASTM D2974-87	Percent Moisture	6.1	%	0.10	11/27/17 14:29	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

Sample: **CONCRETE-1** Lab ID: **40160674001** Collected: 11/09/17 14:30 Received: 11/11/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
1,1,1,2-Tetrachloroethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	630-20-6	W
1,1,1-Trichloroethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	71-55-6	W
1,1,2,2-Tetrachloroethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	79-34-5	M1,W
1,1,2-Trichloroethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	79-00-5	M1,W
1,1-Dichloroethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	75-34-3	M1,W
1,1-Dichloroethene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	75-35-4	W
1,1-Dichloropropene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	563-58-6	W
1,2,3-Trichlorobenzene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	87-61-6	W
1,2,3-Trichloropropane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	96-18-4	W
1,2,4-Trichlorobenzene	<95.1	ug/kg	500	95.1	2	11/21/17 05:30	11/23/17 00:44	120-82-1	W
1,2,4-Trimethylbenzene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	95-63-6	W
1,2-Dibromo-3-chloropropane	<182	ug/kg	500	182	2	11/21/17 05:30	11/23/17 00:44	96-12-8	W
1,2-Dibromoethane (EDB)	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	106-93-4	W
1,2-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	95-50-1	W
1,2-Dichloroethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	107-06-2	W
1,2-Dichloropropane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	78-87-5	W
1,3,5-Trimethylbenzene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	108-67-8	W
1,3-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	541-73-1	W
1,3-Dichloropropane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	142-28-9	W
1,4-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	106-46-7	W
2,2-Dichloropropane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	594-20-7	W
2-Chlorotoluene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	95-49-8	W
4-Chlorotoluene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	106-43-4	W
Benzene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	71-43-2	W
Bromobenzene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	108-86-1	W
Bromochloromethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	74-97-5	W
Bromodichloromethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	75-27-4	W
Bromoform	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	75-25-2	W
Bromomethane	<140	ug/kg	500	140	2	11/21/17 05:30	11/23/17 00:44	74-83-9	W
Carbon tetrachloride	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	56-23-5	W
Chlorobenzene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	108-90-7	W
Chloroethane	<134	ug/kg	500	134	2	11/21/17 05:30	11/23/17 00:44	75-00-3	W
Chloroform	<92.9	ug/kg	500	92.9	2	11/21/17 05:30	11/23/17 00:44	67-66-3	L1,M0, W
Chloromethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	74-87-3	W
Dibromochloromethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	124-48-1	W
Dibromomethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	74-95-3	W
Dichlorodifluoromethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	75-71-8	W
Diisopropyl ether	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	108-20-3	W
Ethylbenzene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	100-41-4	M1,W
Hexachloro-1,3-butadiene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	87-68-3	W
Isopropylbenzene (Cumene)	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	98-82-8	W
Methyl-tert-butyl ether	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	1634-04-4	W
Methylene Chloride	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	75-09-2	W
Naphthalene	<80.1	ug/kg	500	80.1	2	11/21/17 05:30	11/23/17 00:44	91-20-3	W

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Sample Project No.: 40160674

Sample: CONCRETE-1 **Lab ID: 40160674001** Collected: 11/09/17 14:30 Received: 11/11/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Styrene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	100-42-5	W
Tetrachloroethene	115000	ug/kg	1570	656	25	11/21/17 05:30	11/27/17 10:39	127-18-4	H1,M1
Toluene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	108-88-3	M1,W
Trichloroethene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	79-01-6	M1,W
Trichlorofluoromethane	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	75-69-4	W
Vinyl chloride	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	75-01-4	W
Xylene (Total)	<150	ug/kg	360	150	2	11/21/17 05:30	11/23/17 00:44	1330-20-7	W
cis-1,2-Dichloroethene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	156-59-2	W
cis-1,3-Dichloropropene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	10061-01-5	W
m&p-Xylene	<100	ug/kg	240	100	2	11/21/17 05:30	11/23/17 00:44	179601-23-1	W
n-Butylbenzene	104J	ug/kg	126	52.5	2	11/21/17 05:30	11/23/17 00:44	104-51-8	
n-Propylbenzene	112J	ug/kg	126	52.5	2	11/21/17 05:30	11/23/17 00:44	103-65-1	
o-Xylene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	95-47-6	W
p-Isopropyltoluene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	99-87-6	W
sec-Butylbenzene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	135-98-8	W
tert-Butylbenzene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	98-06-6	W
trans-1,2-Dichloroethene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	156-60-5	W
trans-1,3-Dichloropropene	<50.0	ug/kg	120	50.0	2	11/21/17 05:30	11/23/17 00:44	10061-02-6	W
Surrogates									
Dibromofluoromethane (S)	98	%	68-130		2	11/21/17 05:30	11/23/17 00:44	1868-53-7	1q,P4
Toluene-d8 (S)	122	%	68-149		2	11/21/17 05:30	11/23/17 00:44	2037-26-5	
4-Bromofluorobenzene (S)	125	%	58-141		2	11/21/17 05:30	11/23/17 00:44	460-00-4	
8260 MSV TCLP									
Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 11/20/17 14:25									
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		11/22/17 12:13	75-35-4	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		11/22/17 12:13	107-06-2	
2-Butanone (MEK)	<29.8	ug/L	200	29.8	10		11/22/17 12:13	78-93-3	L1
Benzene	<5.0	ug/L	10.0	5.0	10		11/22/17 12:13	71-43-2	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		11/22/17 12:13	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		11/22/17 12:13	108-90-7	
Chloroform	<25.0	ug/L	50.0	25.0	10		11/22/17 12:13	67-66-3	
Tetrachloroethene	28.4	ug/L	10.0	5.0	10		11/22/17 12:13	127-18-4	
Trichloroethene	<3.3	ug/L	10.0	3.3	10		11/22/17 12:13	79-01-6	
Vinyl chloride	<1.8	ug/L	10.0	1.8	10		11/22/17 12:13	75-01-4	
Surrogates									
Toluene-d8 (S)	97	%	70-130		10		11/22/17 12:13	2037-26-5	
4-Bromofluorobenzene (S)	95	%	61-130		10		11/22/17 12:13	460-00-4	
Dibromofluoromethane (S)	93	%	67-130		10		11/22/17 12:13	1868-53-7	
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	4.7	%	0.10	0.10	1		11/27/17 14:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

Sample: CONCRETE-2 **Lab ID: 40160674002** Collected: 11/09/17 14:55 Received: 11/11/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
1,1,1,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	630-20-6	W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	71-55-6	W
1,1,2,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	79-34-5	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	79-00-5	W
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	75-34-3	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	75-35-4	W
1,1-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	563-58-6	W
1,2,3-Trichlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	87-61-6	W
1,2,3-Trichloropropane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	96-18-4	W
1,2,4-Trichlorobenzene	<47.6	ug/kg	250	47.6	1	11/21/17 05:30	11/22/17 21:38	120-82-1	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	95-63-6	W
1,2-Dibromo-3-chloropropane	<91.2	ug/kg	250	91.2	1	11/21/17 05:30	11/22/17 21:38	96-12-8	W
1,2-Dibromoethane (EDB)	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	106-93-4	W
1,2-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	95-50-1	W
1,2-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	107-06-2	W
1,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	78-87-5	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	108-67-8	W
1,3-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	541-73-1	W
1,3-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	142-28-9	W
1,4-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	106-46-7	W
2,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	594-20-7	W
2-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	95-49-8	W
4-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	106-43-4	W
Benzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	71-43-2	W
Bromobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	108-86-1	W
Bromochloromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	74-97-5	W
Bromodichloromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	75-27-4	W
Bromoform	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	75-25-2	W
Bromomethane	<69.9	ug/kg	250	69.9	1	11/21/17 05:30	11/22/17 21:38	74-83-9	W
Carbon tetrachloride	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	56-23-5	W
Chlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	108-90-7	W
Chloroethane	<67.0	ug/kg	250	67.0	1	11/21/17 05:30	11/22/17 21:38	75-00-3	W
Chloroform	<46.4	ug/kg	250	46.4	1	11/21/17 05:30	11/22/17 21:38	67-66-3	L1,W
Chloromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	74-87-3	W
Dibromochloromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	124-48-1	W
Dibromomethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	74-95-3	W
Dichlorodifluoromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	75-71-8	W
Diisopropyl ether	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	108-20-3	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	100-41-4	W
Hexachloro-1,3-butadiene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	87-68-3	W
Isopropylbenzene (Cumene)	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	98-82-8	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	1634-04-4	W
Methylene Chloride	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	75-09-2	W
Naphthalene	<40.0	ug/kg	250	40.0	1	11/21/17 05:30	11/22/17 21:38	91-20-3	W
Styrene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	100-42-5	W

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Sample Project No.: 40160674

Sample: **CONCRETE-2** Lab ID: **40160674002** Collected: 11/09/17 14:55 Received: 11/11/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Tetrachloroethene	243	ug/kg	61.9	25.8	1	11/21/17 05:30	11/22/17 21:38	127-18-4	
Toluene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	108-88-3	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	79-01-6	W
Trichlorofluoromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	75-69-4	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	75-01-4	W
Xylene (Total)	<75.0	ug/kg	180	75.0	1	11/21/17 05:30	11/22/17 21:38	1330-20-7	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	156-59-2	W
cis-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	10061-01-5	W
m&p-Xylene	<50.0	ug/kg	120	50.0	1	11/21/17 05:30	11/22/17 21:38	179601-23-1	W
n-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	104-51-8	W
n-Propylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	103-65-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	95-47-6	W
p-Isopropyltoluene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	99-87-6	W
sec-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	135-98-8	W
tert-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	98-06-6	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	156-60-5	W
trans-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 21:38	10061-02-6	W
Surrogates									
Dibromofluoromethane (S)	112	%	68-130		1	11/21/17 05:30	11/22/17 21:38	1868-53-7	1q,P4
Toluene-d8 (S)	134	%	68-149		1	11/21/17 05:30	11/22/17 21:38	2037-26-5	
4-Bromofluorobenzene (S)	130	%	58-141		1	11/21/17 05:30	11/22/17 21:38	460-00-4	
8260 MSV TCLP Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 11/20/17 14:25									
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		11/22/17 11:51	75-35-4	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		11/22/17 11:51	107-06-2	
2-Butanone (MEK)	<29.8	ug/L	200	29.8	10		11/22/17 11:51	78-93-3	L1
Benzene	<5.0	ug/L	10.0	5.0	10		11/22/17 11:51	71-43-2	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		11/22/17 11:51	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		11/22/17 11:51	108-90-7	
Chloroform	<25.0	ug/L	50.0	25.0	10		11/22/17 11:51	67-66-3	
Tetrachloroethene	37.9	ug/L	10.0	5.0	10		11/22/17 11:51	127-18-4	
Trichloroethene	<3.3	ug/L	10.0	3.3	10		11/22/17 11:51	79-01-6	
Vinyl chloride	<1.8	ug/L	10.0	1.8	10		11/22/17 11:51	75-01-4	
Surrogates									
Toluene-d8 (S)	95	%	70-130		10		11/22/17 11:51	2037-26-5	
4-Bromofluorobenzene (S)	91	%	61-130		10		11/22/17 11:51	460-00-4	
Dibromofluoromethane (S)	108	%	67-130		10		11/22/17 11:51	1868-53-7	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	3.1	%	0.10	0.10	1		11/27/17 14:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

Sample: **CONCRETE-3** Lab ID: **40160674003** Collected: 11/09/17 15:00 Received: 11/11/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	630-20-6	W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	71-55-6	W
1,1,2,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	79-34-5	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	79-00-5	W
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	75-34-3	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	75-35-4	W
1,1-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	563-58-6	W
1,2,3-Trichlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	87-61-6	W
1,2,3-Trichloropropane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	96-18-4	W
1,2,4-Trichlorobenzene	<47.6	ug/kg	250	47.6	1	11/21/17 05:30	11/22/17 22:01	120-82-1	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	95-63-6	W
1,2-Dibromo-3-chloropropane	<91.2	ug/kg	250	91.2	1	11/21/17 05:30	11/22/17 22:01	96-12-8	W
1,2-Dibromoethane (EDB)	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	106-93-4	W
1,2-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	95-50-1	W
1,2-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	107-06-2	W
1,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	78-87-5	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	108-67-8	W
1,3-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	541-73-1	W
1,3-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	142-28-9	W
1,4-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	106-46-7	W
2,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	594-20-7	W
2-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	95-49-8	W
4-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	106-43-4	W
Benzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	71-43-2	W
Bromobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	108-86-1	W
Bromochloromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	74-97-5	W
Bromodichloromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	75-27-4	W
Bromoform	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	75-25-2	W
Bromomethane	<69.9	ug/kg	250	69.9	1	11/21/17 05:30	11/22/17 22:01	74-83-9	W
Carbon tetrachloride	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	56-23-5	W
Chlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	108-90-7	W
Chloroethane	<67.0	ug/kg	250	67.0	1	11/21/17 05:30	11/22/17 22:01	75-00-3	W
Chloroform	<46.4	ug/kg	250	46.4	1	11/21/17 05:30	11/22/17 22:01	67-66-3	L1,W
Chloromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	74-87-3	W
Dibromochloromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	124-48-1	W
Dibromomethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	74-95-3	W
Dichlorodifluoromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	75-71-8	W
Diisopropyl ether	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	108-20-3	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	100-41-4	W
Hexachloro-1,3-butadiene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	87-68-3	W
Isopropylbenzene (Cumene)	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	98-82-8	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	1634-04-4	W
Methylene Chloride	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	75-09-2	W
Naphthalene	<40.0	ug/kg	250	40.0	1	11/21/17 05:30	11/22/17 22:01	91-20-3	W
Styrene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	100-42-5	W

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Sample Project No.: 40160674

Sample: CONCRETE-3 **Lab ID: 40160674003** Collected: 11/09/17 15:00 Received: 11/11/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Tetrachloroethene	47.3J	ug/kg	63.1	26.3	1	11/21/17 05:30	11/22/17 22:01	127-18-4	
Toluene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	108-88-3	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	79-01-6	W
Trichlorofluoromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	75-69-4	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	75-01-4	W
Xylene (Total)	<75.0	ug/kg	180	75.0	1	11/21/17 05:30	11/22/17 22:01	1330-20-7	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	156-59-2	W
cis-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	10061-01-5	W
m&p-Xylene	<50.0	ug/kg	120	50.0	1	11/21/17 05:30	11/22/17 22:01	179601-23-1	W
n-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	104-51-8	W
n-Propylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	103-65-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	95-47-6	W
p-Isopropyltoluene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	99-87-6	W
sec-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	135-98-8	W
tert-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	98-06-6	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	156-60-5	W
trans-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:01	10061-02-6	W
Surrogates									
Dibromofluoromethane (S)	119	%	68-130		1	11/21/17 05:30	11/22/17 22:01	1868-53-7	1q,P4
Toluene-d8 (S)	132	%	68-149		1	11/21/17 05:30	11/22/17 22:01	2037-26-5	
4-Bromofluorobenzene (S)	128	%	58-141		1	11/21/17 05:30	11/22/17 22:01	460-00-4	
8260 MSV TCLP Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 11/20/17 14:25									
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		11/22/17 12:36	75-35-4	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		11/22/17 12:36	107-06-2	
2-Butanone (MEK)	<29.8	ug/L	200	29.8	10		11/22/17 12:36	78-93-3	L1
Benzene	<5.0	ug/L	10.0	5.0	10		11/22/17 12:36	71-43-2	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		11/22/17 12:36	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		11/22/17 12:36	108-90-7	
Chloroform	<25.0	ug/L	50.0	25.0	10		11/22/17 12:36	67-66-3	
Tetrachloroethene	16.1	ug/L	10.0	5.0	10		11/22/17 12:36	127-18-4	
Trichloroethene	<3.3	ug/L	10.0	3.3	10		11/22/17 12:36	79-01-6	
Vinyl chloride	<1.8	ug/L	10.0	1.8	10		11/22/17 12:36	75-01-4	
Surrogates									
Toluene-d8 (S)	99	%	70-130		10		11/22/17 12:36	2037-26-5	
4-Bromofluorobenzene (S)	95	%	61-130		10		11/22/17 12:36	460-00-4	
Dibromofluoromethane (S)	101	%	67-130		10		11/22/17 12:36	1868-53-7	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	4.9	%	0.10	0.10	1		11/27/17 14:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

Sample: **CONCRETE-4** Lab ID: **40160674004** Collected: 11/09/17 15:10 Received: 11/11/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
1,1,1,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	630-20-6	W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	71-55-6	W
1,1,2,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	79-34-5	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	79-00-5	W
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	75-34-3	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	75-35-4	W
1,1-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	563-58-6	W
1,2,3-Trichlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	87-61-6	W
1,2,3-Trichloropropane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	96-18-4	W
1,2,4-Trichlorobenzene	<47.6	ug/kg	250	47.6	1	11/21/17 05:30	11/22/17 22:25	120-82-1	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	95-63-6	W
1,2-Dibromo-3-chloropropane	<91.2	ug/kg	250	91.2	1	11/21/17 05:30	11/22/17 22:25	96-12-8	W
1,2-Dibromoethane (EDB)	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	106-93-4	W
1,2-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	95-50-1	W
1,2-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	107-06-2	W
1,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	78-87-5	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	108-67-8	W
1,3-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	541-73-1	W
1,3-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	142-28-9	W
1,4-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	106-46-7	W
2,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	594-20-7	W
2-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	95-49-8	W
4-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	106-43-4	W
Benzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	71-43-2	W
Bromobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	108-86-1	W
Bromochloromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	74-97-5	W
Bromodichloromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	75-27-4	W
Bromoform	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	75-25-2	W
Bromomethane	<69.9	ug/kg	250	69.9	1	11/21/17 05:30	11/22/17 22:25	74-83-9	W
Carbon tetrachloride	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	56-23-5	W
Chlorobenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	108-90-7	W
Chloroethane	<67.0	ug/kg	250	67.0	1	11/21/17 05:30	11/22/17 22:25	75-00-3	W
Chloroform	<46.4	ug/kg	250	46.4	1	11/21/17 05:30	11/22/17 22:25	67-66-3	L1,W
Chloromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	74-87-3	W
Dibromochloromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	124-48-1	W
Dibromomethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	74-95-3	W
Dichlorodifluoromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	75-71-8	W
Diisopropyl ether	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	108-20-3	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	100-41-4	W
Hexachloro-1,3-butadiene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	87-68-3	W
Isopropylbenzene (Cumene)	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	98-82-8	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	1634-04-4	W
Methylene Chloride	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	75-09-2	W
Naphthalene	<40.0	ug/kg	250	40.0	1	11/21/17 05:30	11/22/17 22:25	91-20-3	W
Styrene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	100-42-5	W

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690005819 FORMER 1-HOUR CLEAN

Sample Project No.: 40160674

Sample: CONCRETE-4 **Lab ID: 40160674004** Collected: 11/09/17 15:10 Received: 11/11/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Tetrachloroethene	1760	ug/kg	63.9	26.6	1	11/21/17 05:30	11/22/17 22:25	127-18-4	
Toluene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	108-88-3	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	79-01-6	W
Trichlorofluoromethane	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	75-69-4	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	75-01-4	W
Xylene (Total)	<75.0	ug/kg	180	75.0	1	11/21/17 05:30	11/22/17 22:25	1330-20-7	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	156-59-2	W
cis-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	10061-01-5	W
m&p-Xylene	<50.0	ug/kg	120	50.0	1	11/21/17 05:30	11/22/17 22:25	179601-23-1	W
n-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	104-51-8	W
n-Propylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	103-65-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	95-47-6	W
p-Isopropyltoluene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	99-87-6	W
sec-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	135-98-8	W
tert-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	98-06-6	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	156-60-5	W
trans-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	11/21/17 05:30	11/22/17 22:25	10061-02-6	W
Surrogates									
Dibromofluoromethane (S)	87	%	68-130		1	11/21/17 05:30	11/22/17 22:25	1868-53-7	1q,P4
Toluene-d8 (S)	128	%	68-149		1	11/21/17 05:30	11/22/17 22:25	2037-26-5	
4-Bromofluorobenzene (S)	123	%	58-141		1	11/21/17 05:30	11/22/17 22:25	460-00-4	
8260 MSV TCLP Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 11/20/17 14:25									
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		11/22/17 12:58	75-35-4	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		11/22/17 12:58	107-06-2	
2-Butanone (MEK)	<29.8	ug/L	200	29.8	10		11/22/17 12:58	78-93-3	L1
Benzene	<5.0	ug/L	10.0	5.0	10		11/22/17 12:58	71-43-2	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		11/22/17 12:58	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		11/22/17 12:58	108-90-7	
Chloroform	<25.0	ug/L	50.0	25.0	10		11/22/17 12:58	67-66-3	
Tetrachloroethene	95.0	ug/L	10.0	5.0	10		11/22/17 12:58	127-18-4	
Trichloroethene	<3.3	ug/L	10.0	3.3	10		11/22/17 12:58	79-01-6	
Vinyl chloride	<1.8	ug/L	10.0	1.8	10		11/22/17 12:58	75-01-4	
Surrogates									
Toluene-d8 (S)	97	%	70-130		10		11/22/17 12:58	2037-26-5	
4-Bromofluorobenzene (S)	97	%	61-130		10		11/22/17 12:58	460-00-4	
Dibromofluoromethane (S)	93	%	67-130		10		11/22/17 12:58	1868-53-7	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	6.1	%	0.10	0.10	1		11/27/17 14:29		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN
Pace Project No.: 40160674

QC Batch: 274932 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Normal List
Associated Lab Samples: 40160674001, 40160674002, 40160674003, 40160674004

METHOD BLANK: 1617480 Matrix: Solid
Associated Lab Samples: 40160674001, 40160674002, 40160674003, 40160674004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<13.7	50.0	11/22/17 17:23	
1,1,1-Trichloroethane	ug/kg	<14.4	50.0	11/22/17 17:23	
1,1,2,2-Tetrachloroethane	ug/kg	<17.5	50.0	11/22/17 17:23	
1,1,2-Trichloroethane	ug/kg	<20.2	50.0	11/22/17 17:23	
1,1-Dichloroethane	ug/kg	<17.6	50.0	11/22/17 17:23	
1,1-Dichloroethene	ug/kg	<17.6	50.0	11/22/17 17:23	
1,1-Dichloropropene	ug/kg	<14.0	50.0	11/22/17 17:23	
1,2,3-Trichlorobenzene	ug/kg	<17.0	50.0	11/22/17 17:23	
1,2,3-Trichloropropane	ug/kg	<22.3	50.0	11/22/17 17:23	
1,2,4-Trichlorobenzene	ug/kg	<47.6	250	11/22/17 17:23	
1,2,4-Trimethylbenzene	ug/kg	<12.2	50.0	11/22/17 17:23	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	250	11/22/17 17:23	
1,2-Dibromoethane (EDB)	ug/kg	<14.7	50.0	11/22/17 17:23	
1,2-Dichlorobenzene	ug/kg	<16.2	50.0	11/22/17 17:23	
1,2-Dichloroethane	ug/kg	<15.0	50.0	11/22/17 17:23	
1,2-Dichloropropane	ug/kg	<16.8	50.0	11/22/17 17:23	
1,3,5-Trimethylbenzene	ug/kg	<14.5	50.0	11/22/17 17:23	
1,3-Dichlorobenzene	ug/kg	<13.2	50.0	11/22/17 17:23	
1,3-Dichloropropane	ug/kg	<12.0	50.0	11/22/17 17:23	
1,4-Dichlorobenzene	ug/kg	<15.9	50.0	11/22/17 17:23	
2,2-Dichloropropane	ug/kg	<12.6	50.0	11/22/17 17:23	
2-Chlorotoluene	ug/kg	<15.8	50.0	11/22/17 17:23	
4-Chlorotoluene	ug/kg	<13.0	50.0	11/22/17 17:23	
Benzene	ug/kg	<9.2	20.0	11/22/17 17:23	
Bromobenzene	ug/kg	<20.6	50.0	11/22/17 17:23	
Bromochloromethane	ug/kg	<21.4	50.0	11/22/17 17:23	
Bromodichloromethane	ug/kg	<9.8	50.0	11/22/17 17:23	
Bromoform	ug/kg	<19.8	50.0	11/22/17 17:23	
Bromomethane	ug/kg	<69.9	250	11/22/17 17:23	
Carbon tetrachloride	ug/kg	<12.1	50.0	11/22/17 17:23	
Chlorobenzene	ug/kg	<14.8	50.0	11/22/17 17:23	
Chloroethane	ug/kg	<67.0	250	11/22/17 17:23	
Chloroform	ug/kg	<46.4	250	11/22/17 17:23	
Chloromethane	ug/kg	<20.4	50.0	11/22/17 17:23	
cis-1,2-Dichloroethene	ug/kg	<16.6	50.0	11/22/17 17:23	
cis-1,3-Dichloropropene	ug/kg	<16.6	50.0	11/22/17 17:23	
Dibromochloromethane	ug/kg	<17.9	50.0	11/22/17 17:23	
Dibromomethane	ug/kg	<19.3	50.0	11/22/17 17:23	
Dichlorodifluoromethane	ug/kg	<12.3	50.0	11/22/17 17:23	
Diisopropyl ether	ug/kg	<17.7	50.0	11/22/17 17:23	
Ethylbenzene	ug/kg	<12.4	50.0	11/22/17 17:23	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

METHOD BLANK: 1617480

Matrix: Solid

Associated Lab Samples: 40160674001, 40160674002, 40160674003, 40160674004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/kg	<24.5	50.0	11/22/17 17:23	
Isopropylbenzene (Cumene)	ug/kg	<12.6	50.0	11/22/17 17:23	
m&p-Xylene	ug/kg	<34.4	100	11/22/17 17:23	
Methyl-tert-butyl ether	ug/kg	<12.7	50.0	11/22/17 17:23	
Methylene Chloride	ug/kg	<16.2	50.0	11/22/17 17:23	
n-Butylbenzene	ug/kg	<10.5	50.0	11/22/17 17:23	
n-Propylbenzene	ug/kg	<11.6	50.0	11/22/17 17:23	
Naphthalene	ug/kg	<40.0	250	11/22/17 17:23	
o-Xylene	ug/kg	<14.0	50.0	11/22/17 17:23	
p-Isopropyltoluene	ug/kg	<12.0	50.0	11/22/17 17:23	
sec-Butylbenzene	ug/kg	<11.9	50.0	11/22/17 17:23	
Styrene	ug/kg	<9.0	50.0	11/22/17 17:23	
tert-Butylbenzene	ug/kg	<9.5	50.0	11/22/17 17:23	
Tetrachloroethene	ug/kg	<12.9	50.0	11/22/17 17:23	
Toluene	ug/kg	<11.2	50.0	11/22/17 17:23	
trans-1,2-Dichloroethene	ug/kg	<16.5	50.0	11/22/17 17:23	
trans-1,3-Dichloropropene	ug/kg	<14.4	50.0	11/22/17 17:23	
Trichloroethene	ug/kg	<23.6	50.0	11/22/17 17:23	
Trichlorofluoromethane	ug/kg	<24.7	50.0	11/22/17 17:23	
Vinyl chloride	ug/kg	<21.1	50.0	11/22/17 17:23	
Xylene (Total)	ug/kg	<48.4	150	11/22/17 17:23	
4-Bromofluorobenzene (S)	%	103	58-141	11/22/17 17:23	
Dibromofluoromethane (S)	%	101	68-130	11/22/17 17:23	
Toluene-d8 (S)	%	110	68-149	11/22/17 17:23	

LABORATORY CONTROL SAMPLE: 1617481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2640	106	61-122	
1,1,2,2-Tetrachloroethane	ug/kg	2500	2990	120	73-130	
1,1,2-Trichloroethane	ug/kg	2500	2960	118	70-130	
1,1-Dichloroethane	ug/kg	2500	2970	119	63-124	
1,1-Dichloroethene	ug/kg	2500	2080	83	53-117	
1,2,4-Trichlorobenzene	ug/kg	2500	2330	93	78-130	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2550	102	49-140	
1,2-Dibromoethane (EDB)	ug/kg	2500	2800	112	70-130	
1,2-Dichlorobenzene	ug/kg	2500	2530	101	70-130	
1,2-Dichloroethane	ug/kg	2500	3150	126	56-135	
1,2-Dichloropropane	ug/kg	2500	2840	114	77-122	
1,3-Dichlorobenzene	ug/kg	2500	2480	99	70-130	
1,4-Dichlorobenzene	ug/kg	2500	2450	98	70-130	
Benzene	ug/kg	2500	2780	111	66-130	
Bromodichloromethane	ug/kg	2500	2480	99	62-135	
Bromoform	ug/kg	2500	2010	80	68-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

LABORATORY CONTROL SAMPLE: 1617481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromomethane	ug/kg	2500	1910	76	29-137	
Carbon tetrachloride	ug/kg	2500	2610	104	57-130	
Chlorobenzene	ug/kg	2500	2650	106	70-130	
Chloroethane	ug/kg	2500	2280	91	36-144	
Chloroform	ug/kg	2500	2910	117	69-115	L1
Chloromethane	ug/kg	2500	1660	67	32-126	
cis-1,2-Dichloroethene	ug/kg	2500	2740	109	65-130	
cis-1,3-Dichloropropene	ug/kg	2500	2200	88	70-130	
Dibromochloromethane	ug/kg	2500	2690	108	70-130	
Dichlorodifluoromethane	ug/kg	2500	1490	60	10-99	
Ethylbenzene	ug/kg	2500	2880	115	82-122	
Isopropylbenzene (Cumene)	ug/kg	2500	2710	108	70-130	
m&p-Xylene	ug/kg	5000	5300	106	70-130	
Methyl-tert-butyl ether	ug/kg	2500	2760	110	63-134	
Methylene Chloride	ug/kg	2500	2550	102	56-123	
o-Xylene	ug/kg	2500	2660	106	70-130	
Styrene	ug/kg	2500	2770	111	70-130	
Tetrachloroethene	ug/kg	2500	2440	98	70-131	
Toluene	ug/kg	2500	2880	115	80-120	
trans-1,2-Dichloroethene	ug/kg	2500	2450	98	66-130	
trans-1,3-Dichloropropene	ug/kg	2500	2950	118	68-130	
Trichloroethene	ug/kg	2500	2850	114	70-130	
Trichlorofluoromethane	ug/kg	2500	1930	77	37-149	
Vinyl chloride	ug/kg	2500	1870	75	43-128	
Xylene (Total)	ug/kg	7500	7960	106	70-130	
4-Bromofluorobenzene (S)	%			110	58-141	
Dibromofluoromethane (S)	%			105	68-130	
Toluene-d8 (S)	%			108	68-149	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1617482 1617483

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		40160674001 Result	Spike Conc.	Spike Conc.	MSD Result							
1,1,1-Trichloroethane	ug/kg	<50.0	1310	1310	1490	1420	113	108	57-123	5	20	
1,1,2,2-Tetrachloroethane	ug/kg	<50.0	1310	1310	320	334	24	25	73-135	4	20	M1
1,1,2-Trichloroethane	ug/kg	<50.0	1310	1310	1730	1710	132	130	70-130	1	20	M1
1,1-Dichloroethane	ug/kg	<50.0	1310	1310	1680	1720	128	131	63-124	2	20	M1
1,1-Dichloroethene	ug/kg	<50.0	1310	1310	1160	1090	89	83	48-117	6	23	
1,2,4-Trichlorobenzene	ug/kg	<95.1	1310	1310	1530	1470	117	112	78-145	5	20	
1,2-Dibromo-3-chloropropane	ug/kg	<182	1310	1310	1970	1840	150	140	38-168	7	22	
1,2-Dibromoethane (EDB)	ug/kg	<50.0	1310	1310	1610	1490	123	113	70-130	8	20	
1,2-Dichlorobenzene	ug/kg	<50.0	1310	1310	1470	1530	112	117	70-130	4	20	
1,2-Dichloroethane	ug/kg	<50.0	1310	1310	1840	1800	140	137	56-145	2	20	
1,2-Dichloropropane	ug/kg	<50.0	1310	1310	1590	1600	122	122	77-123	0	20	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1617482		1617483		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40160674001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,3-Dichlorobenzene	ug/kg	<50.0	1310	1310	1510	1460	115	111	70-130	4	20		
1,4-Dichlorobenzene	ug/kg	<50.0	1310	1310	1610	1400	123	107	70-130	14	20		
Benzene	ug/kg	<50.0	1310	1310	1590	1580	121	121	65-130	0	20		
Bromodichloromethane	ug/kg	<50.0	1310	1310	1260	1310	96	100	59-141	4	20		
Bromoform	ug/kg	<50.0	1310	1310	1370	1390	105	106	59-141	1	20		
Bromomethane	ug/kg	<140	1310	1310	890	792	68	60	28-139	12	20		
Carbon tetrachloride	ug/kg	<50.0	1310	1310	1440	1360	109	104	50-130	5	20		
Chlorobenzene	ug/kg	<50.0	1310	1310	1580	1590	121	121	70-130	0	20		
Chloroethane	ug/kg	<134	1310	1310	1040	1060	80	81	36-144	1	20		
Chloroform	ug/kg	<92.9	1310	1310	1640	1610	125	123	68-122	2	20	M0	
Chloromethane	ug/kg	<50.0	1310	1310	933	949	71	72	30-126	2	20		
cis-1,2-Dichloroethene	ug/kg	<50.0	1310	1310	1550	1500	118	115	63-130	3	20		
cis-1,3-Dichloropropene	ug/kg	<50.0	1310	1310	1100	1090	84	83	70-130	1	20		
Dibromochloromethane	ug/kg	<50.0	1310	1310	1400	1330	107	101	66-136	5	20		
Dichlorodifluoromethane	ug/kg	<50.0	1310	1310	771	770	59	59	10-99	0	33		
Ethylbenzene	ug/kg	<50.0	1310	1310	1690	1620	129	123	80-122	5	20	M1	
Isopropylbenzene (Cumene)	ug/kg	<50.0	1310	1310	1620	1500	122	113	70-130	7	20		
m&p-Xylene	ug/kg	<100	2620	2620	3210	3010	122	115	70-130	6	20		
Methyl-tert-butyl ether	ug/kg	<50.0	1310	1310	1630	1570	124	120	63-134	4	20		
Methylene Chloride	ug/kg	<50.0	1310	1310	1450	1410	110	107	56-127	3	20		
o-Xylene	ug/kg	<50.0	1310	1310	1530	1490	117	114	70-130	3	20		
Styrene	ug/kg	<50.0	1310	1310	1550	1450	118	110	70-130	7	20		
Tetrachloroethene	ug/kg	115000	1310	1310	13500	15100	-7750	-7620	70-131	12	20	M1	
Toluene	ug/kg	<50.0	1310	1310	1700	1640	130	125	80-120	4	20	M1	
trans-1,2-Dichloroethene	ug/kg	<50.0	1310	1310	1410	1330	107	101	60-130	6	20		
trans-1,3-Dichloropropene	ug/kg	<50.0	1310	1310	1410	1430	108	109	68-130	1	20		
Trichloroethene	ug/kg	<50.0	1310	1310	2720	2840	207	216	70-130	4	20	M1	
Trichlorofluoromethane	ug/kg	<50.0	1310	1310	951	1090	73	83	37-149	13	24		
Vinyl chloride	ug/kg	<50.0	1310	1310	1070	1040	82	79	39-128	4	20		
Xylene (Total)	ug/kg	<150	3930	3930	4740	4500	120	114	70-130	5	20		
4-Bromofluorobenzene (S)	%						133	124	58-141				
Dibromofluoromethane (S)	%						108	105	68-130				
Toluene-d8 (S)	%						130	126	68-149				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

QC Batch: 274926 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 40160674001, 40160674002, 40160674003, 40160674004

METHOD BLANK: 1617424 Matrix: Water
Associated Lab Samples: 40160674001, 40160674002, 40160674003, 40160674004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	<0.41	1.0	11/22/17 07:42	
1,2-Dichloroethane	ug/L	<0.17	1.0	11/22/17 07:42	
2-Butanone (MEK)	ug/L	<3.0	20.0	11/22/17 07:42	
Benzene	ug/L	<0.50	1.0	11/22/17 07:42	
Carbon tetrachloride	ug/L	<0.50	1.0	11/22/17 07:42	
Chlorobenzene	ug/L	<0.50	1.0	11/22/17 07:42	
Chloroform	ug/L	<2.5	5.0	11/22/17 07:42	
Tetrachloroethene	ug/L	<0.50	1.0	11/22/17 07:42	
Trichloroethene	ug/L	<0.33	1.0	11/22/17 07:42	
Vinyl chloride	ug/L	<0.18	1.0	11/22/17 07:42	
4-Bromofluorobenzene (S)	%	93	61-130	11/22/17 07:42	
Dibromofluoromethane (S)	%	102	67-130	11/22/17 07:42	
Toluene-d8 (S)	%	99	70-130	11/22/17 07:42	

METHOD BLANK: 1616945 Matrix: Solid
Associated Lab Samples: 40160674001, 40160674002, 40160674003, 40160674004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	<4.1	10.0	11/22/17 13:44	
1,2-Dichloroethane	ug/L	<1.7	10.0	11/22/17 13:44	
2-Butanone (MEK)	ug/L	<29.8	200	11/22/17 13:44	
Benzene	ug/L	<5.0	10.0	11/22/17 13:44	
Carbon tetrachloride	ug/L	<5.0	10.0	11/22/17 13:44	
Chlorobenzene	ug/L	<5.0	10.0	11/22/17 13:44	
Chloroform	ug/L	<25.0	50.0	11/22/17 13:44	
Tetrachloroethene	ug/L	<5.0	10.0	11/22/17 13:44	
Trichloroethene	ug/L	<3.3	10.0	11/22/17 13:44	
Vinyl chloride	ug/L	<1.8	10.0	11/22/17 13:44	
4-Bromofluorobenzene (S)	%	92	61-130	11/22/17 13:44	
Dibromofluoromethane (S)	%	100	67-130	11/22/17 13:44	
Toluene-d8 (S)	%	98	70-130	11/22/17 13:44	

LABORATORY CONTROL SAMPLE: 1617425

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	42.8	86	75-130	
1,2-Dichloroethane	ug/L	50	43.5	87	70-131	
2-Butanone (MEK)	ug/L	50	75.3	151	50-150 L1	

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

LABORATORY CONTROL SAMPLE: 1617425

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	50.9	102	73-145	
Carbon tetrachloride	ug/L	50	48.9	98	70-133	
Chlorobenzene	ug/L	50	57.5	115	70-130	
Chloroform	ug/L	50	46.7	93	80-121	
Tetrachloroethene	ug/L	50	53.1	106	70-130	
Trichloroethene	ug/L	50	48.5	97	70-130	
Vinyl chloride	ug/L	50	41.6	83	57-136	
4-Bromofluorobenzene (S)	%			105	61-130	
Dibromofluoromethane (S)	%			93	67-130	
Toluene-d8 (S)	%			104	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1618837 1618838

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40160674002 Result	Spike Conc.	Spike Conc.	MS Result						
1,1-Dichloroethene	ug/L	<4.1	500	500	445	477	89	95	75-136	7	20
1,2-Dichloroethane	ug/L	<1.7	500	500	449	450	90	90	70-131	0	20
2-Butanone (MEK)	ug/L	<29.8	500	500	429	474	86	95	50-150	10	20
Benzene	ug/L	<5.0	500	500	523	554	105	111	73-145	6	20
Carbon tetrachloride	ug/L	<5.0	500	500	507	548	101	110	70-134	8	20
Chlorobenzene	ug/L	<5.0	500	500	555	555	111	111	70-130	0	20
Chloroform	ug/L	<25.0	500	500	492	510	98	102	80-121	4	20
Tetrachloroethene	ug/L	37.9	500	500	554	558	103	104	70-130	1	20
Trichloroethene	ug/L	<3.3	500	500	496	497	99	99	70-130	0	20
Vinyl chloride	ug/L	<1.8	500	500	456	484	91	97	56-143	6	20
4-Bromofluorobenzene (S)	%						102	104	61-130		
Dibromofluoromethane (S)	%						98	101	67-130		
Toluene-d8 (S)	%						105	102	70-130		

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QUALITY CONTROL DATA

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

QC Batch: 275327 Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 40160674001, 40160674002, 40160674003, 40160674004

SAMPLE DUPLICATE: 1619632

Parameter	Units	40161263001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.0	5.0	2	10	

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QUALIFIERS

Project: 1690005819 FORMER 1-HOUR CLEAN
Pace Project No.: 40160674

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

SAMPLE QUALIFIERS

Sample: 40160674001

[1] ZHE exposed to air during crushing process

[2] ZHE received in ziplock SOP calls for glass container

Sample: 40160674002

[1] ZHE exposed to air during crushing process

[2] ZHE received in ziplock SOP calls for glass container

Sample: 40160674003

[1] ZHE exposed to air during crushing process

[2] ZHE received in ziplock SOP calls for glass container

Sample: 40160674004

[1] ZHE exposed to air during crushing process

[2] ZHE received in ziplock SOP calls for glass container

ANALYTE QUALIFIERS

1q Sample aliquot was taken from a ziplock bag with head space and MeOH preserved in the laboratory.

H1 Analysis conducted outside the recognized method holding time.

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.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALIFIERS

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

ANALYTE QUALIFIERS

P4 Sample field preservation does not meet EPA or method recommendations for this analysis.

W Non-detect results are reported on a wet weight basis.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1690005819 FORMER 1-HOUR CLEAN

Pace Project No.: 40160674

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40160674001	CONCRETE-1	EPA 5035/5030B	274932	EPA 8260	274943
40160674002	CONCRETE-2	EPA 5035/5030B	274932	EPA 8260	274943
40160674003	CONCRETE-3	EPA 5035/5030B	274932	EPA 8260	274943
40160674004	CONCRETE-4	EPA 5035/5030B	274932	EPA 8260	274943
40160674001	CONCRETE-1	EPA 8260	274926		
40160674002	CONCRETE-2	EPA 8260	274926		
40160674003	CONCRETE-3	EPA 8260	274926		
40160674004	CONCRETE-4	EPA 8260	274926		
40160674001	CONCRETE-1	ASTM D2974-87	275327		
40160674002	CONCRETE-2	ASTM D2974-87	275327		
40160674003	CONCRETE-3	ASTM D2974-87	275327		
40160674004	CONCRETE-4	ASTM D2974-87	275327		

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(Please Print Clearly)

Company Name: Rambell
 Branch/location: Brookfield, WI
 Project Contact: Susan Petrofske
 Phone: (262) 901-3501
 Project Number: 1690005819
 Project Name: Former 1-Hour Cleaners
 Project State: WI
 Sampled By (Print): Jonathan Fucva
 Sampled By (Sign): [Signature]
 PO #: _____
 Regulatory Program: _____



CHAIN OF CUSTODY

Filtered? (YES/NO) _____
 Preservation Codes (CODE)*
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

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

PAGE LAB #	CLIENT FIELD ID	DATE	TIME	MATRIX	Analyses Requested	
					V/N	Pick Letter
001	Concrete -1	11/9/17	1430	Concrete	X	VOCs
002	Concrete -2		1455		X	TCLP Volatiles
003	Concrete -3		1500		X	
004	Concrete -4		1510		X	

Quote #: _____
 Mail To Contact: _____
 Mail To Company: _____
 Mail To Address: _____
 Invoice To Contact: Susan Petrofske
 Invoice To Company: Rambell
 Invoice To Address: 175 N Corporate Dr Suite 160 Brookfield, WI 53045
 Invoice To Phone: (262) 901-3501
 CLIENT COMMENTS: _____
 LAB COMMENTS (Lab Use Only): 1-2/16/17
 Profile #: _____

Rush Turnaround Time Requested - Prelims
 (Rush TAT subject to approval/surcharge)
 Date Needed: _____
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: _____
 Email #2: _____
 Telephone: _____
 Fax: _____

Relinquished By: [Signature] Date/Time: 11/10/17 11:45
 Relinquished By: [Signature] Date/Time: 11/10/17 1300
 Relinquished By: [Signature] Date/Time: 11/10/17 1000
 Relinquished By: _____ Date/Time: _____

Received By: [Signature] Date/Time: 11/10/17 11:45
 Received By: [Signature] Date/Time: 11/10/17 1000
 Received By: _____ Date/Time: _____

PACE Project No. 40160674
 Receipt Temp = ROT °C
 Sample Receipt PH OK / Adjusted
 Cooler Custody Seal Present / Not Present
 Intact / Not Intact



Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Client Name: Ramboll

Project #:

WO#: 40160674
Barcode with number 40160674

Courier: Fed Ex UPS Client Pace Other: CS Logistics

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used N/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROP /Corr: _____ Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

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

Person examining contents:
Date: 11/13/12
Initials: SSM

Comments:

Table with 15 rows of inspection items and checkboxes. Includes items like Chain of Custody Present, Short Hold Time Analysis, Rush Turn Around Time Requested, Sufficient Volume, Containers Intact, Sample Labels match COC, and Headspace in VOA Vials.

Client Notification/ Resolution: _____ If checked, see attached form for additional comments
Person Contacted: _____ Date/Time: _____
Comments/ Resolution: _____

Project Manager Review: _____ Date: 11/13/12

APPENDIX C


PRE-REMEDIATION TREATABILITY STUDY DOCUMENTATION

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other _____

Facility/Project Name MU - Former 1-Hour Valet Cleaners Site			License/Permit/Monitoring Number		Boring Number TB-1	
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: Daniel Last Name: Bendorf Firm: Probe Technologies, Inc.			Date Drilling Started <u>11/09/2017</u> m m d d y y y y		Date Drilling Completed <u>11/09/2017</u> m m d d y y y y	
WI Unique Well No.		DNR Well ID No.	Well Name NA	Final Static Water Level ____ Feet MSL		Surface Elevation ____ Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>		State Plane _____ N, _____ E		Lat _____ ° _____ ' _____ "		Local Grid Location
1/4 of _____ 1/4 of Section _____, T _____ N, R _____		Long _____ ° _____ ' _____ "		____ Feet <input type="checkbox"/> S _____ Feet <input type="checkbox"/> W		Borehole Diameter <u>2</u> inches
Facility ID		County Milwaukee	County Code <u>4</u> <u>1</u>	Civil Town/City/ or Village City of Milwaukee, Wisconsin		

Sample		Blow Counts	Depth in Feet (below ground surface)	Soil/Rock Description and Geologic Origin for Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/Comments
Number and Type	Length Alt. & Recovered (ft)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			1.0	B l i n d D r i l l e d										
			2.0											
			3.0											
			4.0											
			5.0											
			6.0											
			7.0											
			8.0											
			9.0											
			10.0											
			11.0											
			12.0											

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

Signature  Firm Ramboll Environ

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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other _____

Facility/Project Name MU - Former 1-Hour Valet Cleaners Site			License/Permit/Monitoring Number		Boring Number TB-1		
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: Daniel Last Name: Bendorf Firm: Probe Technologies, Inc.			Date Drilling Started <u>11/09/2017</u> m m d d y y y y		Date Drilling Completed <u>11/09/2017</u> m m d d y y y y		
WI Unique Well No.		DNR Well ID No.	Well Name NA		Final Static Water Level ____ Feet MSL		
					Surface Elevation ____ Feet MSL		
					Borehole Diameter <u>2</u> inches		
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>			Local Grid Location				
State Plane _____ N, _____ E 1/4 of _____ 1/4 of Section _____, T _____ N, R _____			Lat _____ ° _____ ' _____ " _____ N _____ E Long _____ ° _____ ' _____ " _____ Feet S _____ Feet W				
Facility ID		County Milwaukee		County Code <u>41</u>		Civil Town/City/ or Village City of Milwaukee, Wisconsin	

Sample Number and Type	Length Alt. & Recovered (ft)	Blow Counts	Depth in Feet (below ground surface)	Soil/Rock Description and Geologic Origin for Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/Comments					
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200						
			13.0	B l i n d D r i l l e d															
			14.0																
			15.0																
			16.0																
			17.0																
			18.0																
			19.0																
			20.0																
	R=3'		21.0	(20-24') Brown, silty fine to medium sand, some clay, wet	SM			5.6											
			22.0					7.0											
			23.0					>2,000											
			24.0					>2,000											

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

Signature *[Signature]* Firm Ramboll Environ

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Route To: Watershed/Wastewater Waste Management
 Remediation/Redevelopment Other _____

Facility/Project Name MU - Former 1-Hour Valet Cleaners Site			License/Permit/Monitoring Number		Boring Number TB-1	
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: Daniel Last Name: Bendorf Firm: Probe Technologies, Inc.			Date Drilling Started <u>11/09/2017</u> m m d d y y y y		Date Drilling Completed <u>11/09/2017</u> m m d d y y y y	
WI Unique Well No.		DNR Well ID No.	Well Name NA	Final Static Water Level ____ Feet MSL		Surface Elevation ____ Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> or Boring Location <input type="checkbox"/>		State Plane _____ N, _____ E		Lat _____ ° _____ ' _____ "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E ____ Feet <input type="checkbox"/> S _____ Feet <input type="checkbox"/> W
____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____		Long _____ ° _____ ' _____ "		____ Feet <input type="checkbox"/> S _____ Feet <input type="checkbox"/> W		Borehole Diameter <u>2</u> inches

Facility ID		County Milwaukee		County Code <u>4</u> <u>1</u>		Civil Town/City/ or Village City of Milwaukee, Wisconsin	
-------------	--	---------------------	--	----------------------------------	--	---	--

Number and Type	Length Alt. & Recovered (ft)	Blow Counts	Depth in Feet (below ground surface)	Soil/Rock Description and Geologic Origin for Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
	R=4'		25.0	(24-27') Brown, fine to medium sand and gravel, some clay, wet	SW		>2,000								
			26.0				1,980								
			27.0	(27-28') Brown, clay, stiff	CL		11.8								
			28.0				End of Boring								
			29.0												
			30.0												
			31.0												
			32.0												
			33.0												
			34.0												
			35.0												
			36.0												

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

Signature 	Firm Ramboll Environ
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Verification Only of Fill and Seal

Route to:
 Drinking Water _____
 Waste Management _____
 Watershed/Wastewater _____
 Other: _____
Remediation/Redevelopment

1. Well Location Information				2. Facility/ Owner Information			
County Milwaukee		WI Unique Well # of Removed Well		Hicap #		Facility Name Marquette University - Former 1-Hour Valet Cleaners	
Latitude / Longitude (Degrees and Minutes)		Method Code (see instructions)		Facility ID (FID or PWS)		License/Permit/Monitoring #	
_____ ' N		_____		Original Well Owner		Present Well Owner	
_____ ' W		_____		Mailing Address of Present Owner		City of Present Owner	
1/4 1/4 1/4		Section		Township		State	
or Gov't Lot #		N		Range		ZIP Code	
Well Street Address 1200 West Wells Street		Well ZIP Code 53233		City of Present Owner		ZIP Code	
Well City, Village or Town Milwaukee		Lot #		4. Pump, Liner, Screen, Casing & Sealing Material			
Subdivision Name		Reason For Removal From Service Site Closure		Pump and piping removed? Yes No <u>N/A</u>			
Well Unique Well # of Replacement Well		Original Construction Date (mm/dd/yyyy) 11/9/17		Liner(s) removed? Yes No <u>N/A</u>			
Monitoring ^{Well} Water Well		If a Well Construction Report is available, please attach.		Screen removed? Yes No <u>N/A</u>			
<u>Borehole / Drillhole</u>				Casing left in place? Yes No <u>N/A</u>			
Construction Type:		Was casing cut off below surface? Yes No <u>N/A</u>		Did sealing material rise to surface? <u>Yes</u> No N/A			
<u>Drilled</u> Driven (Sandpoint) Dug		Did material settle after 24 hours? Yes <u>No</u> N/A		If yes, was hole retopped? Yes No <u>N/A</u>			
Other (specify):		If bentonite chips were used, were they hydrated with water from a known safe source? <u>Yes</u> No N/A		Required Method of Placing Sealing Material			
Formation Type:		<u>Unconsolidated Formation</u> Bedrock		<u>Conductor Pipe-Gravity</u> Conductor Pipe-Pumped			
Total Well Depth From Ground Surface (ft.)		Casing Diameter (in.)		Screened & Poured Other (Explain):			
Lower Drillhole Diameter (in.)		Casing Depth (ft.)		(Bentonite Chips)			
2		Was well annular space grouted? Yes No Unknown		Sealing Materials			
If yes, to what depth (feet)?		Depth to Water (feet)		Neat Cement Grout Clay-Sand Slurry (11 lb./gal. wt.)			
				Sand-Cement (Concrete) Grout Bentonite-Sand Slurry "			
				<u>Concrete</u> Bentonite Chips			
				For Monitoring Wells and Monitoring Well Boreholes Only:			
				<u>Bentonite Chips</u> Bentonite - Cement Grout			
				Granular Bentonite Bentonite - Sand Slurry			

5. Material Used To Fill Well / Drillhole				6. Comments			
From (ft.)		To (ft.)		No. Yards, Sacks Sealant or Volume (circle one)		Mix Ratio or Mud Weight	
Concrete		Surface		0.5			
Bentonite chips		0.5		28			
TB-1							

7. Supervision of Work				DNR Use Only			
Name of Person or Firm Doing Filling & Sealing		License #		Date of Filling & Sealing (mm/dd/yyyy)		Date Received	
Ramboll / Probe Technologies				11/9/2017			
Street or Route		Telephone Number		Comments			
175 N Corporate Dr, Suite 160		(262) 901-3505					
City		State		ZIP Code		Signature of Person Doing Work	
Brookfield		WI		53045			
						Date Signed	
						11/10/2017	

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name MU - Former 1-Hour Valet Cleaners Site			License/Permit/Monitoring Number		Boring Number TB-2	
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: Daniel Last Name: Bendorf Firm: Probe Technologies, Inc.			Date Drilling Started 1 1 / 0 9 / 2 0 1 7 m m d d y y y y		Date Drilling Completed 1 1 / 0 9 / 2 0 1 7 m m d d y y y y	
WI Unique Well No.		DNR Well ID No.	Well Name NA		Final Static Water Level ____ Feet MSL	Surface Elevation ____ Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> or Boring Location <input type="checkbox"/>		State Plane _____ N, _____ E		Lat _____ ° _____ ' _____ "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E
1/4 of _____ 1/4 of Section _____, T _____ N, R _____		Long _____ ° _____ ' _____ "		____ Feet <input type="checkbox"/> S _____ Feet <input type="checkbox"/> W		Borehole Diameter 2 inches
Facility ID		County Milwaukee		County Code 4 1		Civil Town/City/ or Village City of Milwaukee, Wisconsin

Sample Number and Type	Length Alt. & Recovered (ft)	Blow Counts	Depth in Feet (below ground surface)	Soil/Rock Description and Geologic Origin for Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/Comments	
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
				(0-3") Concrete	--			0.0							
	R=2'		1.0					0.4							
			2.0												
			3.0	(3"-6') Brown, silty clay, with fine to medium sand, trace fine gravel, moist	CL			0.8							
			4.0												
	R=2'		5.0					11.2							
			6.0												
			7.0	(6-9') Brown, silty sand, trace fine gravel, moist	SM			1.5							
			8.0												
			9.0					10.2							
	R=4'		10.0	(9-20') Brown, silty clay, high plasticity, wet. Gray and more stiff beginning at 10.5'. Silt seam at 18.5'. Fine to medium sand seam at 19.5'.	CL			15.5							
			11.0												
			12.0					8.4							

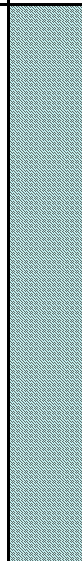


I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *Jonathan J. [Signature]* Firm Ramboll Environ

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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other _____

Facility/Project Name MU - Former 1-Hour Valet Cleaners Site			License/Permit/Monitoring Number		Boring Number TB-2	
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: Daniel Last Name: Bendorf Firm: Probe Technologies, Inc.			Date Drilling Started 1 1 / 0 9 / 2 0 1 7 m m d d y y y y		Date Drilling Completed 1 1 / 0 9 / 2 0 1 7 m m d d y y y y	
WI Unique Well No.		DNR Well ID No.	Well Name NA		Final Static Water Level ____ Feet MSL	Surface Elevation ____ Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>		State Plane _____ N, _____ E		Lat _____ ° _____ ' _____ "		Local Grid Location
1/4 of _____ 1/4 of Section _____, T _____ N, R _____		Long _____ ° _____ ' _____ "		_____ Feet <input type="checkbox"/> S _____ Feet <input type="checkbox"/> W		Borehole Diameter 2 inches
Facility ID		County Milwaukee		County Code 4 1		Civil Town/City/ or Village City of Milwaukee, Wisconsin

Sample		Blow Counts	Depth in Feet (below ground surface)	Soil/Rock Description and Geologic Origin for Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/Comments
Number and Type	Length Alt. & Recovered (ft)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
R=3'			13.0	(9-20') Brown, silty clay, high plasticity, wet. Gray and more stiff beginning at 10.5'. Silt seam at 18.5'. Fine to medium sand seam at 19.5'.	CL			7.4						
			14.0					47.3						
			15.0					58.2						
			16.0					43.7						
R=3.5'			17.0					48.7						
			18.0					783						
			19.0											
			20.0											
R=4'			21.0	(20-24') Brown, silty fine to medium sand, some clay, wet	SM			783						
			22.0											
			23.0											
			24.0											

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

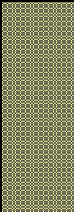

Signature *[Signature]* Firm Ramboll Environ

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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other _____

Facility/Project Name MU - Former 1-Hour Valet Cleaners Site			License/Permit/Monitoring Number		Boring Number TB-2		
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: Daniel Last Name: Bendorf Firm: Probe Technologies, Inc.			Date Drilling Started <u>1 1 / 0 9 / 2 0 1 7</u> m m d d y y y y		Date Drilling Completed <u>1 1 / 0 9 / 2 0 1 7</u> m m d d y y y y		
WI Unique Well No.		DNR Well ID No.	Well Name NA		Final Static Water Level ____ Feet MSL		
					Surface Elevation ____ Feet MSL		
					Borehole Diameter <u>2</u> inches		
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>			State Plane _____ N, _____ E		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E		
1/4 of _____ 1/4 of Section _____, T _____ N, R _____			Lat _____ ° _____ ' _____ "		_____ Feet <input type="checkbox"/> S _____ Feet <input type="checkbox"/> W		
Long _____ ° _____ ' _____ "							

Facility ID		County Milwaukee		County Code <u>4 1</u>		Civil Town/City/ or Village City of Milwaukee, Wisconsin	
-------------	--	----------------------------	--	---------------------------	--	--	--

Sample Number and Type	Length Alt. & Recovered (ft)	Blow Counts	Depth in Feet (below ground surface)	Soil/Rock Description and Geologic Origin for Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
R=4'			25.0	(24-27') Brown, fine to medium sand and gravel, some clay, wet	SW		678								
			26.0												
			27.0	(27-28') Brown, clay, stiff	CL		178								
			28.0												
			29.0	End of Boring											
			30.0												
			31.0												
			32.0												
			33.0												
			34.0												
			35.0												
			36.0												

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

Signature 	Firm Ramboll Environ
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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 Milwaukee	WI Unique Well # of Removed Well	Hicap #
Latitude / Longitude (Degrees and Minutes)		Method Code (see instructions)
° ' N		
° ' W		
1/4 1/4	1/4	Section
or Gov't Lot #		Township
		Range
Well Street Address 1200 West Wells Street		E
Well City, Village or Town Milwaukee		W
Well ZIP Code 53233		
Subdivision Name		Lot #

2. Facility/ Owner Information

Facility Name Marquette University - Former 1-Hour Valet Cleaners
Facility ID (FID or PWS)
License/Permit/Monitoring #
Original Well Owner
Present Well Owner
Mailing Address of Present Owner
City of Present Owner
State
ZIP Code

Reason For Removal From Service

WI Unique Well # of Replacement Well

Site Closure

3. Well / Drillhole / Borehole Information

Monitoring ^{Well}	Original Construction Date (mm/dd/yyyy)
Water Well	11/9/17
<u>Borehole / Drillhole</u>	If a Well Construction Report is available, please attach.
Construction Type:	
<u>Drilled</u>	Driven (Sandpoint)
	Dug
Other (specify):	

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	Yes	No	<u>N/A</u>
Liner(s) removed?	Yes	No	<u>N/A</u>
Screen removed?	Yes	No	<u>N/A</u>
Casing left in place?	Yes	No	<u>N/A</u>
Was casing cut off below surface?	Yes	No	<u>N/A</u>
Did sealing material rise to surface?	<u>Yes</u>	No	N/A
Did material settle after 24 hours?	Yes	<u>No</u>	N/A
If yes, was hole retopped?	Yes	No	<u>N/A</u>
If bentonite chips were used, were they hydrated with water from a known safe source?	<u>Yes</u>	No	N/A

Formation Type:

<u>Unconsolidated Formation</u>	Bedrock
---------------------------------	---------

Required Method of Placing Sealing Material

<u>Conductor Pipe-Gravity</u>	Conductor Pipe-Pumped
Screened & Poured	Other (Explain):
(Bentonite Chips)	

Total Well Depth From Ground Surface (ft.)

	Casing Diameter (in.)
--	-----------------------

Sealing Materials

Neat Cement Grout	Clay-Sand Slurry (11 lb./gal. wt.)
Sand-Cement (Concrete) Grout	Bentonite-Sand Slurry "
<u>Concrete</u>	Bentonite Chips

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	

Was well annular space grouted?	Yes	No	Unknown
---------------------------------	-----	----	---------

For Monitoring Wells and Monitoring Well Boreholes Only:

<u>Bentonite Chips</u>	Bentonite - Cement Grout
Granular Bentonite	Bentonite - Sand Slurry

If yes, to what depth (feet)?	Depth to Water (feet)
-------------------------------	-----------------------

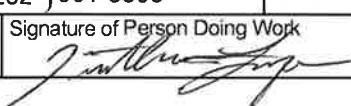
5. Material Used To Fill Well / Drillhole

From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Surface	0.5		
0.5	28		

6. Comments

TB-2

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing Ramboll / Probe Technologies	License #	Date of Filling & Sealing (mm/dd/yyyy) 11/9/2017	DNR Use Only	
Street or Route 175 N Corporate Dr, Suite 160	Telephone Number (262) 901-3505	Comments	Date Received	Noted By
City Brookfield	State WI	ZIP Code 53045	Signature of Person Doing Work 	Date Signed 11/10/2017

Treatability Study Summary for Chlorinated Ethenes Destruction by Zero-valent Iron (ZVI) at the One Hour Valet Cleaners Site

Prepared for:
Ramboll, Milwaukee, Wisconsin

Revision 2 – February 7, 2018

Introduction

The former One Hour Valet Cleaner site in Milwaukee, Wisconsin, has approximately 2,000 yd³ of soil that was contaminated by tetrachloroethene (PCE) from historical operations. The targeted soil is predominantly silty clay both above and below the water table. Ramboll is evaluating the application of ZVI mechanically mixed into the soil for the degradation of PCE and potential daughter products from reductive dechlorination. The proposed treatability study is designed to provide information related to the dose of ZVI applied to the soil.

Samples Received for Evaluation

Ramboll collected soil and groundwater samples on November 9, 2017. Two 1-litre samples representative of the contaminated soil from TB-1 (total of 3.4 kg), and one litre of site groundwater from PZ-1 were received on November 10, 2017 under chain-of-custody in good condition. ReSolution Partners (RP) opened one of the bottles, with most of the soil described as CLAY with a small amount of coarse sand to fine gravel (≤ 1.5 cm), moist and plastic and dark greyish brown (2.5Y4/2). The sample also included a small amount of SAND with silt and clay that was slightly plastic and dark greyish brown.

RP quickly mixed both soil types in a stainless-steel bowl using a stainless-steel spatula (approximately 2 minutes). Gravel > 1 cm was removed and the homogenized soil was repacked in the field sample bottles and placed in refrigerated storage prior to testing. Homogenization and repacking required approximately four minutes.

ZVI was received from ReDox Tech for use during the evaluation. The ZVI is representative of material that will be used for the remediation.

Treatability Study – Phase 1

RP submitted a representative subsample of soil to Pace Analytical Services-WI for analysis of volatile organic compounds by USEPA Method 8260B. The base line analyses detected methylene chloride, tetrachloroethene (PCE) and trichloroethene (Table 1). Laboratory reports are provided in Attachment 1. Ramboll agreed to proceed with the use of site soil based on these reported concentrations.

The following microcosms were prepared in glass bottles with Teflon-lined lids on November 20, 2017:

- An unamended control
- Soil plus 1.5 wt. % ZVI
- Soil plus 2.5 wt. % ZVI
- Soil plus 3.0 wt. % ZVI

Each microcosm received 300 g of soil to achieve a zero headspace in the bottle. The as-received soil contained 13.2 wt.% water, so an additional 2 wt. % (6 mL) of site groundwater was added to achieve a 15 wt.% target moisture content that had been specified in the study scope of work. The added water did not change the visual or textural consistency of the soil samples (Figure 1). Each microcosm exposed the soil to the atmosphere for approximately 2 minutes.

The microcosms were stored inverted and in the dark at room temperature for 4 weeks of reaction time. At the end of the 4-week reaction period, soil samples were shipped to Pace Analytical Services-WI for analysis of VOCs by USEPA Method 8260B under standard-turnaround-time on December 18, 2017.

Results – Phase 1

Table 1 includes results of constituents of concern. No other VOCs were detected. Laboratory reports are provided in Attachment 1.

When compared to the control sample, PCE concentrations were reduced by 30 to 42 percent over a range of ZVI concentrations between 1.5 and 3.0 wt%. TCE concentrations increased between 123 and 190 percent, possibly due to the breakdown of PCE. No other daughter products were detected in the analyses. However, the control sample appears to have an unusually high PCE concentration compared to the baseline and compared to the Phase 2 baseline and control samples discussed below. Comparing the treated samples to the baseline concentrations results in PCE concentration reductions

of 7, 17, and 23 % as the ZVI dose increases from 1.5 to 3.0 wt.%. TCE concentrations still increased with ZVI dose, again suggesting PCE degradation to TCE.

The moisture content of TB-1A was 12.7 wt.% (slightly less than the target 15 wt. %). The treated samples' moisture contents ranged from 10.5 to 9.7 to 9.0 wt.% with the moisture content decreasing with increased ZVI dose.

There was no visual evidence of gas generation (i.e. bulging of the cap septa) in the ZVI-amended samples.

The amount of degradation was less than expected. Review of the results with Redox Tech and Ramboll concluded that there may have been insufficient moisture content to facilitate the VOC destruction by ZVI. A second phase of testing was agreed to with a target moisture content of 30 wt.%.

Treatability Study – Phase 2

The second 1-litre container of soil was opened for the Phase 2 trials at higher water content. The sample was homogenized as described above. The soil was soil described as CLAY with a small amount of coarse sand to fine gravel (≤ 1.5 cm), moist and plastic and dark greyish brown (2.5Y4/2). There was no sand fraction in the second container.

RP submitted a representative subsample of soil from the second container to Pace Analytical Services-WI for analysis of volatile organic compounds by USEPA Method 8260B. Only PCE was detected in the baseline sample from the second container (Table 2). The PCE concentration in the second container was within 8 % of the PCE concentration in the first container. The moisture content of the second container was 13.0 wt.%, or the same as the first container.

Microcosms were prepared on January 4, 2018 for an unamended control and soil plus 2.5 wt. % ZVI. Each microcosm received 350 g of soil. A slightly larger amount of soil was used in Phase 2 to facilitate filling the bottles to zero head space. It was assumed that the 13.2 wt. % water content of the first bottle also was applicable to the second bottle, so an additional 17 wt. % (60 mL) of site groundwater was added to achieve a target 30 wt.% moisture content. The added water resulted in the soil samples having the consistency of peanut butter (Figure 1) and a measured water content of 26.7 wt.% in a separate aliquot of soil from the amended soil aliquots.

The microcosms were stored inverted and in the dark at room temperature for 2 weeks of reaction time. At the end of the 2-week reaction period, soil samples were shipped to Pace Analytical Services-WI for analysis of VOCs by USEPA Method 8260B under standard-turnaround-time on January 18, 2018.

Results – Phase 2

Table 2 presents the results of constituents of concern. Only PCE was detected. The PCE concentration at 2.5 wt. % was essentially unchanged from the control and baseline results. The moisture content of TB-1 B2 Control was 21.4 wt.%. The treated sample moisture content was 17.8 wt.%. Both test samples were again, less than the target 30 wt. %). As in Phase 1, there was no visual evidence of gas generation (i.e. bulging of the cap septa) in the ZVI-amended sample.

Conclusions

The comparison of control to baseline results indicate that there was no VOC loss from the microcosms over the 4- and 2-week reaction times of Phase 1 and 2.

The addition of ZVI to the soil and groundwater samples at up to 2.5 wt.% resulted in limited PCE destruction and TCE formation at a soil moisture content of about 13 wt. %.

Increasing the soil moisture content to 21 wt. % resulted in no significant PCE loss at 2.5 wt. % ZVI.

The water contents of the test samples at 14 days reaction time were always less than the 30 wt. % target for Phase 1 or the measured Phase 2 water content of 27 wt. % following the addition of 6 or 60 mL of groundwater and there appeared to a consistent loss of water with increasing ZVI addition. Given the lack of VOC loss from the microcosms, it is unlikely that the water escaped as vapor from the bottles. The consistent rate of water loss shown below suggests the water was consumed by chemical reaction(s) or was lost to hydration reactions that were unaffected by the low temperature drying used to determine moisture content.

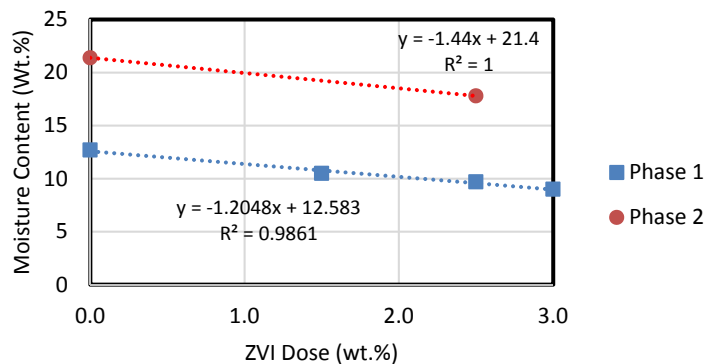


Figure 1. Consistency of soil with varying amounts of water addition.



Table 1. Phase 1 Treatability Results.

Analyte	TB-1A Baseline	TB-1A Control (0% ZVI)		TB-1A (1.5% ZVI)		TB-1A (2.5% ZVI)		TB-1A (3.0% ZVI)	
	Result (µg/kg)	Result (µg/kg)	% Reduction	Result (µg/kg)	% Reduction	Result (µg/kg)	% Reduction	Result (µg/kg)	% Reduction
Methylene Chloride	2,230 J	<1,490	N/A	<1,450	N/A	<898	N/A	<891	N/A
TCE	2,710	2,470 J	N/A	5,520	-123	7,160	-190	6,660	-170
PCE	643,000	850,000	N/A	601,000	30	534,000	37	497,000	42

J – Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
Negative reduction values indicate an increase in concentration.

Table 2. Phase 2 Treatability Results.

Analyte	TB-1 B2 Baseline	TB-1 B2 Control (0% ZVI)		TB-1 B2 2.5ZVI (2.5% ZVI)	
	Result (µg/kg)	Result (µg/kg)	% Reduction	Result (µg/kg)	% Reduction
Methylene Chloride	<1,490	<1,650	N/A	<1,970	N/A
TCE	<2,710	<2,470	N/A	<2,880	N/A
PCE	591,000	606,000	NA	650,000	-107

J – Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
Negative reduction values indicate an increase in concentration.



Attachment 1
Laboratory Reports

January 30, 2018

Angela Hassell
ReResolution Partners, LLC.
967 Jonathon Drive
Madison, WI 53713

RE: Project: RAMBOLL ENV - 1 HR MKE
Pace Project No.: 40163710

Dear Angela Hassell:

Enclosed are the analytical results for sample(s) received by the laboratory on January 19, 2018. 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,



Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Kevin Baker, ReResolution Partners, LLC.
Bernd Rehm, ReResolution Partners, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: RAMBOLL ENV - 1 HR MKE

Pace Project No.: 40163710

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: RAMBOLL ENV - 1 HR MKE

Pace Project No.: 40163710

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40163710001	TB-1 B2 CONTROL	Solid	01/18/18 10:00	01/19/18 08:30
40163710002	TB-1 B2 2.5 ZVI	Solid	01/18/18 10:10	01/19/18 08:30

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SAMPLE ANALYTE COUNT

Project: RAMBOLL ENV - 1 HR MKE

Pace Project No.: 40163710

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40163710001	TB-1 B2 CONTROL	EPA 8260	SMT	51	PASI-G
		ASTM D2974-87	RMV	1	PASI-G
40163710002	TB-1 B2 2.5 ZVI	EPA 8260	SMT	51	PASI-G
		ASTM D2974-87	RMV	1	PASI-G

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SUMMARY OF DETECTION

Project: RAMBOLL ENV - 1 HR MKE

Pace Project No.: 40163710

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40163710001	TB-1 B2 CONTROL					
EPA 8260	Tetrachloroethene	606000	ug/kg	5090	01/24/18 10:28	
ASTM D2974-87	Percent Moisture	21.4	%	0.10	01/29/18 16:00	
40163710002	TB-1 B2 2.5 ZVI					
EPA 8260	Tetrachloroethene	650000	ug/kg	6090	01/24/18 10:51	
ASTM D2974-87	Percent Moisture	17.8	%	0.10	01/29/18 16:00	

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PROJECT NARRATIVE

Project: RAMBOLL ENV - 1 HR MKE
Pace Project No.: 40163710

Method: EPA 8260
Description: 8260 MSV Med Level Full List
Client: ReSolution Partners, LLC.
Date: January 30, 2018

General Information:

2 samples were analyzed for EPA 8260. 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.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B 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.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 279575

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- TB-1 B2 2.5 ZVI (Lab ID: 40163710002)
 - 4-Bromofluorobenzene (S)
 - Dibromofluoromethane (S)
 - Toluene-d8 (S)
- TB-1 B2 CONTROL (Lab ID: 40163710001)
 - 4-Bromofluorobenzene (S)
 - Dibromofluoromethane (S)
 - Toluene-d8 (S)

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.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: RAMBOLL ENV - 1 HR MKE
Pace Project No.: 40163710

Method: EPA 8260
Description: 8260 MSV Med Level Full List
Client: ReSolution Partners, LLC.
Date: January 30, 2018

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: RAMBOLL ENV - 1 HR MKE
Pace Project No.: 40163710

Sample: **TB-1 B2 CONTROL** Lab ID: **40163710001** Collected: 01/18/18 10:00 Received: 01/19/18 08:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Acetone	<10000	ug/kg	25400	10000	80	01/23/18 07:45	01/24/18 10:28	67-64-1	
Benzene	<938	ug/kg	2040	938	80	01/23/18 07:45	01/24/18 10:28	71-43-2	
Bromodichloromethane	<992	ug/kg	5090	992	80	01/23/18 07:45	01/24/18 10:28	75-27-4	
Bromoform	<2010	ug/kg	5090	2010	80	01/23/18 07:45	01/24/18 10:28	75-25-2	
Bromomethane	<7110	ug/kg	25400	7110	80	01/23/18 07:45	01/24/18 10:28	74-83-9	
2-Butanone (MEK)	<12600	ug/kg	25400	12600	80	01/23/18 07:45	01/24/18 10:28	78-93-3	
Carbon disulfide	<1130	ug/kg	5090	1130	80	01/23/18 07:45	01/24/18 10:28	75-15-0	
Carbon tetrachloride	<1230	ug/kg	5090	1230	80	01/23/18 07:45	01/24/18 10:28	56-23-5	
Chlorobenzene	<1500	ug/kg	5090	1500	80	01/23/18 07:45	01/24/18 10:28	108-90-7	
Chloroethane	<6820	ug/kg	25400	6820	80	01/23/18 07:45	01/24/18 10:28	75-00-3	
Chloroform	<4730	ug/kg	25400	4730	80	01/23/18 07:45	01/24/18 10:28	67-66-3	
Chloromethane	<2080	ug/kg	5090	2080	80	01/23/18 07:45	01/24/18 10:28	74-87-3	
Cyclohexane	<6350	ug/kg	25400	6350	80	01/23/18 07:45	01/24/18 10:28	110-82-7	
1,2-Dibromo-3-chloropropane	<9290	ug/kg	25400	9290	80	01/23/18 07:45	01/24/18 10:28	96-12-8	
Dibromochloromethane	<1820	ug/kg	5090	1820	80	01/23/18 07:45	01/24/18 10:28	124-48-1	
1,2-Dibromoethane (EDB)	<1500	ug/kg	5090	1500	80	01/23/18 07:45	01/24/18 10:28	106-93-4	
1,2-Dichlorobenzene	<1650	ug/kg	5090	1650	80	01/23/18 07:45	01/24/18 10:28	95-50-1	
1,3-Dichlorobenzene	<1340	ug/kg	5090	1340	80	01/23/18 07:45	01/24/18 10:28	541-73-1	
1,4-Dichlorobenzene	<1620	ug/kg	5090	1620	80	01/23/18 07:45	01/24/18 10:28	106-46-7	
Dichlorodifluoromethane	<1250	ug/kg	5090	1250	80	01/23/18 07:45	01/24/18 10:28	75-71-8	
1,1-Dichloroethane	<1790	ug/kg	5090	1790	80	01/23/18 07:45	01/24/18 10:28	75-34-3	
1,2-Dichloroethane	<1530	ug/kg	5090	1530	80	01/23/18 07:45	01/24/18 10:28	107-06-2	
1,1-Dichloroethene	<1790	ug/kg	5090	1790	80	01/23/18 07:45	01/24/18 10:28	75-35-4	
cis-1,2-Dichloroethene	<1690	ug/kg	5090	1690	80	01/23/18 07:45	01/24/18 10:28	156-59-2	
trans-1,2-Dichloroethene	<1680	ug/kg	5090	1680	80	01/23/18 07:45	01/24/18 10:28	156-60-5	
1,2-Dichloropropane	<1710	ug/kg	5090	1710	80	01/23/18 07:45	01/24/18 10:28	78-87-5	
cis-1,3-Dichloropropene	<1690	ug/kg	5090	1690	80	01/23/18 07:45	01/24/18 10:28	10061-01-5	
trans-1,3-Dichloropropene	<1470	ug/kg	5090	1470	80	01/23/18 07:45	01/24/18 10:28	10061-02-6	
Ethylbenzene	<1260	ug/kg	5090	1260	80	01/23/18 07:45	01/24/18 10:28	100-41-4	
2-Hexanone	<5290	ug/kg	25400	5290	80	01/23/18 07:45	01/24/18 10:28	591-78-6	
Isopropylbenzene (Cumene)	<1280	ug/kg	5090	1280	80	01/23/18 07:45	01/24/18 10:28	98-82-8	
Methyl acetate	<16700	ug/kg	25400	16700	80	01/23/18 07:45	01/24/18 10:28	79-20-9	
Methylcyclohexane	<7360	ug/kg	25400	7360	80	01/23/18 07:45	01/24/18 10:28	108-87-2	
Methylene Chloride	<1650	ug/kg	5090	1650	80	01/23/18 07:45	01/24/18 10:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	<4180	ug/kg	25400	4180	80	01/23/18 07:45	01/24/18 10:28	108-10-1	
Methyl-tert-butyl ether	<1290	ug/kg	5090	1290	80	01/23/18 07:45	01/24/18 10:28	1634-04-4	
Styrene	<917	ug/kg	5090	917	80	01/23/18 07:45	01/24/18 10:28	100-42-5	
1,1,2,2-Tetrachloroethane	<1790	ug/kg	5090	1790	80	01/23/18 07:45	01/24/18 10:28	79-34-5	
Tetrachloroethene	606000	ug/kg	5090	1310	80	01/23/18 07:45	01/24/18 10:28	127-18-4	
Toluene	<1140	ug/kg	5090	1140	80	01/23/18 07:45	01/24/18 10:28	108-88-3	
1,2,4-Trichlorobenzene	<4840	ug/kg	25400	4840	80	01/23/18 07:45	01/24/18 10:28	120-82-1	
1,1,1-Trichloroethane	<1470	ug/kg	5090	1470	80	01/23/18 07:45	01/24/18 10:28	71-55-6	
1,1,2-Trichloroethane	<2060	ug/kg	5090	2060	80	01/23/18 07:45	01/24/18 10:28	79-00-5	
Trichloroethene	<2400	ug/kg	5090	2400	80	01/23/18 07:45	01/24/18 10:28	79-01-6	
Trichlorofluoromethane	<2510	ug/kg	5090	2510	80	01/23/18 07:45	01/24/18 10:28	75-69-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: RAMBOLL ENV - 1 HR MKE

Pace Project No.: 40163710

Sample: TB-1 B2 CONTROL **Lab ID: 40163710001** Collected: 01/18/18 10:00 Received: 01/19/18 08:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,2-Trichlorotrifluoroethane	<2060	ug/kg	5090	2060	80	01/23/18 07:45	01/24/18 10:28	76-13-1	
Vinyl chloride	<2150	ug/kg	5090	2150	80	01/23/18 07:45	01/24/18 10:28	75-01-4	
Xylene (Total)	<4930	ug/kg	15300	4930	80	01/23/18 07:45	01/24/18 10:28	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	0	%	68-130		80	01/23/18 07:45	01/24/18 10:28	1868-53-7	S4
Toluene-d8 (S)	0	%	68-149		80	01/23/18 07:45	01/24/18 10:28	2037-26-5	S4
4-Bromofluorobenzene (S)	0	%	58-141		80	01/23/18 07:45	01/24/18 10:28	460-00-4	S4
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	21.4	%	0.10	0.10	1		01/29/18 16:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: RAMBOLL ENV - 1 HR MKE

Pace Project No.: 40163710

Sample: TB-1 B2 2.5 ZVI Lab ID: 40163710002 Collected: 01/18/18 10:10 Received: 01/19/18 08:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Acetone	<12000	ug/kg	30400	12000	100	01/23/18 07:45	01/24/18 10:51	67-64-1	
Benzene	<1120	ug/kg	2430	1120	100	01/23/18 07:45	01/24/18 10:51	71-43-2	
Bromodichloromethane	<1190	ug/kg	6090	1190	100	01/23/18 07:45	01/24/18 10:51	75-27-4	
Bromoform	<2410	ug/kg	6090	2410	100	01/23/18 07:45	01/24/18 10:51	75-25-2	
Bromomethane	<8510	ug/kg	30400	8510	100	01/23/18 07:45	01/24/18 10:51	74-83-9	
2-Butanone (MEK)	<15100	ug/kg	30400	15100	100	01/23/18 07:45	01/24/18 10:51	78-93-3	
Carbon disulfide	<1350	ug/kg	6090	1350	100	01/23/18 07:45	01/24/18 10:51	75-15-0	
Carbon tetrachloride	<1470	ug/kg	6090	1470	100	01/23/18 07:45	01/24/18 10:51	56-23-5	
Chlorobenzene	<1800	ug/kg	6090	1800	100	01/23/18 07:45	01/24/18 10:51	108-90-7	
Chloroethane	<8160	ug/kg	30400	8160	100	01/23/18 07:45	01/24/18 10:51	75-00-3	
Chloroform	<5650	ug/kg	30400	5650	100	01/23/18 07:45	01/24/18 10:51	67-66-3	
Chloromethane	<2490	ug/kg	6090	2490	100	01/23/18 07:45	01/24/18 10:51	74-87-3	
Cyclohexane	<7590	ug/kg	30400	7590	100	01/23/18 07:45	01/24/18 10:51	110-82-7	
1,2-Dibromo-3-chloropropane	<11100	ug/kg	30400	11100	100	01/23/18 07:45	01/24/18 10:51	96-12-8	
Dibromochloromethane	<2180	ug/kg	6090	2180	100	01/23/18 07:45	01/24/18 10:51	124-48-1	
1,2-Dibromoethane (EDB)	<1790	ug/kg	6090	1790	100	01/23/18 07:45	01/24/18 10:51	106-93-4	
1,2-Dichlorobenzene	<1970	ug/kg	6090	1970	100	01/23/18 07:45	01/24/18 10:51	95-50-1	
1,3-Dichlorobenzene	<1610	ug/kg	6090	1610	100	01/23/18 07:45	01/24/18 10:51	541-73-1	
1,4-Dichlorobenzene	<1930	ug/kg	6090	1930	100	01/23/18 07:45	01/24/18 10:51	106-46-7	
Dichlorodifluoromethane	<1500	ug/kg	6090	1500	100	01/23/18 07:45	01/24/18 10:51	75-71-8	
1,1-Dichloroethane	<2150	ug/kg	6090	2150	100	01/23/18 07:45	01/24/18 10:51	75-34-3	
1,2-Dichloroethane	<1830	ug/kg	6090	1830	100	01/23/18 07:45	01/24/18 10:51	107-06-2	
1,1-Dichloroethene	<2150	ug/kg	6090	2150	100	01/23/18 07:45	01/24/18 10:51	75-35-4	
cis-1,2-Dichloroethene	<2020	ug/kg	6090	2020	100	01/23/18 07:45	01/24/18 10:51	156-59-2	
trans-1,2-Dichloroethene	<2010	ug/kg	6090	2010	100	01/23/18 07:45	01/24/18 10:51	156-60-5	
1,2-Dichloropropane	<2050	ug/kg	6090	2050	100	01/23/18 07:45	01/24/18 10:51	78-87-5	
cis-1,3-Dichloropropene	<2020	ug/kg	6090	2020	100	01/23/18 07:45	01/24/18 10:51	10061-01-5	
trans-1,3-Dichloropropene	<1750	ug/kg	6090	1750	100	01/23/18 07:45	01/24/18 10:51	10061-02-6	
Ethylbenzene	<1510	ug/kg	6090	1510	100	01/23/18 07:45	01/24/18 10:51	100-41-4	
2-Hexanone	<6330	ug/kg	30400	6330	100	01/23/18 07:45	01/24/18 10:51	591-78-6	
Isopropylbenzene (Cumene)	<1530	ug/kg	6090	1530	100	01/23/18 07:45	01/24/18 10:51	98-82-8	
Methyl acetate	<20000	ug/kg	30400	20000	100	01/23/18 07:45	01/24/18 10:51	79-20-9	
Methylcyclohexane	<8800	ug/kg	30400	8800	100	01/23/18 07:45	01/24/18 10:51	108-87-2	
Methylene Chloride	<1970	ug/kg	6090	1970	100	01/23/18 07:45	01/24/18 10:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	<5000	ug/kg	30400	5000	100	01/23/18 07:45	01/24/18 10:51	108-10-1	
Methyl-tert-butyl ether	<1540	ug/kg	6090	1540	100	01/23/18 07:45	01/24/18 10:51	1634-04-4	
Styrene	<1100	ug/kg	6090	1100	100	01/23/18 07:45	01/24/18 10:51	100-42-5	
1,1,2,2-Tetrachloroethane	<2140	ug/kg	6090	2140	100	01/23/18 07:45	01/24/18 10:51	79-34-5	
Tetrachloroethene	650000	ug/kg	6090	1570	100	01/23/18 07:45	01/24/18 10:51	127-18-4	
Toluene	<1370	ug/kg	6090	1370	100	01/23/18 07:45	01/24/18 10:51	108-88-3	
1,2,4-Trichlorobenzene	<5790	ug/kg	30400	5790	100	01/23/18 07:45	01/24/18 10:51	120-82-1	
1,1,1-Trichloroethane	<1760	ug/kg	6090	1760	100	01/23/18 07:45	01/24/18 10:51	71-55-6	
1,1,2-Trichloroethane	<2460	ug/kg	6090	2460	100	01/23/18 07:45	01/24/18 10:51	79-00-5	
Trichloroethene	<2880	ug/kg	6090	2880	100	01/23/18 07:45	01/24/18 10:51	79-01-6	
Trichlorofluoromethane	<3000	ug/kg	6090	3000	100	01/23/18 07:45	01/24/18 10:51	75-69-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: RAMBOLL ENV - 1 HR MKE

Pace Project No.: 40163710

Sample: TB-1 B2 2.5 ZVI **Lab ID:** 40163710002 Collected: 01/18/18 10:10 Received: 01/19/18 08:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,2-Trichlorotrifluoroethane	<2460	ug/kg	6090	2460	100	01/23/18 07:45	01/24/18 10:51	76-13-1	
Vinyl chloride	<2570	ug/kg	6090	2570	100	01/23/18 07:45	01/24/18 10:51	75-01-4	
Xylene (Total)	<5890	ug/kg	18300	5890	100	01/23/18 07:45	01/24/18 10:51	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	0	%	68-130		100	01/23/18 07:45	01/24/18 10:51	1868-53-7	S4
Toluene-d8 (S)	0	%	68-149		100	01/23/18 07:45	01/24/18 10:51	2037-26-5	S4
4-Bromofluorobenzene (S)	0	%	58-141		100	01/23/18 07:45	01/24/18 10:51	460-00-4	S4
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	17.8	%	0.10	0.10	1		01/29/18 16:00		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RAMBOLL ENV - 1 HR MKE
Pace Project No.: 40163710

QC Batch: 279575 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Full List
Associated Lab Samples: 40163710001, 40163710002

METHOD BLANK: 1641061 Matrix: Solid
Associated Lab Samples: 40163710001, 40163710002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<14.4	50.0	14.4	01/23/18 09:39	
1,1,2,2-Tetrachloroethane	ug/kg	<17.5	50.0	17.5	01/23/18 09:39	
1,1,2-Trichloroethane	ug/kg	<20.2	50.0	20.2	01/23/18 09:39	
1,1,2-Trichlorotrifluoroethane	ug/kg	<20.2	50.0	20.2	01/23/18 09:39	
1,1-Dichloroethane	ug/kg	<17.6	50.0	17.6	01/23/18 09:39	
1,1-Dichloroethene	ug/kg	<17.6	50.0	17.6	01/23/18 09:39	
1,2,4-Trichlorobenzene	ug/kg	<47.6	250	47.6	01/23/18 09:39	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	250	91.2	01/23/18 09:39	
1,2-Dibromoethane (EDB)	ug/kg	<14.7	50.0	14.7	01/23/18 09:39	
1,2-Dichlorobenzene	ug/kg	<16.2	50.0	16.2	01/23/18 09:39	
1,2-Dichloroethane	ug/kg	<15.0	50.0	15.0	01/23/18 09:39	
1,2-Dichloropropane	ug/kg	<16.8	50.0	16.8	01/23/18 09:39	
1,3-Dichlorobenzene	ug/kg	<13.2	50.0	13.2	01/23/18 09:39	
1,4-Dichlorobenzene	ug/kg	<15.9	50.0	15.9	01/23/18 09:39	
2-Butanone (MEK)	ug/kg	<124	250	124	01/23/18 09:39	
2-Hexanone	ug/kg	<52.0	250	52.0	01/23/18 09:39	
4-Methyl-2-pentanone (MIBK)	ug/kg	<41.1	250	41.1	01/23/18 09:39	
Acetone	ug/kg	<98.6	250	98.6	01/23/18 09:39	
Benzene	ug/kg	<9.2	20.0	9.2	01/23/18 09:39	
Bromodichloromethane	ug/kg	<9.8	50.0	9.8	01/23/18 09:39	
Bromoform	ug/kg	<19.8	50.0	19.8	01/23/18 09:39	
Bromomethane	ug/kg	<69.9	250	69.9	01/23/18 09:39	
Carbon disulfide	ug/kg	<11.1	50.0	11.1	01/23/18 09:39	
Carbon tetrachloride	ug/kg	<12.1	50.0	12.1	01/23/18 09:39	
Chlorobenzene	ug/kg	<14.8	50.0	14.8	01/23/18 09:39	
Chloroethane	ug/kg	<67.0	250	67.0	01/23/18 09:39	
Chloroform	ug/kg	<46.4	250	46.4	01/23/18 09:39	
Chloromethane	ug/kg	<20.4	50.0	20.4	01/23/18 09:39	
cis-1,2-Dichloroethene	ug/kg	<16.6	50.0	16.6	01/23/18 09:39	
cis-1,3-Dichloropropene	ug/kg	<16.6	50.0	16.6	01/23/18 09:39	
Cyclohexane	ug/kg	<62.4	250	62.4	01/23/18 09:39	
Dibromochloromethane	ug/kg	<17.9	50.0	17.9	01/23/18 09:39	
Dichlorodifluoromethane	ug/kg	<12.3	50.0	12.3	01/23/18 09:39	
Ethylbenzene	ug/kg	<12.4	50.0	12.4	01/23/18 09:39	
Isopropylbenzene (Cumene)	ug/kg	<12.6	50.0	12.6	01/23/18 09:39	
Methyl acetate	ug/kg	<164	250	164	01/23/18 09:39	
Methyl-tert-butyl ether	ug/kg	<12.7	50.0	12.7	01/23/18 09:39	
Methylcyclohexane	ug/kg	<72.3	250	72.3	01/23/18 09:39	
Methylene Chloride	ug/kg	<16.2	50.0	16.2	01/23/18 09:39	
Styrene	ug/kg	<9.0	50.0	9.0	01/23/18 09:39	
Tetrachloroethene	ug/kg	<12.9	50.0	12.9	01/23/18 09:39	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RAMBOLL ENV - 1 HR MKE

Pace Project No.: 40163710

METHOD BLANK: 1641061

Matrix: Solid

Associated Lab Samples: 40163710001, 40163710002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	ug/kg	<11.2	50.0	11.2	01/23/18 09:39	
trans-1,2-Dichloroethene	ug/kg	<16.5	50.0	16.5	01/23/18 09:39	
trans-1,3-Dichloropropene	ug/kg	<14.4	50.0	14.4	01/23/18 09:39	
Trichloroethene	ug/kg	<23.6	50.0	23.6	01/23/18 09:39	
Trichlorofluoromethane	ug/kg	<24.7	50.0	24.7	01/23/18 09:39	
Vinyl chloride	ug/kg	<21.1	50.0	21.1	01/23/18 09:39	
Xylene (Total)	ug/kg	<48.4	150	48.4	01/23/18 09:39	
4-Bromofluorobenzene (S)	%	93	58-141		01/23/18 09:39	
Dibromofluoromethane (S)	%	93	68-130		01/23/18 09:39	
Toluene-d8 (S)	%	96	68-149		01/23/18 09:39	

LABORATORY CONTROL SAMPLE: 1641062

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2620	105	61-122	
1,1,2,2-Tetrachloroethane	ug/kg	2500	2490	100	73-130	
1,1,2-Trichloroethane	ug/kg	2500	2620	105	70-130	
1,1,2-Trichlorotrifluoroethane	ug/kg	2500	2570	103	50-150	
1,1-Dichloroethane	ug/kg	2500	2690	108	63-124	
1,1-Dichloroethene	ug/kg	2500	2620	105	53-117	
1,2,4-Trichlorobenzene	ug/kg	2500	2300	92	78-130	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2090	84	49-140	
1,2-Dibromoethane (EDB)	ug/kg	2500	2550	102	70-130	
1,2-Dichlorobenzene	ug/kg	2500	2480	99	70-130	
1,2-Dichloroethane	ug/kg	2500	2720	109	56-135	
1,2-Dichloropropane	ug/kg	2500	2690	108	77-122	
1,3-Dichlorobenzene	ug/kg	2500	2450	98	70-130	
1,4-Dichlorobenzene	ug/kg	2500	2360	94	70-130	
Benzene	ug/kg	2500	2630	105	66-130	
Bromodichloromethane	ug/kg	2500	2520	101	62-135	
Bromoform	ug/kg	2500	2000	80	68-130	
Bromomethane	ug/kg	2500	1950	78	29-137	
Carbon disulfide	ug/kg	2500	2830	113	64-137	
Carbon tetrachloride	ug/kg	2500	2610	104	57-130	
Chlorobenzene	ug/kg	2500	2530	101	70-130	
Chloroethane	ug/kg	2500	2200	88	36-144	
Chloroform	ug/kg	2500	2580	103	69-115	
Chloromethane	ug/kg	2500	1950	78	32-126	
cis-1,2-Dichloroethene	ug/kg	2500	2400	96	65-130	
cis-1,3-Dichloropropene	ug/kg	2500	2320	93	70-130	
Cyclohexane	ug/kg	2500	2970	119	50-150	
Dibromochloromethane	ug/kg	2500	2230	89	70-130	
Dichlorodifluoromethane	ug/kg	2500	1460	58	10-99	
Ethylbenzene	ug/kg	2500	2600	104	82-122	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RAMBOLL ENV - 1 HR MKE

Pace Project No.: 40163710

LABORATORY CONTROL SAMPLE: 1641062

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Isopropylbenzene (Cumene)	ug/kg	2500	2680	107	70-130	
Methyl acetate	ug/kg	2500	2820	113	50-150	
Methyl-tert-butyl ether	ug/kg	2500	2720	109	63-134	
Methylcyclohexane	ug/kg	2500	2870	115	50-150	
Methylene Chloride	ug/kg	2500	2490	100	56-123	
Styrene	ug/kg	2500	2680	107	70-130	
Tetrachloroethene	ug/kg	2500	2450	98	70-131	
Toluene	ug/kg	2500	2570	103	80-120	
trans-1,2-Dichloroethene	ug/kg	2500	2640	105	66-130	
trans-1,3-Dichloropropene	ug/kg	2500	2450	98	68-130	
Trichloroethene	ug/kg	2500	2500	100	70-130	
Trichlorofluoromethane	ug/kg	2500	2300	92	37-149	
Vinyl chloride	ug/kg	2500	2310	92	43-128	
Xylene (Total)	ug/kg	7500	7780	104	70-130	
4-Bromofluorobenzene (S)	%			93	58-141	
Dibromofluoromethane (S)	%			94	68-130	
Toluene-d8 (S)	%			95	68-149	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RAMBOLL ENV - 1 HR MKE

Pace Project No.: 40163710

QC Batch: 280044

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 40163710001, 40163710002

SAMPLE DUPLICATE: 1643343

Parameter	Units	40163670003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	63.9	65.1	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: RAMBOLL ENV - 1 HR MKE

Pace Project No.: 40163710

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.

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.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RAMBOLL ENV - 1 HR MKE
Pace Project No.: 40163710

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40163710001	TB-1 B2 CONTROL	EPA 5035/5030B	279575	EPA 8260	279576
40163710002	TB-1 B2 2.5 ZVI	EPA 5035/5030B	279575	EPA 8260	279576
40163710001	TB-1 B2 CONTROL	ASTM D2974-87	280044		
40163710002	TB-1 B2 2.5 ZVI	ASTM D2974-87	280044		

REPORT OF LABORATORY ANALYSIS

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JK

40165710

Analytical Lab: Pace Analytical

Address: 1241 Bellevue Street

City/State/Zip: Green Bay, WI 54302

Lab Contact: Dan Milewsky

Phone Number: (920)-469-2436

Sampler Name (print): Kevin Baker

Phone Number: 608-669-6949

Client Name: Resolution Partners, LLC

Project ID: Ramboll Env-1hr MKE

Project Number:

Address: 967 Jonathon Drive

City/State/Zip: Madison, WI 53719

Project Manager: Angela Hassell

Report To: Angela Hassell

Email Address: ahassell@resolutionpartnersllc.net

Report To: Kevin Baker

Email Address: kbaker@resolutionpartnersllc.net

Report To: Bernd Rehm

Email Address: brehm@resolutionpartnersllc.net

Invoice To: Angela Hassell

Sample Information

Preservative

Matrix

Analyze For:

TAT

Description	Date Sampled	Time Sampled	No. of Containers	Grab	Composite	Filtered	Ice	HNO3	HCl	NaOH	H2SO4 plastic	H2SO4 glass	Other:	Groundwater	Waste Water	Drinking Water	Sludge	Soil	Other :	VOCs Method 8260B	Analyze For:	TAT			
TB-1 B2 Control	1/18/2018	1000	1	x			x											x		x			x	RUSH: Standard	
TB-1 B2 2.5 ZVI	1/18/2018	1010	1	x			x											x		x				x	non-regulatory

001
002

1-407 CG A

Special Instructions:

Laboratory Comments:

Method of Shipment: *Waltco*

Tracking No: *161638-1*

Relinquished By/Date: *Dan Milewsky 1/18/18*

Received By/Date:

Relinquished By/Date: *Waltco 1/19/18 0830*

Received By/Date: *OSBORN pace 1/18/18 0830*

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302



Project #:

WO#: 40163710

Client Name: Resolution

Courier: Fed Ex UPS Client Pace Other: Walco

Tracking #: 1616838-1



Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used: N/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature: Uncorr: POI / Corr: Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Person examining contents:

Date: 1/19/08

Initials: [Signature]

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

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3. NO relinquish time DS 1/19/08
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8. NO NS/MSD
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: S		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lab Std #/ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature] for [Signature]

Date: 1/19/08

January 12, 2018

Angela Hassell
ReResolution Partners, LLC.
967 Jonathon Drive
Madison, WI 53713

RE: Project: 179-002A MU-FORMER 1-HR CLEANE
Pace Project No.: 40163198

Dear Angela Hassell:

Enclosed are the analytical results for sample(s) received by the laboratory on January 06, 2018. 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,



Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Kevin Baker, ReResolution Partners, LLC.
Bernd Rehm, ReResolution Partners, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 179-002A MU-FORMER 1-HR CLEANE

Pace Project No.: 40163198

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

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SAMPLE SUMMARY

Project: 179-002A MU-FORMER 1-HR CLEANE

Pace Project No.: 40163198

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40163198001	TB-1 B2	Solid	01/04/18 10:00	01/06/18 08:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 179-002A MU-FORMER 1-HR CLEANE

Pace Project No.: 40163198

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40163198001	TB-1 B2	EPA 8260	MDS	51	PASI-G
		ASTM D2974-87	KTS	1	PASI-G

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 179-002A MU-FORMER 1-HR CLEANE

Pace Project No.: 40163198

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40163198001	TB-1 B2					
EPA 8260	Tetrachloroethene	591000	ug/kg	4600	01/08/18 19:16	
ASTM D2974-87	Percent Moisture	13.0	%	0.10	01/11/18 13:47	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 179-002A MU-FORMER 1-HR CLEANE

Pace Project No.: 40163198

Method: EPA 8260

Description: 8260 MSV Med Level Full List

Client: ReSolution Partners, LLC.

Date: January 12, 2018

General Information:

1 sample was analyzed for EPA 8260. 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.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B 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.

Surrogates:

All surrogates 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.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 179-002A MU-FORMER 1-HR CLEANE

Lab Project No.: 40163198

Sample: TB-1 B2 Lab ID: 40163198001 Collected: 01/04/18 10:00 Received: 01/06/18 08:10 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	<9070	ug/kg	23000	9070	80	01/08/18 08:15	01/08/18 19:16	67-64-1	
Benzene	<848	ug/kg	1840	848	80	01/08/18 08:15	01/08/18 19:16	71-43-2	
Bromodichloromethane	<897	ug/kg	4600	897	80	01/08/18 08:15	01/08/18 19:16	75-27-4	
Bromoform	<1820	ug/kg	4600	1820	80	01/08/18 08:15	01/08/18 19:16	75-25-2	
Bromomethane	<6430	ug/kg	23000	6430	80	01/08/18 08:15	01/08/18 19:16	74-83-9	
2-Butanone (MEK)	<11400	ug/kg	23000	11400	80	01/08/18 08:15	01/08/18 19:16	78-93-3	
Carbon disulfide	<1020	ug/kg	4600	1020	80	01/08/18 08:15	01/08/18 19:16	75-15-0	
Carbon tetrachloride	<1110	ug/kg	4600	1110	80	01/08/18 08:15	01/08/18 19:16	56-23-5	
Chlorobenzene	<1360	ug/kg	4600	1360	80	01/08/18 08:15	01/08/18 19:16	108-90-7	
Chloroethane	<6160	ug/kg	23000	6160	80	01/08/18 08:15	01/08/18 19:16	75-00-3	
Chloroform	<4270	ug/kg	23000	4270	80	01/08/18 08:15	01/08/18 19:16	67-66-3	
Chloromethane	<1880	ug/kg	4600	1880	80	01/08/18 08:15	01/08/18 19:16	74-87-3	
Cyclohexane	<5740	ug/kg	23000	5740	80	01/08/18 08:15	01/08/18 19:16	110-82-7	
1,2-Dibromo-3-chloropropane	<8390	ug/kg	23000	8390	80	01/08/18 08:15	01/08/18 19:16	96-12-8	
Dibromochloromethane	<1640	ug/kg	4600	1640	80	01/08/18 08:15	01/08/18 19:16	124-48-1	
1,2-Dibromoethane (EDB)	<1350	ug/kg	4600	1350	80	01/08/18 08:15	01/08/18 19:16	106-93-4	
1,2-Dichlorobenzene	<1490	ug/kg	4600	1490	80	01/08/18 08:15	01/08/18 19:16	95-50-1	
1,3-Dichlorobenzene	<1210	ug/kg	4600	1210	80	01/08/18 08:15	01/08/18 19:16	541-73-1	
1,4-Dichlorobenzene	<1460	ug/kg	4600	1460	80	01/08/18 08:15	01/08/18 19:16	106-46-7	
Dichlorodifluoromethane	<1130	ug/kg	4600	1130	80	01/08/18 08:15	01/08/18 19:16	75-71-8	
1,1-Dichloroethane	<1620	ug/kg	4600	1620	80	01/08/18 08:15	01/08/18 19:16	75-34-3	
1,2-Dichloroethane	<1380	ug/kg	4600	1380	80	01/08/18 08:15	01/08/18 19:16	107-06-2	
1,1-Dichloroethene	<1620	ug/kg	4600	1620	80	01/08/18 08:15	01/08/18 19:16	75-35-4	
cis-1,2-Dichloroethene	<1530	ug/kg	4600	1530	80	01/08/18 08:15	01/08/18 19:16	156-59-2	
trans-1,2-Dichloroethene	<1520	ug/kg	4600	1520	80	01/08/18 08:15	01/08/18 19:16	156-60-5	
1,2-Dichloropropane	<1550	ug/kg	4600	1550	80	01/08/18 08:15	01/08/18 19:16	78-87-5	
cis-1,3-Dichloropropene	<1530	ug/kg	4600	1530	80	01/08/18 08:15	01/08/18 19:16	10061-01-5	
trans-1,3-Dichloropropene	<1330	ug/kg	4600	1330	80	01/08/18 08:15	01/08/18 19:16	10061-02-6	
Ethylbenzene	<1140	ug/kg	4600	1140	80	01/08/18 08:15	01/08/18 19:16	100-41-4	
2-Hexanone	<4780	ug/kg	23000	4780	80	01/08/18 08:15	01/08/18 19:16	591-78-6	
Isopropylbenzene (Cumene)	<1160	ug/kg	4600	1160	80	01/08/18 08:15	01/08/18 19:16	98-82-8	
Methyl acetate	<15100	ug/kg	23000	15100	80	01/08/18 08:15	01/08/18 19:16	79-20-9	
Methylcyclohexane	<6650	ug/kg	23000	6650	80	01/08/18 08:15	01/08/18 19:16	108-87-2	
Methylene Chloride	<1490	ug/kg	4600	1490	80	01/08/18 08:15	01/08/18 19:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	<3780	ug/kg	23000	3780	80	01/08/18 08:15	01/08/18 19:16	108-10-1	
Methyl-tert-butyl ether	<1160	ug/kg	4600	1160	80	01/08/18 08:15	01/08/18 19:16	1634-04-4	
Styrene	<829	ug/kg	4600	829	80	01/08/18 08:15	01/08/18 19:16	100-42-5	
1,1,2,2-Tetrachloroethane	<1610	ug/kg	4600	1610	80	01/08/18 08:15	01/08/18 19:16	79-34-5	
Tetrachloroethene	591000	ug/kg	4600	1190	80	01/08/18 08:15	01/08/18 19:16	127-18-4	
Toluene	<1030	ug/kg	4600	1030	80	01/08/18 08:15	01/08/18 19:16	108-88-3	
1,2,4-Trichlorobenzene	<4370	ug/kg	23000	4370	80	01/08/18 08:15	01/08/18 19:16	120-82-1	
1,1,1-Trichloroethane	<1330	ug/kg	4600	1330	80	01/08/18 08:15	01/08/18 19:16	71-55-6	
1,1,2-Trichloroethane	<1860	ug/kg	4600	1860	80	01/08/18 08:15	01/08/18 19:16	79-00-5	
Trichloroethene	<2170	ug/kg	4600	2170	80	01/08/18 08:15	01/08/18 19:16	79-01-6	
Trichlorofluoromethane	<2270	ug/kg	4600	2270	80	01/08/18 08:15	01/08/18 19:16	75-69-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 179-002A MU-FORMER 1-HR CLEANE

Pace Project No.: 40163198

Sample: TB-1 B2 **Lab ID: 40163198001** Collected: 01/04/18 10:00 Received: 01/06/18 08:10 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,2-Trichlorotrifluoroethane	<1860	ug/kg	4600	1860	80	01/08/18 08:15	01/08/18 19:16	76-13-1	
Vinyl chloride	<1940	ug/kg	4600	1940	80	01/08/18 08:15	01/08/18 19:16	75-01-4	
Xylene (Total)	<4450	ug/kg	13800	4450	80	01/08/18 08:15	01/08/18 19:16	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	114	%	68-130		80	01/08/18 08:15	01/08/18 19:16	1868-53-7	
Toluene-d8 (S)	110	%	68-149		80	01/08/18 08:15	01/08/18 19:16	2037-26-5	
4-Bromofluorobenzene (S)	138	%	58-141		80	01/08/18 08:15	01/08/18 19:16	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	13.0	%	0.10	0.10	1		01/11/18 13:47		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 179-002A MU-FORMER 1-HR CLEANE

Pace Project No.: 40163198

QC Batch: 278676

Analysis Method: EPA 8260

QC Batch Method: EPA 5035/5030B

Analysis Description: 8260 MSV Med Level Full List

Associated Lab Samples: 40163198001

METHOD BLANK: 1636810

Matrix: Solid

Associated Lab Samples: 40163198001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<14.4	50.0	14.4	01/08/18 10:24	
1,1,2,2-Tetrachloroethane	ug/kg	<17.5	50.0	17.5	01/08/18 10:24	
1,1,2-Trichloroethane	ug/kg	<20.2	50.0	20.2	01/08/18 10:24	
1,1,2-Trichlorotrifluoroethane	ug/kg	<20.2	50.0	20.2	01/08/18 10:24	
1,1-Dichloroethane	ug/kg	<17.6	50.0	17.6	01/08/18 10:24	
1,1-Dichloroethene	ug/kg	<17.6	50.0	17.6	01/08/18 10:24	
1,2,4-Trichlorobenzene	ug/kg	<47.6	250	47.6	01/08/18 10:24	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	250	91.2	01/08/18 10:24	
1,2-Dibromoethane (EDB)	ug/kg	<14.7	50.0	14.7	01/08/18 10:24	
1,2-Dichlorobenzene	ug/kg	<16.2	50.0	16.2	01/08/18 10:24	
1,2-Dichloroethane	ug/kg	<15.0	50.0	15.0	01/08/18 10:24	
1,2-Dichloropropane	ug/kg	<16.8	50.0	16.8	01/08/18 10:24	
1,3-Dichlorobenzene	ug/kg	<13.2	50.0	13.2	01/08/18 10:24	
1,4-Dichlorobenzene	ug/kg	<15.9	50.0	15.9	01/08/18 10:24	
2-Butanone (MEK)	ug/kg	<124	250	124	01/08/18 10:24	
2-Hexanone	ug/kg	<52.0	250	52.0	01/08/18 10:24	
4-Methyl-2-pentanone (MIBK)	ug/kg	<41.1	250	41.1	01/08/18 10:24	
Acetone	ug/kg	<98.6	250	98.6	01/08/18 10:24	
Benzene	ug/kg	<9.2	20.0	9.2	01/08/18 10:24	
Bromodichloromethane	ug/kg	<9.8	50.0	9.8	01/08/18 10:24	
Bromoform	ug/kg	<19.8	50.0	19.8	01/08/18 10:24	
Bromomethane	ug/kg	<69.9	250	69.9	01/08/18 10:24	
Carbon disulfide	ug/kg	<11.1	50.0	11.1	01/08/18 10:24	
Carbon tetrachloride	ug/kg	<12.1	50.0	12.1	01/08/18 10:24	
Chlorobenzene	ug/kg	<14.8	50.0	14.8	01/08/18 10:24	
Chloroethane	ug/kg	<67.0	250	67.0	01/08/18 10:24	
Chloroform	ug/kg	<46.4	250	46.4	01/08/18 10:24	
Chloromethane	ug/kg	<20.4	50.0	20.4	01/08/18 10:24	
cis-1,2-Dichloroethene	ug/kg	<16.6	50.0	16.6	01/08/18 10:24	
cis-1,3-Dichloropropene	ug/kg	<16.6	50.0	16.6	01/08/18 10:24	
Cyclohexane	ug/kg	<62.4	250	62.4	01/08/18 10:24	
Dibromochloromethane	ug/kg	<17.9	50.0	17.9	01/08/18 10:24	
Dichlorodifluoromethane	ug/kg	<12.3	50.0	12.3	01/08/18 10:24	
Ethylbenzene	ug/kg	<12.4	50.0	12.4	01/08/18 10:24	
Isopropylbenzene (Cumene)	ug/kg	<12.6	50.0	12.6	01/08/18 10:24	
Methyl acetate	ug/kg	<164	250	164	01/08/18 10:24	
Methyl-tert-butyl ether	ug/kg	<12.7	50.0	12.7	01/08/18 10:24	
Methylcyclohexane	ug/kg	<72.3	250	72.3	01/08/18 10:24	
Methylene Chloride	ug/kg	<16.2	50.0	16.2	01/08/18 10:24	
Styrene	ug/kg	<9.0	50.0	9.0	01/08/18 10:24	
Tetrachloroethene	ug/kg	27.5J	50.0	12.9	01/08/18 10:24	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 179-002A MU-FORMER 1-HR CLEANE

Pace Project No.: 40163198

METHOD BLANK: 1636810

Matrix: Solid

Associated Lab Samples: 40163198001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	ug/kg	<11.2	50.0	11.2	01/08/18 10:24	
trans-1,2-Dichloroethene	ug/kg	<16.5	50.0	16.5	01/08/18 10:24	
trans-1,3-Dichloropropene	ug/kg	<14.4	50.0	14.4	01/08/18 10:24	
Trichloroethene	ug/kg	<23.6	50.0	23.6	01/08/18 10:24	
Trichlorofluoromethane	ug/kg	<24.7	50.0	24.7	01/08/18 10:24	
Vinyl chloride	ug/kg	<21.1	50.0	21.1	01/08/18 10:24	
Xylene (Total)	ug/kg	<48.4	150	48.4	01/08/18 10:24	
4-Bromofluorobenzene (S)	%	101	58-141		01/08/18 10:24	
Dibromofluoromethane (S)	%	111	68-130		01/08/18 10:24	
Toluene-d8 (S)	%	109	68-149		01/08/18 10:24	

LABORATORY CONTROL SAMPLE: 1636811

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2900	116	61-122	
1,1,2,2-Tetrachloroethane	ug/kg	2500	2620	105	73-130	
1,1,2-Trichloroethane	ug/kg	2500	2620	105	70-130	
1,1,2-Trichlorotrifluoroethane	ug/kg	2500	2850	114	50-150	
1,1-Dichloroethane	ug/kg	2500	2900	116	63-124	
1,1-Dichloroethene	ug/kg	2500	2770	111	53-117	
1,2,4-Trichlorobenzene	ug/kg	2500	2530	101	78-130	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2190	88	49-140	
1,2-Dibromoethane (EDB)	ug/kg	2500	2620	105	70-130	
1,2-Dichlorobenzene	ug/kg	2500	2720	109	70-130	
1,2-Dichloroethane	ug/kg	2500	2780	111	56-135	
1,2-Dichloropropane	ug/kg	2500	2680	107	77-122	
1,3-Dichlorobenzene	ug/kg	2500	2670	107	70-130	
1,4-Dichlorobenzene	ug/kg	2500	2660	106	70-130	
Benzene	ug/kg	2500	2920	117	66-130	
Bromodichloromethane	ug/kg	2500	2670	107	62-135	
Bromoform	ug/kg	2500	2060	82	68-130	
Bromomethane	ug/kg	2500	1920	77	29-137	
Carbon disulfide	ug/kg	2500	3060	122	64-137	
Carbon tetrachloride	ug/kg	2500	2660	106	57-130	
Chlorobenzene	ug/kg	2500	2530	101	70-130	
Chloroethane	ug/kg	2500	2290	92	36-144	
Chloroform	ug/kg	2500	2810	113	69-115	
Chloromethane	ug/kg	2500	1950	78	32-126	
cis-1,2-Dichloroethene	ug/kg	2500	2820	113	65-130	
cis-1,3-Dichloropropene	ug/kg	2500	2470	99	70-130	
Cyclohexane	ug/kg	2500	3210	128	50-150	
Dibromochloromethane	ug/kg	2500	2260	91	70-130	
Dichlorodifluoromethane	ug/kg	2500	1600	64	10-99	
Ethylbenzene	ug/kg	2500	2690	108	82-122	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 179-002A MU-FORMER 1-HR CLEANE

Pace Project No.: 40163198

LABORATORY CONTROL SAMPLE: 1636811

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Isopropylbenzene (Cumene)	ug/kg	2500	2730	109	70-130	
Methyl acetate	ug/kg	2500	2360	94	50-150	
Methyl-tert-butyl ether	ug/kg	2500	2870	115	63-134	
Methylcyclohexane	ug/kg	2500	2960	119	50-150	
Methylene Chloride	ug/kg	2500	2740	110	56-123	
Styrene	ug/kg	2500	2700	108	70-130	
Tetrachloroethene	ug/kg	2500	2410	97	70-131	
Toluene	ug/kg	2500	2570	103	80-120	
trans-1,2-Dichloroethene	ug/kg	2500	2870	115	66-130	
trans-1,3-Dichloropropene	ug/kg	2500	2580	103	68-130	
Trichloroethene	ug/kg	2500	2730	109	70-130	
Trichlorofluoromethane	ug/kg	2500	2300	92	37-149	
Vinyl chloride	ug/kg	2500	2270	91	43-128	
Xylene (Total)	ug/kg	7500	8040	107	70-130	
4-Bromofluorobenzene (S)	%			98	58-141	
Dibromofluoromethane (S)	%			106	68-130	
Toluene-d8 (S)	%			101	68-149	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 179-002A MU-FORMER 1-HR CLEANE

Pace Project No.: 40163198

QC Batch: 278947

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 40163198001

SAMPLE DUPLICATE: 1638044

Parameter	Units	40163198001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.0	14.2	9	10	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 179-002A MU-FORMER 1-HR CLEANE

Pace Project No.: 40163198

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.

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.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 179-002A MU-FORMER 1-HR CLEANE

Pace Project No.: 40163198

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40163198001	TB-1 B2	EPA 5035/5030B	278676	EPA 8260	278679
40163198001	TB-1 B2	ASTM D2974-87	278947		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302



Project **WO# : 40163198**

Client Name: Resolution Partners

Courier: Fed Ex UPS Client Pace Other: Waltco
Tracking #: 11060419-1



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: styrofoam

Thermometer Used: NA Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature: Uncorr: _____ /Corr: ROI Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

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

Person examining contents:
Date: 1/6/18
Initials: KJ

		Comments:
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3. <u>no time KJ 1/6/18</u>
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7. <u>1/6/18</u>
Sufficient Volume:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>A su comment #9 KJ 1/6/18</u>
Correct Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9. <u>no VOC vol rec'd</u>
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<u>KJ 1/6/18</u>
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>S</u>	
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ If checked, see attached form for additional comments

Comments/ Resolution: _____

Project Manager Review: RMR for DM

Date: 1/6/18

December 27, 2017

Angela Hassell
ReResolution Partners, LLC.
967 Jonathon Drive
Madison, WI 53713

RE: Project: TB-1A
Pace Project No.: 40162585

Dear Angela Hassell:

Enclosed are the analytical results for sample(s) received by the laboratory on December 19, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Kevin Baker, ReResolution Partners, LLC.
Bernd Rehm, ReResolution Partners, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: TB-1A
Pace Project No.: 40162585

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150

Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: TB-1A
Pace Project No.: 40162585

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40162585001	TB-1A (0)	Solid		12/19/17 08:45
40162585002	TB-1A (1.5)	Solid		12/19/17 08:45
40162585003	TB-1A (2.5)	Solid		12/19/17 08:45
40162585004	TB-1A (3.0)	Solid		12/19/17 08:45

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SAMPLE ANALYTE COUNT

Project: TB-1A
Pace Project No.: 40162585

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40162585001	TB-1A (0)	EPA 8260	SMT	51	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
40162585002	TB-1A (1.5)	EPA 8260	SMT	51	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
40162585003	TB-1A (2.5)	EPA 8260	SMT	51	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
40162585004	TB-1A (3.0)	EPA 8260	SMT	51	PASI-G
		ASTM D2974-87	SKW	1	PASI-G

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: TB-1A
Pace Project No.: 40162585

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40162585001	TB-1A (0)					
EPA 8260	Tetrachloroethene	850000	ug/kg	4580	12/20/17 16:47	
EPA 8260	Trichloroethene	2470J	ug/kg	4580	12/20/17 16:47	
ASTM D2974-87	Percent Moisture	12.7	%	0.10	12/26/17 10:41	
40162585002	TB-1A (1.5)					
EPA 8260	Tetrachloroethene	601000	ug/kg	4470	12/20/17 17:10	
EPA 8260	Trichloroethene	5520	ug/kg	4470	12/20/17 17:10	
ASTM D2974-87	Percent Moisture	10.5	%	0.10	12/26/17 10:41	
40162585003	TB-1A (2.5)					
EPA 8260	Tetrachloroethene	534000	ug/kg	2770	12/20/17 17:33	
EPA 8260	Trichloroethene	7160	ug/kg	2770	12/20/17 17:33	
ASTM D2974-87	Percent Moisture	9.7	%	0.10	12/26/17 10:41	
40162585004	TB-1A (3.0)					
EPA 8260	Tetrachloroethene	497000	ug/kg	2750	12/20/17 17:55	
EPA 8260	Trichloroethene	6660	ug/kg	2750	12/20/17 17:55	
ASTM D2974-87	Percent Moisture	9.0	%	0.10	12/26/17 10:41	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: TB-1A
Pace Project No.: 40162585

Method: EPA 8260
Description: 8260 MSV Med Level Full List
Client: ReSolution Partners, LLC.
Date: December 27, 2017

General Information:

4 samples were analyzed for EPA 8260. 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.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B 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.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 277670

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- TB-1A (0) (Lab ID: 40162585001)
 - 4-Bromofluorobenzene (S)
 - Dibromofluoromethane (S)
 - Toluene-d8 (S)
- TB-1A (1.5) (Lab ID: 40162585002)
 - 4-Bromofluorobenzene (S)
 - Dibromofluoromethane (S)
 - Toluene-d8 (S)
- TB-1A (2.5) (Lab ID: 40162585003)
 - 4-Bromofluorobenzene (S)
 - Dibromofluoromethane (S)
 - Toluene-d8 (S)
- TB-1A (3.0) (Lab ID: 40162585004)
 - 4-Bromofluorobenzene (S)
 - Dibromofluoromethane (S)
 - Toluene-d8 (S)

Method Blank:

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

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: TB-1A
Pace Project No.: 40162585

Method: EPA 8260
Description: 8260 MSV Med Level Full List
Client: ReSolution Partners, LLC.
Date: December 27, 2017

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 277670

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

- LCS (Lab ID: 1632242)
 - 2-Butanone (MEK)
 - Acetone

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: TB-1A
Pace Project No.: 40162585

Sample: TB-1A (0) Lab ID: 40162585001 Collected: Received: 12/19/17 08:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	<9040	ug/kg	22900	9040	80	12/20/17 07:45	12/20/17 16:47	67-64-1	L2
Benzene	<845	ug/kg	1830	845	80	12/20/17 07:45	12/20/17 16:47	71-43-2	
Bromodichloromethane	<893	ug/kg	4580	893	80	12/20/17 07:45	12/20/17 16:47	75-27-4	
Bromoform	<1810	ug/kg	4580	1810	80	12/20/17 07:45	12/20/17 16:47	75-25-2	
Bromomethane	<6400	ug/kg	22900	6400	80	12/20/17 07:45	12/20/17 16:47	74-83-9	
2-Butanone (MEK)	<11300	ug/kg	22900	11300	80	12/20/17 07:45	12/20/17 16:47	78-93-3	L2
Carbon disulfide	<1010	ug/kg	4580	1010	80	12/20/17 07:45	12/20/17 16:47	75-15-0	
Carbon tetrachloride	<1110	ug/kg	4580	1110	80	12/20/17 07:45	12/20/17 16:47	56-23-5	
Chlorobenzene	<1350	ug/kg	4580	1350	80	12/20/17 07:45	12/20/17 16:47	108-90-7	
Chloroethane	<6140	ug/kg	22900	6140	80	12/20/17 07:45	12/20/17 16:47	75-00-3	
Chloroform	<4250	ug/kg	22900	4250	80	12/20/17 07:45	12/20/17 16:47	67-66-3	
Chloromethane	<1870	ug/kg	4580	1870	80	12/20/17 07:45	12/20/17 16:47	74-87-3	
Cyclohexane	<5720	ug/kg	22900	5720	80	12/20/17 07:45	12/20/17 16:47	110-82-7	
1,2-Dibromo-3-chloropropane	<8360	ug/kg	22900	8360	80	12/20/17 07:45	12/20/17 16:47	96-12-8	
Dibromochloromethane	<1640	ug/kg	4580	1640	80	12/20/17 07:45	12/20/17 16:47	124-48-1	
1,2-Dibromoethane (EDB)	<1350	ug/kg	4580	1350	80	12/20/17 07:45	12/20/17 16:47	106-93-4	
1,2-Dichlorobenzene	<1480	ug/kg	4580	1480	80	12/20/17 07:45	12/20/17 16:47	95-50-1	
1,3-Dichlorobenzene	<1210	ug/kg	4580	1210	80	12/20/17 07:45	12/20/17 16:47	541-73-1	
1,4-Dichlorobenzene	<1450	ug/kg	4580	1450	80	12/20/17 07:45	12/20/17 16:47	106-46-7	
Dichlorodifluoromethane	<1130	ug/kg	4580	1130	80	12/20/17 07:45	12/20/17 16:47	75-71-8	
1,1-Dichloroethane	<1610	ug/kg	4580	1610	80	12/20/17 07:45	12/20/17 16:47	75-34-3	
1,2-Dichloroethane	<1370	ug/kg	4580	1370	80	12/20/17 07:45	12/20/17 16:47	107-06-2	
1,1-Dichloroethene	<1610	ug/kg	4580	1610	80	12/20/17 07:45	12/20/17 16:47	75-35-4	
cis-1,2-Dichloroethene	<1520	ug/kg	4580	1520	80	12/20/17 07:45	12/20/17 16:47	156-59-2	
trans-1,2-Dichloroethene	<1510	ug/kg	4580	1510	80	12/20/17 07:45	12/20/17 16:47	156-60-5	
1,2-Dichloropropane	<1540	ug/kg	4580	1540	80	12/20/17 07:45	12/20/17 16:47	78-87-5	
cis-1,3-Dichloropropene	<1520	ug/kg	4580	1520	80	12/20/17 07:45	12/20/17 16:47	10061-01-5	
trans-1,3-Dichloropropene	<1320	ug/kg	4580	1320	80	12/20/17 07:45	12/20/17 16:47	10061-02-6	
Ethylbenzene	<1140	ug/kg	4580	1140	80	12/20/17 07:45	12/20/17 16:47	100-41-4	
2-Hexanone	<4760	ug/kg	22900	4760	80	12/20/17 07:45	12/20/17 16:47	591-78-6	
Isopropylbenzene (Cumene)	<1150	ug/kg	4580	1150	80	12/20/17 07:45	12/20/17 16:47	98-82-8	
Methyl acetate	<15000	ug/kg	22900	15000	80	12/20/17 07:45	12/20/17 16:47	79-20-9	
Methylcyclohexane	<6630	ug/kg	22900	6630	80	12/20/17 07:45	12/20/17 16:47	108-87-2	
Methylene Chloride	<1490	ug/kg	4580	1490	80	12/20/17 07:45	12/20/17 16:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	<3770	ug/kg	22900	3770	80	12/20/17 07:45	12/20/17 16:47	108-10-1	
Methyl-tert-butyl ether	<1160	ug/kg	4580	1160	80	12/20/17 07:45	12/20/17 16:47	1634-04-4	
Styrene	<825	ug/kg	4580	825	80	12/20/17 07:45	12/20/17 16:47	100-42-5	
1,1,2,2-Tetrachloroethane	<1610	ug/kg	4580	1610	80	12/20/17 07:45	12/20/17 16:47	79-34-5	
Tetrachloroethene	850000	ug/kg	4580	1180	80	12/20/17 07:45	12/20/17 16:47	127-18-4	
Toluene	<1030	ug/kg	4580	1030	80	12/20/17 07:45	12/20/17 16:47	108-88-3	
1,2,4-Trichlorobenzene	<4360	ug/kg	22900	4360	80	12/20/17 07:45	12/20/17 16:47	120-82-1	
1,1,1-Trichloroethane	<1320	ug/kg	4580	1320	80	12/20/17 07:45	12/20/17 16:47	71-55-6	
1,1,2-Trichloroethane	<1850	ug/kg	4580	1850	80	12/20/17 07:45	12/20/17 16:47	79-00-5	
Trichloroethene	2470J	ug/kg	4580	2160	80	12/20/17 07:45	12/20/17 16:47	79-01-6	
Trichlorofluoromethane	<2260	ug/kg	4580	2260	80	12/20/17 07:45	12/20/17 16:47	75-69-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: TB-1A
Pace Project No.: 40162585

Sample: TB-1A (0) **Lab ID: 40162585001** Collected: Received: 12/19/17 08:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,2-Trichlorotrifluoroethane	<1850	ug/kg	4580	1850	80	12/20/17 07:45	12/20/17 16:47	76-13-1	
Vinyl chloride	<1930	ug/kg	4580	1930	80	12/20/17 07:45	12/20/17 16:47	75-01-4	
Xylene (Total)	<4440	ug/kg	13700	4440	80	12/20/17 07:45	12/20/17 16:47	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	0	%	68-130		80	12/20/17 07:45	12/20/17 16:47	1868-53-7	S4
Toluene-d8 (S)	0	%	68-149		80	12/20/17 07:45	12/20/17 16:47	2037-26-5	S4
4-Bromofluorobenzene (S)	0	%	58-141		80	12/20/17 07:45	12/20/17 16:47	460-00-4	S4
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	12.7	%	0.10	0.10	1		12/26/17 10:41		

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ANALYTICAL RESULTS

Project: TB-1A
Pace Project No.: 40162585

Sample: TB-1A (1.5) Lab ID: 40162585002 Collected: Received: 12/19/17 08:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	<8820	ug/kg	22300	8820	80	12/20/17 07:45	12/20/17 17:10	67-64-1	L2
Benzene	<824	ug/kg	1790	824	80	12/20/17 07:45	12/20/17 17:10	71-43-2	
Bromodichloromethane	<871	ug/kg	4470	871	80	12/20/17 07:45	12/20/17 17:10	75-27-4	
Bromoform	<1770	ug/kg	4470	1770	80	12/20/17 07:45	12/20/17 17:10	75-25-2	
Bromomethane	<6250	ug/kg	22300	6250	80	12/20/17 07:45	12/20/17 17:10	74-83-9	
2-Butanone (MEK)	<11100	ug/kg	22300	11100	80	12/20/17 07:45	12/20/17 17:10	78-93-3	L2
Carbon disulfide	<989	ug/kg	4470	989	80	12/20/17 07:45	12/20/17 17:10	75-15-0	
Carbon tetrachloride	<1080	ug/kg	4470	1080	80	12/20/17 07:45	12/20/17 17:10	56-23-5	
Chlorobenzene	<1320	ug/kg	4470	1320	80	12/20/17 07:45	12/20/17 17:10	108-90-7	
Chloroethane	<5990	ug/kg	22300	5990	80	12/20/17 07:45	12/20/17 17:10	75-00-3	
Chloroform	<4150	ug/kg	22300	4150	80	12/20/17 07:45	12/20/17 17:10	67-66-3	
Chloromethane	<1830	ug/kg	4470	1830	80	12/20/17 07:45	12/20/17 17:10	74-87-3	
Cyclohexane	<5580	ug/kg	22300	5580	80	12/20/17 07:45	12/20/17 17:10	110-82-7	
1,2-Dibromo-3-chloropropane	<8150	ug/kg	22300	8150	80	12/20/17 07:45	12/20/17 17:10	96-12-8	
Dibromochloromethane	<1600	ug/kg	4470	1600	80	12/20/17 07:45	12/20/17 17:10	124-48-1	
1,2-Dibromoethane (EDB)	<1310	ug/kg	4470	1310	80	12/20/17 07:45	12/20/17 17:10	106-93-4	
1,2-Dichlorobenzene	<1450	ug/kg	4470	1450	80	12/20/17 07:45	12/20/17 17:10	95-50-1	
1,3-Dichlorobenzene	<1180	ug/kg	4470	1180	80	12/20/17 07:45	12/20/17 17:10	541-73-1	
1,4-Dichlorobenzene	<1420	ug/kg	4470	1420	80	12/20/17 07:45	12/20/17 17:10	106-46-7	
Dichlorodifluoromethane	<1100	ug/kg	4470	1100	80	12/20/17 07:45	12/20/17 17:10	75-71-8	
1,1-Dichloroethane	<1580	ug/kg	4470	1580	80	12/20/17 07:45	12/20/17 17:10	75-34-3	
1,2-Dichloroethane	<1340	ug/kg	4470	1340	80	12/20/17 07:45	12/20/17 17:10	107-06-2	
1,1-Dichloroethene	<1580	ug/kg	4470	1580	80	12/20/17 07:45	12/20/17 17:10	75-35-4	
cis-1,2-Dichloroethene	<1480	ug/kg	4470	1480	80	12/20/17 07:45	12/20/17 17:10	156-59-2	
trans-1,2-Dichloroethene	<1470	ug/kg	4470	1470	80	12/20/17 07:45	12/20/17 17:10	156-60-5	
1,2-Dichloropropane	<1500	ug/kg	4470	1500	80	12/20/17 07:45	12/20/17 17:10	78-87-5	
cis-1,3-Dichloropropene	<1480	ug/kg	4470	1480	80	12/20/17 07:45	12/20/17 17:10	10061-01-5	
trans-1,3-Dichloropropene	<1290	ug/kg	4470	1290	80	12/20/17 07:45	12/20/17 17:10	10061-02-6	
Ethylbenzene	<1110	ug/kg	4470	1110	80	12/20/17 07:45	12/20/17 17:10	100-41-4	
2-Hexanone	<4650	ug/kg	22300	4650	80	12/20/17 07:45	12/20/17 17:10	591-78-6	
Isopropylbenzene (Cumene)	<1130	ug/kg	4470	1130	80	12/20/17 07:45	12/20/17 17:10	98-82-8	
Methyl acetate	<14700	ug/kg	22300	14700	80	12/20/17 07:45	12/20/17 17:10	79-20-9	
Methylcyclohexane	<6470	ug/kg	22300	6470	80	12/20/17 07:45	12/20/17 17:10	108-87-2	
Methylene Chloride	<1450	ug/kg	4470	1450	80	12/20/17 07:45	12/20/17 17:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	<3670	ug/kg	22300	3670	80	12/20/17 07:45	12/20/17 17:10	108-10-1	
Methyl-tert-butyl ether	<1130	ug/kg	4470	1130	80	12/20/17 07:45	12/20/17 17:10	1634-04-4	
Styrene	<805	ug/kg	4470	805	80	12/20/17 07:45	12/20/17 17:10	100-42-5	
1,1,2,2-Tetrachloroethane	<1570	ug/kg	4470	1570	80	12/20/17 07:45	12/20/17 17:10	79-34-5	
Tetrachloroethene	601000	ug/kg	4470	1150	80	12/20/17 07:45	12/20/17 17:10	127-18-4	
Toluene	<1000	ug/kg	4470	1000	80	12/20/17 07:45	12/20/17 17:10	108-88-3	
1,2,4-Trichlorobenzene	<4250	ug/kg	22300	4250	80	12/20/17 07:45	12/20/17 17:10	120-82-1	
1,1,1-Trichloroethane	<1290	ug/kg	4470	1290	80	12/20/17 07:45	12/20/17 17:10	71-55-6	
1,1,2-Trichloroethane	<1810	ug/kg	4470	1810	80	12/20/17 07:45	12/20/17 17:10	79-00-5	
Trichloroethene	5520	ug/kg	4470	2110	80	12/20/17 07:45	12/20/17 17:10	79-01-6	
Trichlorofluoromethane	<2210	ug/kg	4470	2210	80	12/20/17 07:45	12/20/17 17:10	75-69-4	

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ANALYTICAL RESULTS

Project: TB-1A
Pace Project No.: 40162585

Sample: TB-1A (1.5) **Lab ID: 40162585002** Collected: Received: 12/19/17 08:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1,2-Trichlorotrifluoroethane	<1810	ug/kg	4470	1810	80	12/20/17 07:45	12/20/17 17:10	76-13-1	
Vinyl chloride	<1890	ug/kg	4470	1890	80	12/20/17 07:45	12/20/17 17:10	75-01-4	
Xylene (Total)	<4330	ug/kg	13400	4330	80	12/20/17 07:45	12/20/17 17:10	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	0	%	68-130		80	12/20/17 07:45	12/20/17 17:10	1868-53-7	S4
Toluene-d8 (S)	0	%	68-149		80	12/20/17 07:45	12/20/17 17:10	2037-26-5	S4
4-Bromofluorobenzene (S)	0	%	58-141		80	12/20/17 07:45	12/20/17 17:10	460-00-4	S4
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	10.5	%	0.10	0.10	1		12/26/17 10:41		

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ANALYTICAL RESULTS

Project: TB-1A
Pace Project No.: 40162585

Sample: TB-1A (2.5) Lab ID: 40162585003 Collected: Received: 12/19/17 08:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	<5460	ug/kg	13800	5460	50	12/20/17 07:45	12/20/17 17:33	67-64-1	L2
Benzene	<511	ug/kg	1110	511	50	12/20/17 07:45	12/20/17 17:33	71-43-2	
Bromodichloromethane	<540	ug/kg	2770	540	50	12/20/17 07:45	12/20/17 17:33	75-27-4	
Bromoform	<1100	ug/kg	2770	1100	50	12/20/17 07:45	12/20/17 17:33	75-25-2	
Bromomethane	<3870	ug/kg	13800	3870	50	12/20/17 07:45	12/20/17 17:33	74-83-9	
2-Butanone (MEK)	<6850	ug/kg	13800	6850	50	12/20/17 07:45	12/20/17 17:33	78-93-3	L2
Carbon disulfide	<613	ug/kg	2770	613	50	12/20/17 07:45	12/20/17 17:33	75-15-0	
Carbon tetrachloride	<670	ug/kg	2770	670	50	12/20/17 07:45	12/20/17 17:33	56-23-5	
Chlorobenzene	<817	ug/kg	2770	817	50	12/20/17 07:45	12/20/17 17:33	108-90-7	
Chloroethane	<3710	ug/kg	13800	3710	50	12/20/17 07:45	12/20/17 17:33	75-00-3	
Chloroform	<2570	ug/kg	13800	2570	50	12/20/17 07:45	12/20/17 17:33	67-66-3	
Chloromethane	<1130	ug/kg	2770	1130	50	12/20/17 07:45	12/20/17 17:33	74-87-3	
Cyclohexane	<3460	ug/kg	13800	3460	50	12/20/17 07:45	12/20/17 17:33	110-82-7	
1,2-Dibromo-3-chloropropane	<5050	ug/kg	13800	5050	50	12/20/17 07:45	12/20/17 17:33	96-12-8	
Dibromochloromethane	<990	ug/kg	2770	990	50	12/20/17 07:45	12/20/17 17:33	124-48-1	
1,2-Dibromoethane (EDB)	<815	ug/kg	2770	815	50	12/20/17 07:45	12/20/17 17:33	106-93-4	
1,2-Dichlorobenzene	<896	ug/kg	2770	896	50	12/20/17 07:45	12/20/17 17:33	95-50-1	
1,3-Dichlorobenzene	<731	ug/kg	2770	731	50	12/20/17 07:45	12/20/17 17:33	541-73-1	
1,4-Dichlorobenzene	<880	ug/kg	2770	880	50	12/20/17 07:45	12/20/17 17:33	106-46-7	
Dichlorodifluoromethane	<680	ug/kg	2770	680	50	12/20/17 07:45	12/20/17 17:33	75-71-8	
1,1-Dichloroethane	<976	ug/kg	2770	976	50	12/20/17 07:45	12/20/17 17:33	75-34-3	
1,2-Dichloroethane	<831	ug/kg	2770	831	50	12/20/17 07:45	12/20/17 17:33	107-06-2	
1,1-Dichloroethene	<976	ug/kg	2770	976	50	12/20/17 07:45	12/20/17 17:33	75-35-4	
cis-1,2-Dichloroethene	<919	ug/kg	2770	919	50	12/20/17 07:45	12/20/17 17:33	156-59-2	
trans-1,2-Dichloroethene	<913	ug/kg	2770	913	50	12/20/17 07:45	12/20/17 17:33	156-60-5	
1,2-Dichloropropane	<931	ug/kg	2770	931	50	12/20/17 07:45	12/20/17 17:33	78-87-5	
cis-1,3-Dichloropropene	<919	ug/kg	2770	919	50	12/20/17 07:45	12/20/17 17:33	10061-01-5	
trans-1,3-Dichloropropene	<798	ug/kg	2770	798	50	12/20/17 07:45	12/20/17 17:33	10061-02-6	
Ethylbenzene	<688	ug/kg	2770	688	50	12/20/17 07:45	12/20/17 17:33	100-41-4	
2-Hexanone	<2880	ug/kg	13800	2880	50	12/20/17 07:45	12/20/17 17:33	591-78-6	
Isopropylbenzene (Cumene)	<698	ug/kg	2770	698	50	12/20/17 07:45	12/20/17 17:33	98-82-8	
Methyl acetate	<9090	ug/kg	13800	9090	50	12/20/17 07:45	12/20/17 17:33	79-20-9	
Methylcyclohexane	<4010	ug/kg	13800	4010	50	12/20/17 07:45	12/20/17 17:33	108-87-2	
Methylene Chloride	<898	ug/kg	2770	898	50	12/20/17 07:45	12/20/17 17:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	<2280	ug/kg	13800	2280	50	12/20/17 07:45	12/20/17 17:33	108-10-1	
Methyl-tert-butyl ether	<701	ug/kg	2770	701	50	12/20/17 07:45	12/20/17 17:33	1634-04-4	
Styrene	<499	ug/kg	2770	499	50	12/20/17 07:45	12/20/17 17:33	100-42-5	
1,1,2,2-Tetrachloroethane	<972	ug/kg	2770	972	50	12/20/17 07:45	12/20/17 17:33	79-34-5	
Tetrachloroethene	534000	ug/kg	2770	715	50	12/20/17 07:45	12/20/17 17:33	127-18-4	
Toluene	<621	ug/kg	2770	621	50	12/20/17 07:45	12/20/17 17:33	108-88-3	
1,2,4-Trichlorobenzene	<2630	ug/kg	13800	2630	50	12/20/17 07:45	12/20/17 17:33	120-82-1	
1,1,1-Trichloroethane	<799	ug/kg	2770	799	50	12/20/17 07:45	12/20/17 17:33	71-55-6	
1,1,2-Trichloroethane	<1120	ug/kg	2770	1120	50	12/20/17 07:45	12/20/17 17:33	79-00-5	
Trichloroethene	7160	ug/kg	2770	1310	50	12/20/17 07:45	12/20/17 17:33	79-01-6	
Trichlorofluoromethane	<1370	ug/kg	2770	1370	50	12/20/17 07:45	12/20/17 17:33	75-69-4	

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ANALYTICAL RESULTS

Project: TB-1A
Pace Project No.: 40162585

Sample: TB-1A (2.5) **Lab ID: 40162585003** Collected: Received: 12/19/17 08:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,2-Trichlorotrifluoroethane	<1120	ug/kg	2770	1120	50	12/20/17 07:45	12/20/17 17:33	76-13-1	
Vinyl chloride	<1170	ug/kg	2770	1170	50	12/20/17 07:45	12/20/17 17:33	75-01-4	
Xylene (Total)	<2680	ug/kg	8310	2680	50	12/20/17 07:45	12/20/17 17:33	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	0	%	68-130		50	12/20/17 07:45	12/20/17 17:33	1868-53-7	S4
Toluene-d8 (S)	0	%	68-149		50	12/20/17 07:45	12/20/17 17:33	2037-26-5	S4
4-Bromofluorobenzene (S)	0	%	58-141		50	12/20/17 07:45	12/20/17 17:33	460-00-4	S4
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	9.7	%	0.10	0.10	1		12/26/17 10:41		

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ANALYTICAL RESULTS

Project: TB-1A
Pace Project No.: 40162585

Sample: TB-1A (3.0) **Lab ID: 40162585004** Collected: Received: 12/19/17 08:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	<5420	ug/kg	13700	5420	50	12/20/17 07:45	12/20/17 17:55	67-64-1	L2
Benzene	<507	ug/kg	1100	507	50	12/20/17 07:45	12/20/17 17:55	71-43-2	
Bromodichloromethane	<536	ug/kg	2750	536	50	12/20/17 07:45	12/20/17 17:55	75-27-4	
Bromoform	<1090	ug/kg	2750	1090	50	12/20/17 07:45	12/20/17 17:55	75-25-2	
Bromomethane	<3840	ug/kg	13700	3840	50	12/20/17 07:45	12/20/17 17:55	74-83-9	
2-Butanone (MEK)	<6800	ug/kg	13700	6800	50	12/20/17 07:45	12/20/17 17:55	78-93-3	L2
Carbon disulfide	<608	ug/kg	2750	608	50	12/20/17 07:45	12/20/17 17:55	75-15-0	
Carbon tetrachloride	<664	ug/kg	2750	664	50	12/20/17 07:45	12/20/17 17:55	56-23-5	
Chlorobenzene	<811	ug/kg	2750	811	50	12/20/17 07:45	12/20/17 17:55	108-90-7	
Chloroethane	<3680	ug/kg	13700	3680	50	12/20/17 07:45	12/20/17 17:55	75-00-3	
Chloroform	<2550	ug/kg	13700	2550	50	12/20/17 07:45	12/20/17 17:55	67-66-3	
Chloromethane	<1120	ug/kg	2750	1120	50	12/20/17 07:45	12/20/17 17:55	74-87-3	
Cyclohexane	<3430	ug/kg	13700	3430	50	12/20/17 07:45	12/20/17 17:55	110-82-7	
1,2-Dibromo-3-chloropropane	<5010	ug/kg	13700	5010	50	12/20/17 07:45	12/20/17 17:55	96-12-8	
Dibromochloromethane	<983	ug/kg	2750	983	50	12/20/17 07:45	12/20/17 17:55	124-48-1	
1,2-Dibromoethane (EDB)	<808	ug/kg	2750	808	50	12/20/17 07:45	12/20/17 17:55	106-93-4	
1,2-Dichlorobenzene	<889	ug/kg	2750	889	50	12/20/17 07:45	12/20/17 17:55	95-50-1	
1,3-Dichlorobenzene	<725	ug/kg	2750	725	50	12/20/17 07:45	12/20/17 17:55	541-73-1	
1,4-Dichlorobenzene	<873	ug/kg	2750	873	50	12/20/17 07:45	12/20/17 17:55	106-46-7	
Dichlorodifluoromethane	<675	ug/kg	2750	675	50	12/20/17 07:45	12/20/17 17:55	75-71-8	
1,1-Dichloroethane	<969	ug/kg	2750	969	50	12/20/17 07:45	12/20/17 17:55	75-34-3	
1,2-Dichloroethane	<824	ug/kg	2750	824	50	12/20/17 07:45	12/20/17 17:55	107-06-2	
1,1-Dichloroethene	<969	ug/kg	2750	969	50	12/20/17 07:45	12/20/17 17:55	75-35-4	
cis-1,2-Dichloroethene	<912	ug/kg	2750	912	50	12/20/17 07:45	12/20/17 17:55	156-59-2	
trans-1,2-Dichloroethene	<906	ug/kg	2750	906	50	12/20/17 07:45	12/20/17 17:55	156-60-5	
1,2-Dichloropropane	<924	ug/kg	2750	924	50	12/20/17 07:45	12/20/17 17:55	78-87-5	
cis-1,3-Dichloropropene	<912	ug/kg	2750	912	50	12/20/17 07:45	12/20/17 17:55	10061-01-5	
trans-1,3-Dichloropropene	<792	ug/kg	2750	792	50	12/20/17 07:45	12/20/17 17:55	10061-02-6	
Ethylbenzene	<683	ug/kg	2750	683	50	12/20/17 07:45	12/20/17 17:55	100-41-4	
2-Hexanone	<2860	ug/kg	13700	2860	50	12/20/17 07:45	12/20/17 17:55	591-78-6	
Isopropylbenzene (Cumene)	<692	ug/kg	2750	692	50	12/20/17 07:45	12/20/17 17:55	98-82-8	
Methyl acetate	<9020	ug/kg	13700	9020	50	12/20/17 07:45	12/20/17 17:55	79-20-9	
Methylcyclohexane	<3980	ug/kg	13700	3980	50	12/20/17 07:45	12/20/17 17:55	108-87-2	
Methylene Chloride	<891	ug/kg	2750	891	50	12/20/17 07:45	12/20/17 17:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	<2260	ug/kg	13700	2260	50	12/20/17 07:45	12/20/17 17:55	108-10-1	
Methyl-tert-butyl ether	<696	ug/kg	2750	696	50	12/20/17 07:45	12/20/17 17:55	1634-04-4	
Styrene	<495	ug/kg	2750	495	50	12/20/17 07:45	12/20/17 17:55	100-42-5	
1,1,2,2-Tetrachloroethane	<964	ug/kg	2750	964	50	12/20/17 07:45	12/20/17 17:55	79-34-5	
Tetrachloroethene	497000	ug/kg	2750	710	50	12/20/17 07:45	12/20/17 17:55	127-18-4	
Toluene	<617	ug/kg	2750	617	50	12/20/17 07:45	12/20/17 17:55	108-88-3	
1,2,4-Trichlorobenzene	<2610	ug/kg	13700	2610	50	12/20/17 07:45	12/20/17 17:55	120-82-1	
1,1,1-Trichloroethane	<793	ug/kg	2750	793	50	12/20/17 07:45	12/20/17 17:55	71-55-6	
1,1,2-Trichloroethane	<1110	ug/kg	2750	1110	50	12/20/17 07:45	12/20/17 17:55	79-00-5	
Trichloroethene	6660	ug/kg	2750	1300	50	12/20/17 07:45	12/20/17 17:55	79-01-6	
Trichlorofluoromethane	<1360	ug/kg	2750	1360	50	12/20/17 07:45	12/20/17 17:55	75-69-4	

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ANALYTICAL RESULTS

Project: TB-1A
Pace Project No.: 40162585

Sample: TB-1A (3.0) **Lab ID: 40162585004** Collected: Received: 12/19/17 08:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,2-Trichlorotrifluoroethane	<1110	ug/kg	2750	1110	50	12/20/17 07:45	12/20/17 17:55	76-13-1	
Vinyl chloride	<1160	ug/kg	2750	1160	50	12/20/17 07:45	12/20/17 17:55	75-01-4	
Xylene (Total)	<2660	ug/kg	8240	2660	50	12/20/17 07:45	12/20/17 17:55	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	0	%	68-130		50	12/20/17 07:45	12/20/17 17:55	1868-53-7	S4
Toluene-d8 (S)	0	%	68-149		50	12/20/17 07:45	12/20/17 17:55	2037-26-5	S4
4-Bromofluorobenzene (S)	0	%	58-141		50	12/20/17 07:45	12/20/17 17:55	460-00-4	S4
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	9.0	%	0.10	0.10	1		12/26/17 10:41		

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QUALITY CONTROL DATA

Project: TB-1A
Pace Project No.: 40162585

QC Batch: 277670 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Full List
Associated Lab Samples: 40162585001, 40162585002, 40162585003, 40162585004

METHOD BLANK: 1632241 Matrix: Solid
Associated Lab Samples: 40162585001, 40162585002, 40162585003, 40162585004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<14.4	50.0	14.4	12/20/17 09:55	
1,1,2,2-Tetrachloroethane	ug/kg	<17.5	50.0	17.5	12/20/17 09:55	
1,1,2-Trichloroethane	ug/kg	<20.2	50.0	20.2	12/20/17 09:55	
1,1,2-Trichlorotrifluoroethane	ug/kg	<20.2	50.0	20.2	12/20/17 09:55	
1,1-Dichloroethane	ug/kg	<17.6	50.0	17.6	12/20/17 09:55	
1,1-Dichloroethene	ug/kg	<17.6	50.0	17.6	12/20/17 09:55	
1,2,4-Trichlorobenzene	ug/kg	<47.6	250	47.6	12/20/17 09:55	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	250	91.2	12/20/17 09:55	
1,2-Dibromoethane (EDB)	ug/kg	<14.7	50.0	14.7	12/20/17 09:55	
1,2-Dichlorobenzene	ug/kg	<16.2	50.0	16.2	12/20/17 09:55	
1,2-Dichloroethane	ug/kg	<15.0	50.0	15.0	12/20/17 09:55	
1,2-Dichloropropane	ug/kg	<16.8	50.0	16.8	12/20/17 09:55	
1,3-Dichlorobenzene	ug/kg	<13.2	50.0	13.2	12/20/17 09:55	
1,4-Dichlorobenzene	ug/kg	<15.9	50.0	15.9	12/20/17 09:55	
2-Butanone (MEK)	ug/kg	<124	250	124	12/20/17 09:55	
2-Hexanone	ug/kg	<52.0	250	52.0	12/20/17 09:55	
4-Methyl-2-pentanone (MIBK)	ug/kg	<41.1	250	41.1	12/20/17 09:55	
Acetone	ug/kg	<98.6	250	98.6	12/20/17 09:55	
Benzene	ug/kg	<9.2	20.0	9.2	12/20/17 09:55	
Bromodichloromethane	ug/kg	<9.8	50.0	9.8	12/20/17 09:55	
Bromoform	ug/kg	<19.8	50.0	19.8	12/20/17 09:55	
Bromomethane	ug/kg	<69.9	250	69.9	12/20/17 09:55	
Carbon disulfide	ug/kg	<11.1	50.0	11.1	12/20/17 09:55	
Carbon tetrachloride	ug/kg	<12.1	50.0	12.1	12/20/17 09:55	
Chlorobenzene	ug/kg	<14.8	50.0	14.8	12/20/17 09:55	
Chloroethane	ug/kg	<67.0	250	67.0	12/20/17 09:55	
Chloroform	ug/kg	<46.4	250	46.4	12/20/17 09:55	
Chloromethane	ug/kg	<20.4	50.0	20.4	12/20/17 09:55	
cis-1,2-Dichloroethene	ug/kg	<16.6	50.0	16.6	12/20/17 09:55	
cis-1,3-Dichloropropene	ug/kg	<16.6	50.0	16.6	12/20/17 09:55	
Cyclohexane	ug/kg	<62.4	250	62.4	12/20/17 09:55	
Dibromochloromethane	ug/kg	<17.9	50.0	17.9	12/20/17 09:55	
Dichlorodifluoromethane	ug/kg	<12.3	50.0	12.3	12/20/17 09:55	
Ethylbenzene	ug/kg	<12.4	50.0	12.4	12/20/17 09:55	
Isopropylbenzene (Cumene)	ug/kg	<12.6	50.0	12.6	12/20/17 09:55	
Methyl acetate	ug/kg	<164	250	164	12/20/17 09:55	
Methyl-tert-butyl ether	ug/kg	<12.7	50.0	12.7	12/20/17 09:55	
Methylcyclohexane	ug/kg	<72.3	250	72.3	12/20/17 09:55	
Methylene Chloride	ug/kg	<16.2	50.0	16.2	12/20/17 09:55	
Styrene	ug/kg	<9.0	50.0	9.0	12/20/17 09:55	
Tetrachloroethene	ug/kg	<12.9	50.0	12.9	12/20/17 09:55	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TB-1A
Pace Project No.: 40162585

METHOD BLANK: 1632241 Matrix: Solid
Associated Lab Samples: 40162585001, 40162585002, 40162585003, 40162585004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	ug/kg	<11.2	50.0	11.2	12/20/17 09:55	
trans-1,2-Dichloroethane	ug/kg	<16.5	50.0	16.5	12/20/17 09:55	
trans-1,3-Dichloropropene	ug/kg	<14.4	50.0	14.4	12/20/17 09:55	
Trichloroethene	ug/kg	<23.6	50.0	23.6	12/20/17 09:55	
Trichlorofluoromethane	ug/kg	<24.7	50.0	24.7	12/20/17 09:55	
Vinyl chloride	ug/kg	<21.1	50.0	21.1	12/20/17 09:55	
Xylene (Total)	ug/kg	<48.4	150	48.4	12/20/17 09:55	
4-Bromofluorobenzene (S)	%	87	58-141		12/20/17 09:55	
Dibromofluoromethane (S)	%	101	68-130		12/20/17 09:55	
Toluene-d8 (S)	%	95	68-149		12/20/17 09:55	

LABORATORY CONTROL SAMPLE: 1632242

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2530	101	61-122	
1,1,2,2-Tetrachloroethane	ug/kg	2500	2260	90	73-130	
1,1,2-Trichloroethane	ug/kg	2500	2380	95	70-130	
1,1,2-Trichlorotrifluoroethane	ug/kg	2500	3060	122	50-150	
1,1-Dichloroethane	ug/kg	2500	2210	89	63-124	
1,1-Dichloroethene	ug/kg	2500	2460	99	53-117	
1,2,4-Trichlorobenzene	ug/kg	2500	2070	83	78-130	
1,2-Dibromo-3-chloropropane	ug/kg	2500	1900	76	49-140	
1,2-Dibromoethane (EDB)	ug/kg	2500	2330	93	70-130	
1,2-Dichlorobenzene	ug/kg	2500	2470	99	70-130	
1,2-Dichloroethane	ug/kg	2500	2550	102	56-135	
1,2-Dichloropropane	ug/kg	2500	2400	96	77-122	
1,3-Dichlorobenzene	ug/kg	2500	2490	100	70-130	
1,4-Dichlorobenzene	ug/kg	2500	2450	98	70-130	
2-Butanone (MEK)	ug/kg	2500	1200	48	50-150 L2	
2-Hexanone	ug/kg	2500	1730	69	50-150	
4-Methyl-2-pentanone (MIBK)	ug/kg	2500	1910	76	50-150	
Acetone	ug/kg	2500	1190	48	50-150 L2	
Benzene	ug/kg	2500	2470	99	66-130	
Bromodichloromethane	ug/kg	2500	2490	99	62-135	
Bromoform	ug/kg	2500	2170	87	68-130	
Bromomethane	ug/kg	2500	2660	106	29-137	
Carbon disulfide	ug/kg	2500	2520	101	64-137	
Carbon tetrachloride	ug/kg	2500	2820	113	57-130	
Chlorobenzene	ug/kg	2500	2520	101	70-130	
Chloroethane	ug/kg	2500	2330	93	36-144	
Chloroform	ug/kg	2500	2510	100	69-115	
Chloromethane	ug/kg	2500	1850	74	32-126	
cis-1,2-Dichloroethene	ug/kg	2500	2270	91	65-130	
cis-1,3-Dichloropropene	ug/kg	2500	2240	89	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TB-1A
Pace Project No.: 40162585

LABORATORY CONTROL SAMPLE: 1632242

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyclohexane	ug/kg	2500	2380	95	50-150	
Dibromochloromethane	ug/kg	2500	2400	96	70-130	
Dichlorodifluoromethane	ug/kg	2500	1540	62	10-99	
Ethylbenzene	ug/kg	2500	2420	97	82-122	
Isopropylbenzene (Cumene)	ug/kg	2500	2480	99	70-130	
Methyl acetate	ug/kg	2500	2190	87	50-150	
Methyl-tert-butyl ether	ug/kg	2500	2360	94	63-134	
Methylcyclohexane	ug/kg	2500	2590	104	50-150	
Methylene Chloride	ug/kg	2500	2640	106	56-123	
Styrene	ug/kg	2500	2400	96	70-130	
Tetrachloroethene	ug/kg	2500	3010	121	70-131	
Toluene	ug/kg	2500	2420	97	80-120	
trans-1,2-Dichloroethene	ug/kg	2500	2530	101	66-130	
trans-1,3-Dichloropropene	ug/kg	2500	2310	93	68-130	
Trichloroethene	ug/kg	2500	2440	98	70-130	
Trichlorofluoromethane	ug/kg	2500	2810	113	37-149	
Vinyl chloride	ug/kg	2500	2230	89	43-128	
Xylene (Total)	ug/kg	7500	7310	97	70-130	
4-Bromofluorobenzene (S)	%			94	58-141	
Dibromofluoromethane (S)	%			101	68-130	
Toluene-d8 (S)	%			97	68-149	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1632243 1632244

Parameter	Units	40162622002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
1,1,1-Trichloroethane	ug/kg	<65.1	1620	1620	1630	1620	100	99	57-123	1	20	
1,1,2,2-Tetrachloroethane	ug/kg	<65.1	1620	1620	1570	1410	97	87	73-135	11	20	
1,1,2-Trichloroethane	ug/kg	<65.1	1620	1620	1590	1520	98	93	70-130	4	20	
1,1,2-Trichlorotrifluoroethane	ug/kg	<65.1	1620	1620	2090	2000	129	123	47-150	4	25	
1,1-Dichloroethane	ug/kg	<65.1	1620	1620	1510	1450	93	89	63-124	4	20	
1,1-Dichloroethene	ug/kg	<65.1	1620	1620	1740	1630	107	100	48-117	7	23	
1,2,4-Trichlorobenzene	ug/kg	<325	1620	1620	1670	1480	100	89	78-145	12	20	
1,2-Dibromo-3-chloropropane	ug/kg	<325	1620	1620	1470	1230	91	75	38-168	18	22	
1,2-Dibromoethane (EDB)	ug/kg	<65.1	1620	1620	1560	1510	96	93	70-130	4	20	
1,2-Dichlorobenzene	ug/kg	<65.1	1620	1620	1770	1640	109	101	70-130	7	20	
1,2-Dichloroethane	ug/kg	<65.1	1620	1620	1730	1650	106	102	56-145	5	20	
1,2-Dichloropropane	ug/kg	<65.1	1620	1620	1590	1540	98	95	77-123	3	20	
1,3-Dichlorobenzene	ug/kg	<65.1	1620	1620	1700	1580	105	97	70-130	7	20	
1,4-Dichlorobenzene	ug/kg	<65.1	1620	1620	1660	1540	102	95	70-130	7	20	
2-Butanone (MEK)	ug/kg	<325	1620	1620	1250	1060	77	65	50-150	17	20	
2-Hexanone	ug/kg	<325	1620	1620	1580	1370	97	84	50-150	15	20	
4-Methyl-2-pentanone (MIBK)	ug/kg	<325	1620	1620	1220	1150	75	71	50-150	6	20	
Acetone	ug/kg	<325	1620	1620	1130	1090	70	67	50-150	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TB-1A
Pace Project No.: 40162585

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1632243		1632244		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40162622002 Result	MS Spike Conc.	MSD Spike Conc.									
Benzene	ug/kg	<26.0	1620	1620	1650	1570	101	97	65-130	4	20		
Bromodichloromethane	ug/kg	<65.1	1620	1620	1550	1580	96	97	59-141	2	20		
Bromoform	ug/kg	<65.1	1620	1620	1560	1490	96	92	59-141	4	20		
Bromomethane	ug/kg	<325	1620	1620	1890	1880	116	116	28-139	0	20		
Carbon disulfide	ug/kg	<65.1	1620	1620	1690	1670	104	103	60-137	1	20		
Carbon tetrachloride	ug/kg	<65.1	1620	1620	1830	1730	113	106	50-130	6	20		
Chlorobenzene	ug/kg	<65.1	1620	1620	1690	1610	104	99	70-130	5	20		
Chloroethane	ug/kg	<325	1620	1620	1580	1690	97	104	36-144	7	20		
Chloroform	ug/kg	<325	1620	1620	1650	1630	102	100	68-122	1	20		
Chloromethane	ug/kg	<65.1	1620	1620	1420	1380	87	85	30-126	3	20		
cis-1,2-Dichloroethene	ug/kg	<65.1	1620	1620	1560	1470	96	90	63-130	6	20		
cis-1,3-Dichloropropene	ug/kg	<65.1	1620	1620	1450	1390	89	86	70-130	4	20		
Cyclohexane	ug/kg	<325	1620	1620	1590	1530	98	94	50-150	4	20		
Dibromochloromethane	ug/kg	<65.1	1620	1620	1640	1540	101	94	66-136	6	20		
Dichlorodifluoromethane	ug/kg	<65.1	1620	1620	1240	1180	76	72	10-99	5	33		
Ethylbenzene	ug/kg	<65.1	1620	1620	1610	1550	98	94	80-122	4	20		
Isopropylbenzene (Cumene)	ug/kg	<65.1	1620	1620	1690	1620	104	99	70-130	5	20		
Methyl acetate	ug/kg	<325	1620	1620	1860	1740	115	107	50-150	7	20		
Methyl-tert-butyl ether	ug/kg	<65.1	1620	1620	1650	1550	102	95	63-134	7	20		
Methylcyclohexane	ug/kg	<325	1620	1620	1760	1670	108	103	50-150	5	20		
Methylene Chloride	ug/kg	<65.1	1620	1620	1780	1710	109	105	56-127	4	20		
Styrene	ug/kg	<65.1	1620	1620	1560	1470	96	91	70-130	6	20		
Tetrachloroethene	ug/kg	183	1620	1620	1850	1770	102	97	70-131	5	20		
Toluene	ug/kg	<65.1	1620	1620	1600	1540	98	95	80-120	4	20		
trans-1,2-Dichloroethene	ug/kg	<65.1	1620	1620	1750	1630	108	100	60-130	7	20		
trans-1,3-Dichloropropene	ug/kg	<65.1	1620	1620	1460	1390	90	85	68-130	5	20		
Trichloroethene	ug/kg	<65.1	1620	1620	1670	1650	103	101	70-130	2	20		
Trichlorofluoromethane	ug/kg	<65.1	1620	1620	1910	1870	118	115	37-149	3	24		
Vinyl chloride	ug/kg	<65.1	1620	1620	1550	1520	96	93	39-128	2	20		
Xylene (Total)	ug/kg	<195	4880	4880	4930	4770	101	98	70-130	3	20		
4-Bromofluorobenzene (S)	%						109	108	58-141				
Dibromofluoromethane (S)	%						120	118	68-130				
Toluene-d8 (S)	%						112	110	68-149				

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: TB-1A
Pace Project No.: 40162585

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.

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.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: TB-1A
Pace Project No.: 40162585

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40162585001	TB-1A (0)	EPA 5035/5030B	277670	EPA 8260	277676
40162585002	TB-1A (1.5)	EPA 5035/5030B	277670	EPA 8260	277676
40162585003	TB-1A (2.5)	EPA 5035/5030B	277670	EPA 8260	277676
40162585004	TB-1A (3.0)	EPA 5035/5030B	277670	EPA 8260	277676
40162585001	TB-1A (0)	ASTM D2974-87	277964		
40162585002	TB-1A (1.5)	ASTM D2974-87	277964		
40162585003	TB-1A (2.5)	ASTM D2974-87	277964		
40162585004	TB-1A (3.0)	ASTM D2974-87	277964		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302



Client Name: Resolution Partners

Project # **WO# : 40162585**

Courier: Fed Ex UPS Client Pace Other: Walto
Tracking #: 1589 735-1



Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used: N/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature: Uncorr: ROJ / Corr: _____ Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Person examining contents:
Date: 12/19/17
Initials: SSM

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

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>No time/date</u> <u>SSM 12/19/17</u>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3. <u>NO time</u> <u>SSM 12/19/17</u>
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time: - VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	5. <u>Unknown collect date/time</u> Date/Time: <u>SSM 12/19/17</u>
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	6. <u>SSM 12/19/17</u>
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	7.
Sufficient Volume:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>No by hand vol.</u> <u>SSM 12/19/17</u>
Correct Containers Used: - Pace Containers Used: - Pace IR Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9. <u>No vials received for VOC's</u> <u>- Blue maskies free around sit area</u> <u>SSM 12/19/17</u>
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC: - Includes date/time/ID/Analysis Matrix: <u>S</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>NO ID's contain "A"</u> <u>SSM 12/19/17</u>
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12) exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed Lab Std #ID of preservative Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments
Person Contacted: _____ Date/Time: _____
Comments/ Resolution: _____

Project Manager Review: AC for DM Date: 12/19/17

November 15, 2017

Angela Hassell
ReResolution Partners, LLC.
967 Jonathon Drive
Madison, WI 53713

RE: Project: PZ-1 & TB-1A 8260 VOCs
Pace Project No.: 40160640

Dear Angela Hassell:

Enclosed are the analytical results for sample(s) received by the laboratory on November 11, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Kevin Baker, ReResolution Partners, LLC.
Bernd Rehm, ReResolution Partners, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: PZ-1 & TB-1A 8260 VOCs
Pace Project No.: 40160640

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40160640001	PZ-1	Water	11/10/17 11:05	11/11/17 08:15
40160640002	TB-1A	Solid	11/10/17 11:00	11/11/17 08:15

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SAMPLE ANALYTE COUNT

Project: PZ-1 & TB-1A 8260 VOCs
Pace Project No.: 40160640

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40160640001	PZ-1	EPA 8260	LAP	51	PASI-G
40160640002	TB-1A	EPA 8260	SMT	51	PASI-G
		ASTM D2974-87	SKW	1	PASI-G

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40160640001	PZ-1					
EPA 8260	cis-1,2-Dichloroethene	665	ug/L	200	11/14/17 14:15	
EPA 8260	Tetrachloroethene	17700	ug/L	200	11/14/17 14:15	
EPA 8260	Trichloroethene	580	ug/L	200	11/14/17 14:15	
40160640002	TB-1A					
EPA 8260	Methylene Chloride	2230J	ug/kg	4610	11/14/17 14:34	
EPA 8260	Tetrachloroethene	643000	ug/kg	4610	11/14/17 14:34	
EPA 8260	Trichloroethene	2710J	ug/kg	4610	11/14/17 14:34	
ASTM D2974-87	Percent Moisture	13.2	%	0.10	11/15/17 06:41	

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PROJECT NARRATIVE

Project: PZ-1 & TB-1A 8260 VOCs
Pace Project No.: 40160640

Method: EPA 8260
Description: 8260 MSV Med Level Full List
Client: ReSolution Partners, LLC.
Date: November 15, 2017

General Information:

1 sample was analyzed for EPA 8260. 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.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B 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.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 274095

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- TB-1A (Lab ID: 40160640002)
 - 4-Bromofluorobenzene (S)
 - Dibromofluoromethane (S)
 - Toluene-d8 (S)

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.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PZ-1 & TB-1A 8260 VOCs
Pace Project No.: 40160640

Method: EPA 8260
Description: 8260 MSV Oxygenates
Client: ReSolution Partners, LLC.
Date: November 15, 2017

General Information:

1 sample was analyzed for EPA 8260. 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.

Surrogates:

All surrogates 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.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

Sample: PZ-1 **Lab ID: 40160640001** Collected: 11/10/17 11:05 Received: 11/11/17 08:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates		Analytical Method: EPA 8260							
Acetone	<591	ug/L	4000	591	200		11/14/17 14:15	67-64-1	
Benzene	<100	ug/L	200	100	200		11/14/17 14:15	71-43-2	
Bromodichloromethane	<100	ug/L	200	100	200		11/14/17 14:15	75-27-4	
Bromoform	<100	ug/L	200	100	200		11/14/17 14:15	75-25-2	
Bromomethane	<487	ug/L	1000	487	200		11/14/17 14:15	74-83-9	
2-Butanone (MEK)	<596	ug/L	4000	596	200		11/14/17 14:15	78-93-3	
Carbon disulfide	<123	ug/L	1000	123	200		11/14/17 14:15	75-15-0	
Carbon tetrachloride	<100	ug/L	200	100	200		11/14/17 14:15	56-23-5	
Chlorobenzene	<100	ug/L	200	100	200		11/14/17 14:15	108-90-7	
Chloroethane	<74.9	ug/L	200	74.9	200		11/14/17 14:15	75-00-3	
Chloroform	<500	ug/L	1000	500	200		11/14/17 14:15	67-66-3	
Chloromethane	<100	ug/L	200	100	200		11/14/17 14:15	74-87-3	
Cyclohexane	<175	ug/L	1000	175	200		11/14/17 14:15	110-82-7	
1,2-Dibromo-3-chloropropane	<433	ug/L	1000	433	200		11/14/17 14:15	96-12-8	
Dibromochloromethane	<100	ug/L	200	100	200		11/14/17 14:15	124-48-1	
1,2-Dibromoethane (EDB)	<35.6	ug/L	200	35.6	200		11/14/17 14:15	106-93-4	
1,2-Dichlorobenzene	<100	ug/L	200	100	200		11/14/17 14:15	95-50-1	
1,3-Dichlorobenzene	<100	ug/L	200	100	200		11/14/17 14:15	541-73-1	
1,4-Dichlorobenzene	<100	ug/L	200	100	200		11/14/17 14:15	106-46-7	
Dichlorodifluoromethane	<44.8	ug/L	200	44.8	200		11/14/17 14:15	75-71-8	
1,1-Dichloroethane	<48.3	ug/L	200	48.3	200		11/14/17 14:15	75-34-3	
1,2-Dichloroethane	<33.6	ug/L	200	33.6	200		11/14/17 14:15	107-06-2	
1,1-Dichloroethene	<82.0	ug/L	200	82.0	200		11/14/17 14:15	75-35-4	
cis-1,2-Dichloroethene	665	ug/L	200	51.2	200		11/14/17 14:15	156-59-2	
trans-1,2-Dichloroethene	<51.3	ug/L	200	51.3	200		11/14/17 14:15	156-60-5	
1,2-Dichloropropane	<46.6	ug/L	200	46.6	200		11/14/17 14:15	78-87-5	
cis-1,3-Dichloropropene	<100	ug/L	200	100	200		11/14/17 14:15	10061-01-5	
trans-1,3-Dichloropropene	<45.9	ug/L	200	45.9	200		11/14/17 14:15	10061-02-6	
Ethylbenzene	<100	ug/L	200	100	200		11/14/17 14:15	100-41-4	
2-Hexanone	<222	ug/L	1000	222	200		11/14/17 14:15	591-78-6	
Isopropylbenzene (Cumene)	<28.7	ug/L	200	28.7	200		11/14/17 14:15	98-82-8	
Methyl acetate	<434	ug/L	2000	434	200		11/14/17 14:15	79-20-9	
Methylcyclohexane	<467	ug/L	1000	467	200		11/14/17 14:15	108-87-2	
Methylene Chloride	<46.5	ug/L	200	46.5	200		11/14/17 14:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	<428	ug/L	1000	428	200		11/14/17 14:15	108-10-1	
Methyl-tert-butyl ether	<34.8	ug/L	200	34.8	200		11/14/17 14:15	1634-04-4	
Styrene	<100	ug/L	200	100	200		11/14/17 14:15	100-42-5	
1,1,2,2-Tetrachloroethane	<49.9	ug/L	200	49.9	200		11/14/17 14:15	79-34-5	
Tetrachloroethene	17700	ug/L	200	100	200		11/14/17 14:15	127-18-4	
Toluene	<100	ug/L	200	100	200		11/14/17 14:15	108-88-3	
1,2,4-Trichlorobenzene	<442	ug/L	1000	442	200		11/14/17 14:15	120-82-1	
1,1,1-Trichloroethane	<100	ug/L	200	100	200		11/14/17 14:15	71-55-6	
1,1,2-Trichloroethane	<39.5	ug/L	200	39.5	200		11/14/17 14:15	79-00-5	
Trichloroethene	580	ug/L	200	66.1	200		11/14/17 14:15	79-01-6	
Trichlorofluoromethane	<37.0	ug/L	200	37.0	200		11/14/17 14:15	75-69-4	
1,1,2-Trichlorotrifluoroethane	<162	ug/L	1000	162	200		11/14/17 14:15	76-13-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

Sample: PZ-1 **Lab ID: 40160640001** Collected: 11/10/17 11:05 Received: 11/11/17 08:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates		Analytical Method: EPA 8260							
Vinyl chloride	<35.1	ug/L	200	35.1	200		11/14/17 14:15	75-01-4	
Xylene (Total)	<300	ug/L	600	300	200		11/14/17 14:15	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	104	%	67-130		200		11/14/17 14:15	1868-53-7	
Toluene-d8 (S)	99	%	70-130		200		11/14/17 14:15	2037-26-5	
4-Bromofluorobenzene (S)	85	%	61-130		200		11/14/17 14:15	460-00-4	

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ANALYTICAL RESULTS

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

Sample: TB-1A Lab ID: 40160640002 Collected: 11/10/17 11:00 Received: 11/11/17 08:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	<9090	ug/kg	23000	9090	80	11/14/17 08:30	11/14/17 14:34	67-64-1	
Benzene	<850	ug/kg	1840	850	80	11/14/17 08:30	11/14/17 14:34	71-43-2	
Bromodichloromethane	<899	ug/kg	4610	899	80	11/14/17 08:30	11/14/17 14:34	75-27-4	
Bromoform	<1820	ug/kg	4610	1820	80	11/14/17 08:30	11/14/17 14:34	75-25-2	
Bromomethane	<6440	ug/kg	23000	6440	80	11/14/17 08:30	11/14/17 14:34	74-83-9	
2-Butanone (MEK)	<11400	ug/kg	23000	11400	80	11/14/17 08:30	11/14/17 14:34	78-93-3	
Carbon disulfide	<1020	ug/kg	4610	1020	80	11/14/17 08:30	11/14/17 14:34	75-15-0	
Carbon tetrachloride	<1110	ug/kg	4610	1110	80	11/14/17 08:30	11/14/17 14:34	56-23-5	
Chlorobenzene	<1360	ug/kg	4610	1360	80	11/14/17 08:30	11/14/17 14:34	108-90-7	
Chloroethane	<6180	ug/kg	23000	6180	80	11/14/17 08:30	11/14/17 14:34	75-00-3	
Chloroform	<4280	ug/kg	23000	4280	80	11/14/17 08:30	11/14/17 14:34	67-66-3	
Chloromethane	<1880	ug/kg	4610	1880	80	11/14/17 08:30	11/14/17 14:34	74-87-3	
Cyclohexane	<5750	ug/kg	23000	5750	80	11/14/17 08:30	11/14/17 14:34	110-82-7	
1,2-Dibromo-3-chloropropane	<8410	ug/kg	23000	8410	80	11/14/17 08:30	11/14/17 14:34	96-12-8	
Dibromochloromethane	<1650	ug/kg	4610	1650	80	11/14/17 08:30	11/14/17 14:34	124-48-1	
1,2-Dibromoethane (EDB)	<1360	ug/kg	4610	1360	80	11/14/17 08:30	11/14/17 14:34	106-93-4	
1,2-Dichlorobenzene	<1490	ug/kg	4610	1490	80	11/14/17 08:30	11/14/17 14:34	95-50-1	
1,3-Dichlorobenzene	<1220	ug/kg	4610	1220	80	11/14/17 08:30	11/14/17 14:34	541-73-1	
1,4-Dichlorobenzene	<1460	ug/kg	4610	1460	80	11/14/17 08:30	11/14/17 14:34	106-46-7	
Dichlorodifluoromethane	<1130	ug/kg	4610	1130	80	11/14/17 08:30	11/14/17 14:34	75-71-8	
1,1-Dichloroethane	<1620	ug/kg	4610	1620	80	11/14/17 08:30	11/14/17 14:34	75-34-3	
1,2-Dichloroethane	<1380	ug/kg	4610	1380	80	11/14/17 08:30	11/14/17 14:34	107-06-2	
1,1-Dichloroethene	<1620	ug/kg	4610	1620	80	11/14/17 08:30	11/14/17 14:34	75-35-4	
cis-1,2-Dichloroethene	<1530	ug/kg	4610	1530	80	11/14/17 08:30	11/14/17 14:34	156-59-2	
trans-1,2-Dichloroethene	<1520	ug/kg	4610	1520	80	11/14/17 08:30	11/14/17 14:34	156-60-5	
1,2-Dichloropropane	<1550	ug/kg	4610	1550	80	11/14/17 08:30	11/14/17 14:34	78-87-5	
cis-1,3-Dichloropropene	<1530	ug/kg	4610	1530	80	11/14/17 08:30	11/14/17 14:34	10061-01-5	
trans-1,3-Dichloropropene	<1330	ug/kg	4610	1330	80	11/14/17 08:30	11/14/17 14:34	10061-02-6	
Ethylbenzene	<1150	ug/kg	4610	1150	80	11/14/17 08:30	11/14/17 14:34	100-41-4	
2-Hexanone	<4800	ug/kg	23000	4800	80	11/14/17 08:30	11/14/17 14:34	591-78-6	
Isopropylbenzene (Cumene)	<1160	ug/kg	4610	1160	80	11/14/17 08:30	11/14/17 14:34	98-82-8	
Methyl acetate	<15100	ug/kg	23000	15100	80	11/14/17 08:30	11/14/17 14:34	79-20-9	
Methylcyclohexane	<6670	ug/kg	23000	6670	80	11/14/17 08:30	11/14/17 14:34	108-87-2	
Methylene Chloride	2230J	ug/kg	4610	1490	80	11/14/17 08:30	11/14/17 14:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	<3790	ug/kg	23000	3790	80	11/14/17 08:30	11/14/17 14:34	108-10-1	
Methyl-tert-butyl ether	<1170	ug/kg	4610	1170	80	11/14/17 08:30	11/14/17 14:34	1634-04-4	
Styrene	<830	ug/kg	4610	830	80	11/14/17 08:30	11/14/17 14:34	100-42-5	
1,1,2,2-Tetrachloroethane	<1620	ug/kg	4610	1620	80	11/14/17 08:30	11/14/17 14:34	79-34-5	
Tetrachloroethene	643000	ug/kg	4610	1190	80	11/14/17 08:30	11/14/17 14:34	127-18-4	
Toluene	<1030	ug/kg	4610	1030	80	11/14/17 08:30	11/14/17 14:34	108-88-3	
1,2,4-Trichlorobenzene	<4380	ug/kg	23000	4380	80	11/14/17 08:30	11/14/17 14:34	120-82-1	
1,1,1-Trichloroethane	<1330	ug/kg	4610	1330	80	11/14/17 08:30	11/14/17 14:34	71-55-6	
1,1,2-Trichloroethane	<1870	ug/kg	4610	1870	80	11/14/17 08:30	11/14/17 14:34	79-00-5	
Trichloroethene	2710J	ug/kg	4610	2180	80	11/14/17 08:30	11/14/17 14:34	79-01-6	
Trichlorofluoromethane	<2270	ug/kg	4610	2270	80	11/14/17 08:30	11/14/17 14:34	75-69-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

Sample: TB-1A **Lab ID: 40160640002** Collected: 11/10/17 11:00 Received: 11/11/17 08:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,2-Trichlorotrifluoroethane	<1870	ug/kg	4610	1870	80	11/14/17 08:30	11/14/17 14:34	76-13-1	
Vinyl chloride	<1940	ug/kg	4610	1940	80	11/14/17 08:30	11/14/17 14:34	75-01-4	
Xylene (Total)	<4460	ug/kg	13800	4460	80	11/14/17 08:30	11/14/17 14:34	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	0	%	68-130		80	11/14/17 08:30	11/14/17 14:34	1868-53-7	S4
Toluene-d8 (S)	0	%	68-149		80	11/14/17 08:30	11/14/17 14:34	2037-26-5	S4
4-Bromofluorobenzene (S)	0	%	58-141		80	11/14/17 08:30	11/14/17 14:34	460-00-4	S4
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	13.2	%	0.10	0.10	1		11/15/17 06:41		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

QC Batch: 274095

Analysis Method: EPA 8260

QC Batch Method: EPA 5035/5030B

Analysis Description: 8260 MSV Med Level Full List

Associated Lab Samples: 40160640002

METHOD BLANK: 1613016

Matrix: Solid

Associated Lab Samples: 40160640002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<14.4	50.0	14.4	11/14/17 11:18	
1,1,2,2-Tetrachloroethane	ug/kg	<17.5	50.0	17.5	11/14/17 11:18	
1,1,2-Trichloroethane	ug/kg	<20.2	50.0	20.2	11/14/17 11:18	
1,1,2-Trichlorotrifluoroethane	ug/kg	<20.2	50.0	20.2	11/14/17 11:18	
1,1-Dichloroethane	ug/kg	<17.6	50.0	17.6	11/14/17 11:18	
1,1-Dichloroethene	ug/kg	<17.6	50.0	17.6	11/14/17 11:18	
1,2,4-Trichlorobenzene	ug/kg	<47.6	250	47.6	11/14/17 11:18	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	250	91.2	11/14/17 11:18	
1,2-Dibromoethane (EDB)	ug/kg	<14.7	50.0	14.7	11/14/17 11:18	
1,2-Dichlorobenzene	ug/kg	<16.2	50.0	16.2	11/14/17 11:18	
1,2-Dichloroethane	ug/kg	<15.0	50.0	15.0	11/14/17 11:18	
1,2-Dichloropropane	ug/kg	<16.8	50.0	16.8	11/14/17 11:18	
1,3-Dichlorobenzene	ug/kg	<13.2	50.0	13.2	11/14/17 11:18	
1,4-Dichlorobenzene	ug/kg	<15.9	50.0	15.9	11/14/17 11:18	
2-Butanone (MEK)	ug/kg	<124	250	124	11/14/17 11:18	
2-Hexanone	ug/kg	<52.0	250	52.0	11/14/17 11:18	
4-Methyl-2-pentanone (MIBK)	ug/kg	<41.1	250	41.1	11/14/17 11:18	
Acetone	ug/kg	<98.6	250	98.6	11/14/17 11:18	
Benzene	ug/kg	<9.2	20.0	9.2	11/14/17 11:18	
Bromodichloromethane	ug/kg	<9.8	50.0	9.8	11/14/17 11:18	
Bromoform	ug/kg	<19.8	50.0	19.8	11/14/17 11:18	
Bromomethane	ug/kg	<69.9	250	69.9	11/14/17 11:18	
Carbon disulfide	ug/kg	<11.1	50.0	11.1	11/14/17 11:18	
Carbon tetrachloride	ug/kg	<12.1	50.0	12.1	11/14/17 11:18	
Chlorobenzene	ug/kg	<14.8	50.0	14.8	11/14/17 11:18	
Chloroethane	ug/kg	<67.0	250	67.0	11/14/17 11:18	
Chloroform	ug/kg	<46.4	250	46.4	11/14/17 11:18	
Chloromethane	ug/kg	<20.4	50.0	20.4	11/14/17 11:18	
cis-1,2-Dichloroethene	ug/kg	<16.6	50.0	16.6	11/14/17 11:18	
cis-1,3-Dichloropropene	ug/kg	<16.6	50.0	16.6	11/14/17 11:18	
Cyclohexane	ug/kg	<62.4	250	62.4	11/14/17 11:18	
Dibromochloromethane	ug/kg	<17.9	50.0	17.9	11/14/17 11:18	
Dichlorodifluoromethane	ug/kg	<12.3	50.0	12.3	11/14/17 11:18	
Ethylbenzene	ug/kg	<12.4	50.0	12.4	11/14/17 11:18	
Isopropylbenzene (Cumene)	ug/kg	<12.6	50.0	12.6	11/14/17 11:18	
Methyl acetate	ug/kg	<164	250	164	11/14/17 11:18	
Methyl-tert-butyl ether	ug/kg	<12.7	50.0	12.7	11/14/17 11:18	
Methylcyclohexane	ug/kg	<72.3	250	72.3	11/14/17 11:18	
Methylene Chloride	ug/kg	<16.2	50.0	16.2	11/14/17 11:18	
Styrene	ug/kg	<9.0	50.0	9.0	11/14/17 11:18	
Tetrachloroethene	ug/kg	<12.9	50.0	12.9	11/14/17 11:18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

METHOD BLANK: 1613016

Matrix: Solid

Associated Lab Samples: 40160640002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	ug/kg	<11.2	50.0	11.2	11/14/17 11:18	
trans-1,2-Dichloroethene	ug/kg	<16.5	50.0	16.5	11/14/17 11:18	
trans-1,3-Dichloropropene	ug/kg	<14.4	50.0	14.4	11/14/17 11:18	
Trichloroethene	ug/kg	<23.6	50.0	23.6	11/14/17 11:18	
Trichlorofluoromethane	ug/kg	<24.7	50.0	24.7	11/14/17 11:18	
Vinyl chloride	ug/kg	<21.1	50.0	21.1	11/14/17 11:18	
Xylene (Total)	ug/kg	<48.4	150	48.4	11/14/17 11:18	
4-Bromofluorobenzene (S)	%	99	58-141		11/14/17 11:18	
Dibromofluoromethane (S)	%	96	68-130		11/14/17 11:18	
Toluene-d8 (S)	%	104	68-149		11/14/17 11:18	

LABORATORY CONTROL SAMPLE: 1613017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2680	107	61-122	
1,1,2,2-Tetrachloroethane	ug/kg	2500	2780	111	73-130	
1,1,2-Trichloroethane	ug/kg	2500	2720	109	70-130	
1,1,2-Trichlorotrifluoroethane	ug/kg	2500	2330	93	50-150	
1,1-Dichloroethane	ug/kg	2500	2680	107	63-124	
1,1-Dichloroethene	ug/kg	2500	2610	105	53-117	
1,2,4-Trichlorobenzene	ug/kg	2500	2660	106	78-130	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2290	92	49-140	
1,2-Dibromoethane (EDB)	ug/kg	2500	2690	108	70-130	
1,2-Dichlorobenzene	ug/kg	2500	2640	106	70-130	
1,2-Dichloroethane	ug/kg	2500	2740	110	56-135	
1,2-Dichloropropane	ug/kg	2500	2630	105	77-122	
1,3-Dichlorobenzene	ug/kg	2500	2630	105	70-130	
1,4-Dichlorobenzene	ug/kg	2500	2660	106	70-130	
Benzene	ug/kg	2500	2740	109	66-130	
Bromodichloromethane	ug/kg	2500	2520	101	62-135	
Bromoform	ug/kg	2500	2160	86	68-130	
Bromomethane	ug/kg	2500	2310	92	29-137	
Carbon disulfide	ug/kg	2500	2370	95	64-137	
Carbon tetrachloride	ug/kg	2500	2590	103	57-130	
Chlorobenzene	ug/kg	2500	2660	106	70-130	
Chloroethane	ug/kg	2500	2550	102	36-144	
Chloroform	ug/kg	2500	2740	109	69-115	
Chloromethane	ug/kg	2500	1510	60	32-126	
cis-1,2-Dichloroethene	ug/kg	2500	2600	104	65-130	
cis-1,3-Dichloropropene	ug/kg	2500	2670	107	70-130	
Cyclohexane	ug/kg	2500	2810	112	50-150	
Dibromochloromethane	ug/kg	2500	2740	110	70-130	
Dichlorodifluoromethane	ug/kg	2500	962	38	10-99	
Ethylbenzene	ug/kg	2500	2740	109	82-122	

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QUALITY CONTROL DATA

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

LABORATORY CONTROL SAMPLE: 1613017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Isopropylbenzene (Cumene)	ug/kg	2500	2740	110	70-130	
Methyl acetate	ug/kg	2500	2490	100	50-150	
Methyl-tert-butyl ether	ug/kg	2500	2670	107	63-134	
Methylcyclohexane	ug/kg	2500	2490	99	50-150	
Methylene Chloride	ug/kg	2500	2640	106	56-123	
Styrene	ug/kg	2500	2760	110	70-130	
Tetrachloroethene	ug/kg	2500	2600	104	70-131	
Toluene	ug/kg	2500	2560	102	80-120	
trans-1,2-Dichloroethene	ug/kg	2500	2590	104	66-130	
trans-1,3-Dichloropropene	ug/kg	2500	2780	111	68-130	
Trichloroethene	ug/kg	2500	2560	102	70-130	
Trichlorofluoromethane	ug/kg	2500	2370	95	37-149	
Vinyl chloride	ug/kg	2500	1920	77	43-128	
Xylene (Total)	ug/kg	7500	8140	108	70-130	
4-Bromofluorobenzene (S)	%			102	58-141	
Dibromofluoromethane (S)	%			104	68-130	
Toluene-d8 (S)	%			99	68-149	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PZ-1 & TB-1A 8260 VOCs
Pace Project No.: 40160640

QC Batch: 273864 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates
Associated Lab Samples: 40160640001

METHOD BLANK: 1612158 Matrix: Water
Associated Lab Samples: 40160640001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	0.25	11/13/17 16:26	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	0.20	11/13/17 16:26	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.81	5.0	0.81	11/13/17 16:26	
1,1-Dichloroethane	ug/L	<0.24	1.0	0.24	11/13/17 16:26	
1,1-Dichloroethene	ug/L	<0.41	1.0	0.41	11/13/17 16:26	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	2.2	11/13/17 16:26	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	2.2	11/13/17 16:26	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	0.18	11/13/17 16:26	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
1,2-Dichloroethane	ug/L	<0.17	1.0	0.17	11/13/17 16:26	
1,2-Dichloropropane	ug/L	<0.23	1.0	0.23	11/13/17 16:26	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
2-Butanone (MEK)	ug/L	<3.0	20.0	3.0	11/13/17 16:26	
2-Hexanone	ug/L	<1.1	5.0	1.1	11/13/17 16:26	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.1	5.0	2.1	11/13/17 16:26	
Acetone	ug/L	<3.0	20.0	3.0	11/13/17 16:26	
Benzene	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
Bromodichloromethane	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
Bromoform	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
Bromomethane	ug/L	<2.4	5.0	2.4	11/13/17 16:26	
Carbon disulfide	ug/L	<0.61	5.0	0.61	11/13/17 16:26	
Carbon tetrachloride	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
Chlorobenzene	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
Chloroethane	ug/L	<0.37	1.0	0.37	11/13/17 16:26	
Chloroform	ug/L	<2.5	5.0	2.5	11/13/17 16:26	
Chloromethane	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	0.26	11/13/17 16:26	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
Cyclohexane	ug/L	<0.88	5.0	0.88	11/13/17 16:26	
Dibromochloromethane	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
Dichlorodifluoromethane	ug/L	<0.22	1.0	0.22	11/13/17 16:26	
Ethylbenzene	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	0.14	11/13/17 16:26	
Methyl acetate	ug/L	<2.2	10.0	2.2	11/13/17 16:26	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	0.17	11/13/17 16:26	
Methylcyclohexane	ug/L	<2.3	5.0	2.3	11/13/17 16:26	
Methylene Chloride	ug/L	<0.23	1.0	0.23	11/13/17 16:26	
Styrene	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
Tetrachloroethene	ug/L	<0.50	1.0	0.50	11/13/17 16:26	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

METHOD BLANK: 1612158

Matrix: Water

Associated Lab Samples: 40160640001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	ug/L	<0.50	1.0	0.50	11/13/17 16:26	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	0.26	11/13/17 16:26	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	0.23	11/13/17 16:26	
Trichloroethene	ug/L	<0.33	1.0	0.33	11/13/17 16:26	
Trichlorofluoromethane	ug/L	<0.18	1.0	0.18	11/13/17 16:26	
Vinyl chloride	ug/L	<0.18	1.0	0.18	11/13/17 16:26	
Xylene (Total)	ug/L	<1.5	3.0	1.5	11/13/17 16:26	
4-Bromofluorobenzene (S)	%	87	61-130		11/13/17 16:26	
Dibromofluoromethane (S)	%	101	67-130		11/13/17 16:26	
Toluene-d8 (S)	%	100	70-130		11/13/17 16:26	

LABORATORY CONTROL SAMPLE: 1612159

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	49.6	54.9	111	70-130	
1,1,2,2-Tetrachloroethane	ug/L	49.6	52.8	107	70-130	
1,1,2-Trichloroethane	ug/L	49.6	49.1	99	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	49.6	55.6	112	50-150	
1,1-Dichloroethane	ug/L	49.6	56.3	113	71-132	
1,1-Dichloroethene	ug/L	49.6	55.4	112	75-130	
1,2,4-Trichlorobenzene	ug/L	49.6	42.7	86	70-130	
1,2-Dibromo-3-chloropropane	ug/L	49.6	48.1	97	63-123	
1,2-Dibromoethane (EDB)	ug/L	49.6	49.3	99	70-130	
1,2-Dichlorobenzene	ug/L	49.6	47.6	96	70-130	
1,2-Dichloroethane	ug/L	49.6	54.1	109	70-131	
1,2-Dichloropropane	ug/L	49.6	50.0	101	80-120	
1,3-Dichlorobenzene	ug/L	49.6	49.5	100	70-130	
1,4-Dichlorobenzene	ug/L	49.6	48.6	98	70-130	
Benzene	ug/L	49.6	53.8	108	73-145	
Bromodichloromethane	ug/L	49.6	51.5	104	70-130	
Bromoform	ug/L	49.6	45.9	93	67-130	
Bromomethane	ug/L	50	51.6	103	26-128	
Carbon disulfide	ug/L	49.6	56.3	113	72-156	
Carbon tetrachloride	ug/L	49.6	54.8	111	70-133	
Chlorobenzene	ug/L	49.6	50.3	101	70-130	
Chloroethane	ug/L	50	56.5	113	58-120	
Chloroform	ug/L	49.6	53.0	107	80-121	
Chloromethane	ug/L	50	41.6	83	40-127	
cis-1,2-Dichloroethene	ug/L	49.6	53.6	108	70-130	
cis-1,3-Dichloropropene	ug/L	49.6	47.0	95	70-130	
Cyclohexane	ug/L	49.6	58.4	118	50-150	
Dibromochloromethane	ug/L	49.6	50.2	101	70-130	
Dichlorodifluoromethane	ug/L	50	42.7	85	20-135	
Ethylbenzene	ug/L	49.6	52.8	107	87-129	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

LABORATORY CONTROL SAMPLE: 1612159

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Isopropylbenzene (Cumene)	ug/L	49.6	53.9	109	70-130	
Methyl acetate	ug/L	49.6	56.2	113	50-150	
Methyl-tert-butyl ether	ug/L	49.6	55.3	112	66-143	
Methylcyclohexane	ug/L	49.6	58.5	118	50-150	
Methylene Chloride	ug/L	49.6	53.7	108	70-130	
Styrene	ug/L	49.6	48.0	97	70-130	
Tetrachloroethene	ug/L	49.6	49.7	100	70-130	
Toluene	ug/L	49.6	47.8	96	82-130	
trans-1,2-Dichloroethene	ug/L	49.6	57.8	116	75-132	
trans-1,3-Dichloropropene	ug/L	49.6	46.4	94	70-130	
Trichloroethene	ug/L	49.6	51.2	103	70-130	
Trichlorofluoromethane	ug/L	50	56.4	113	76-133	
Vinyl chloride	ug/L	50	50.7	101	57-136	
Xylene (Total)	ug/L	149	161	108	70-130	
4-Bromofluorobenzene (S)	%			96	61-130	
Dibromofluoromethane (S)	%			107	67-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1612844 1612845

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual	
		40160555003 Result	Spike Conc.	Spike Conc.	MS Result						MSD Result
1,1,1-Trichloroethane	ug/L	<1.0	49.6	49.6	55.1	55.6	111	112	70-134	1	20
1,1,2,2-Tetrachloroethane	ug/L	<1.0	49.6	49.6	52.3	51.8	105	104	70-130	1	20
1,1,2-Trichloroethane	ug/L	<1.0	49.6	49.6	51.1	51.1	103	103	70-130	0	20
1,1,2-Trichlorotrifluoroethane	ug/L	<5.0	49.6	49.6	54.6	56.2	110	113	50-150	3	20
1,1-Dichloroethane	ug/L	<1.0	49.6	49.6	55.1	55.6	111	112	71-133	1	20
1,1-Dichloroethene	ug/L	<1.0	49.6	49.6	53.8	54.8	108	110	75-136	2	20
1,2,4-Trichlorobenzene	ug/L	<5.0	49.6	49.6	44.4	42.1	90	85	70-130	5	20
1,2-Dibromo-3-chloropropane	ug/L	<5.0	49.6	49.6	49.0	46.8	99	94	63-123	4	20
1,2-Dibromoethane (EDB)	ug/L	<1.0	49.6	49.6	51.8	51.5	105	104	70-130	1	20
1,2-Dichlorobenzene	ug/L	<1.0	49.6	49.6	47.0	47.5	95	96	70-130	1	20
1,2-Dichloroethane	ug/L	<1.0	49.6	49.6	51.0	52.7	103	106	70-131	3	20
1,2-Dichloropropane	ug/L	<1.0	49.6	49.6	50.6	52.2	102	105	80-120	3	20
1,3-Dichlorobenzene	ug/L	<1.0	49.6	49.6	49.4	49.1	100	99	70-130	1	20
1,4-Dichlorobenzene	ug/L	<1.0	49.6	49.6	49.8	50.2	100	101	70-130	1	20
Benzene	ug/L	<1.0	49.6	49.6	52.6	55.8	106	113	73-145	6	20
Bromodichloromethane	ug/L	<1.0	49.6	49.6	53.3	53.0	107	107	70-130	1	20
Bromoform	ug/L	<1.0	49.6	49.6	46.6	47.8	94	96	67-130	3	20
Bromomethane	ug/L	<5.0	50	50	47.8	53.5	96	107	26-129	11	20
Carbon disulfide	ug/L	<5.0	49.6	49.6	55.9	57.1	113	115	72-156	2	30
Carbon tetrachloride	ug/L	<1.0	49.6	49.6	55.4	57.2	112	115	70-134	3	20
Chlorobenzene	ug/L	<1.0	49.6	49.6	51.7	52.4	104	106	70-130	1	20
Chloroethane	ug/L	<1.0	50	50	54.5	57.2	109	114	58-120	5	20

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QUALITY CONTROL DATA

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1612844		1612845		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40160555003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Chloroform	ug/L	<5.0	49.6	49.6	51.9	53.5	105	108	80-121	3	20		
Chloromethane	ug/L	<1.0	50	50	41.0	40.6	82	81	40-128	1	20		
cis-1,2-Dichloroethene	ug/L	<1.0	49.6	49.6	51.4	52.5	104	106	70-130	2	20		
cis-1,3-Dichloropropene	ug/L	<1.0	49.6	49.6	49.1	48.4	99	98	70-130	1	20		
Cyclohexane	ug/L	<5.0	49.6	49.6	58.0	59.0	117	119	50-150	2	20		
Dibromochloromethane	ug/L	<1.0	49.6	49.6	52.6	52.1	106	105	70-130	1	20		
Dichlorodifluoromethane	ug/L	<1.0	50	50	41.5	41.9	83	84	20-146	1	20		
Ethylbenzene	ug/L	<1.0	49.6	49.6	54.8	55.4	111	112	87-129	1	20		
Isopropylbenzene (Cumene)	ug/L	<1.0	49.6	49.6	54.7	56.6	110	114	70-130	4	20		
Methyl acetate	ug/L	<10.0	49.6	49.6	50.6	53.4	102	108	50-150	5	20		
Methyl-tert-butyl ether	ug/L	<1.0	49.6	49.6	55.0	55.4	111	112	66-143	1	20		
Methylcyclohexane	ug/L	<5.0	49.6	49.6	58.9	58.5	119	118	50-150	1	20		
Methylene Chloride	ug/L	<1.0	49.6	49.6	52.2	52.9	105	107	70-130	1	20		
Styrene	ug/L	<1.0	49.6	49.6	49.8	49.1	100	99	70-130	1	20		
Tetrachloroethene	ug/L	<1.0	49.6	49.6	51.3	51.7	103	104	70-130	1	20		
Toluene	ug/L	<1.0	49.6	49.6	50.5	52.7	102	106	82-131	4	20		
trans-1,2-Dichloroethene	ug/L	<1.0	49.6	49.6	56.5	57.2	114	115	75-135	1	20		
trans-1,3-Dichloropropene	ug/L	<1.0	49.6	49.6	47.8	48.2	96	97	70-130	1	20		
Trichloroethene	ug/L	<1.0	49.6	49.6	53.5	52.1	108	105	70-130	3	20		
Trichlorofluoromethane	ug/L	<1.0	50	50	54.7	55.8	109	112	76-150	2	20		
Vinyl chloride	ug/L	<1.0	50	50	48.9	50.0	98	100	56-143	2	20		
Xylene (Total)	ug/L	<3.0	149	149	166	169	112	113	70-130	1	20		
4-Bromofluorobenzene (S)	%						98	99	61-130				
Dibromofluoromethane (S)	%						103	105	67-130				
Toluene-d8 (S)	%						93	99	70-130				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: PZ-1 & TB-1A 8260 VOCs

Pace Project No.: 40160640

QC Batch: 274204

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 40160640002

SAMPLE DUPLICATE: 1613572

Parameter	Units	40160640002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.2	13.5	2	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: PZ-1 & TB-1A 8260 VOCs
Pace Project No.: 40160640

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.

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.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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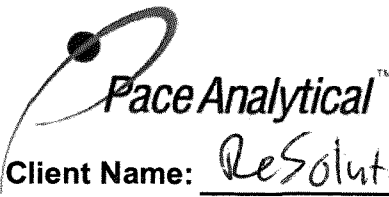
QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PZ-1 & TB-1A 8260 VOCs
Pace Project No.: 40160640

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40160640002	TB-1A	EPA 5035/5030B	274095	EPA 8260	274103
40160640001	PZ-1	EPA 8260	273864		
40160640002	TB-1A	ASTM D2974-87	274204		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project: **WO# : 40160640**

Client Name: ReSolution Partners

Courier: Fed Ex UPS Client Pace Other: Waltco

Tracking #: 1552627-1



Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used N/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROT / Corr: _____ Biological Tissue is Frozen: yes no

Temp Blank Present: yes no no

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

Person examining contents:
Date: 11/11/17
Initials: DS

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>No date / time DS 11/11/17</u>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3. <u>Typed only DS 11/11/17</u>
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>No ms/msd DS 11/11/17</u>
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9. <u>No vial vol. 002 DS 11/11/17</u>
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>001 Time: 1105 Date: 11/10/17</u> <u>002 Time: 1100 Date: 11/10/17 DS 11/11/17</u>
-Includes date/time/ID/Analysis Matrix: <u>S + W</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: <u>VOA</u> coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lab Std #/ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review:

As for DM

Date: 11-11-17

APPENDIX D

PLAN DRAWINGS AND SPECIFICATIONS

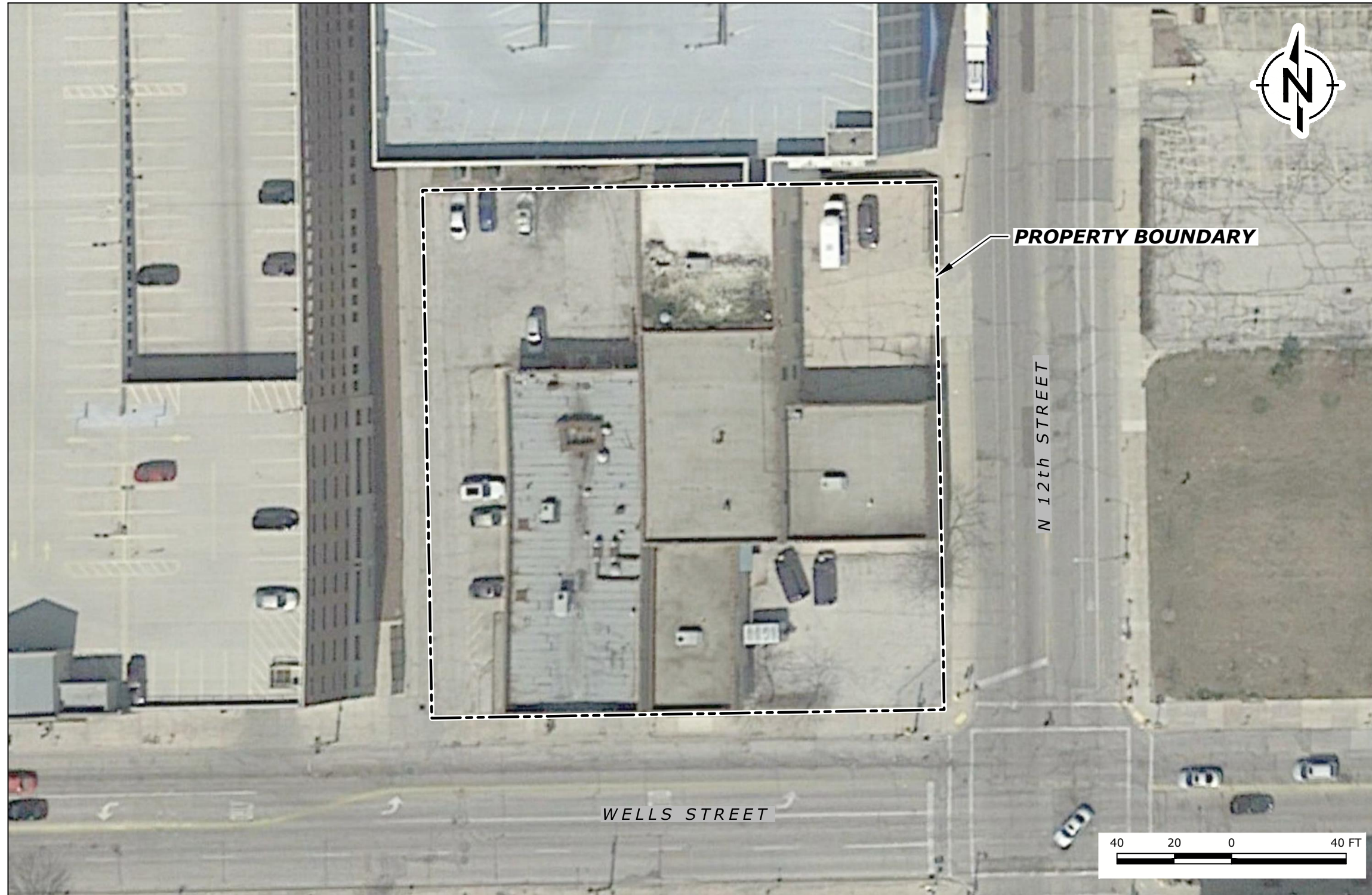
PLAN DRAWINGS AND SPECIFICATIONS

SOURCE AREA SOIL AND GROUNDWATER REMEDIATION

FORMER ONE-HOUR VALET DRY CLEANERS

1214 WEST WELLS STREET, MILWAUKEE, WISCONSIN

JANUARY 2018



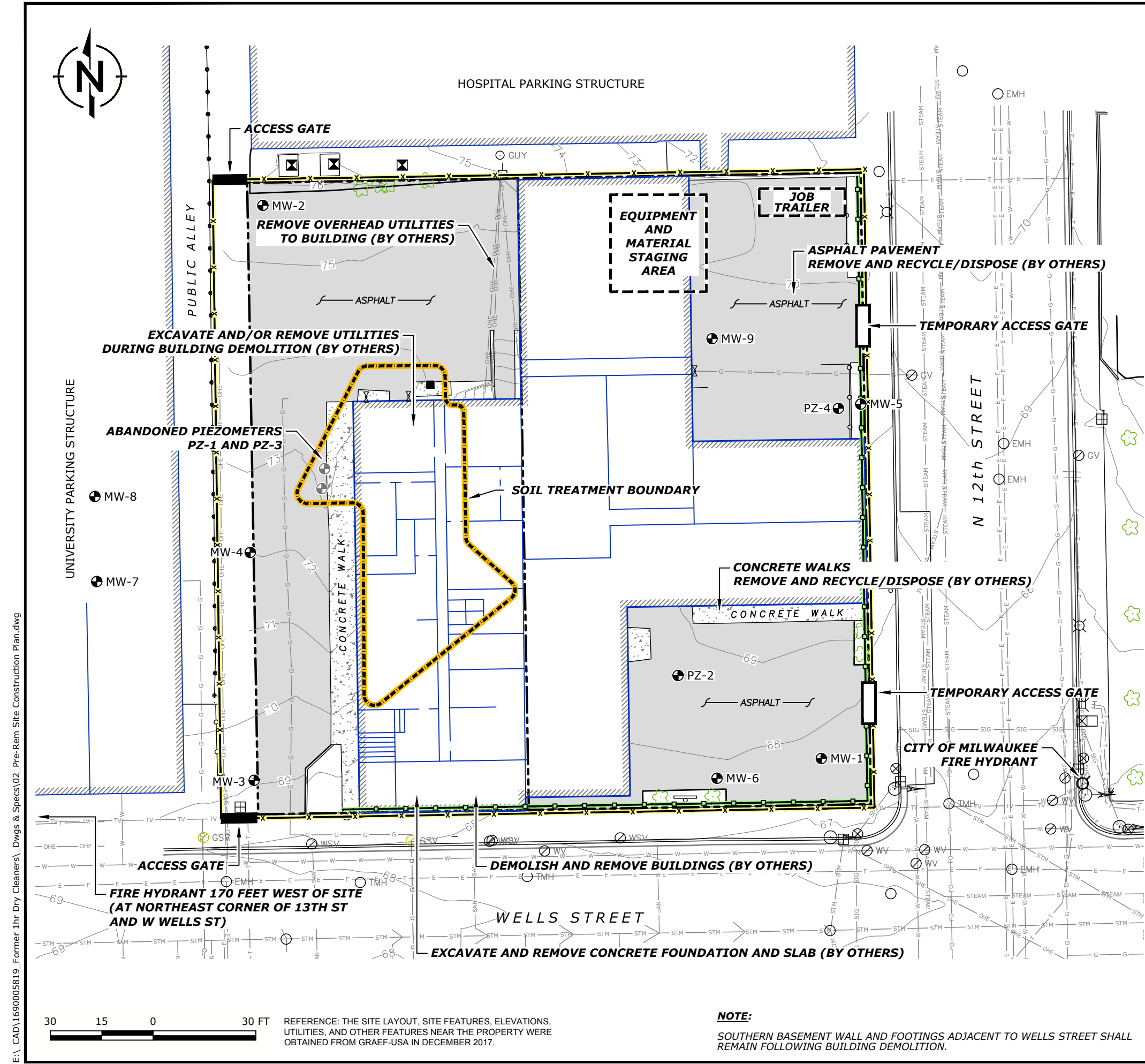
INDEX TO DRAWINGS	
SHEET 1	COVER SHEET
SHEET 2	PRE-REMEDIATION SITE CONSTRUCTION PLAN
SHEET 3	DETAILS FOR MANAGEMENT OF PCE-IMPACTED CONCRETE
SHEET 4	SOIL BLENDING AREA
SHEET 5	SOIL BLENDING TREATMENT AREA LAYOUT
SHEET 6	GEOLOGIC CROSS-SECTION A-A'
SHEET 7	GEOLOGIC CROSS-SECTION B-B'
SHEET 8	CONCEPTUAL SITE RESTORATION PLAN

PREPARED BY
RAMBOLL

SOURCE: AERIAL IMAGERY: GOOGLE EARTH™, IMAGE DATED 04/07/2017.



HOSPITAL PARKING STRUCTURE



LEGEND

- PROPERTY BOUNDARY
- ▨ BUILDING FOOTPRINT
- ▨ ASPHALT
- ▨ CONCRETE
- FENCE LINE
- GUARD RAIL
- 75— 1-FT ELEVATION CONTOUR
- E— UNDERGROUND ELECTRIC
- OHE— OVERHEAD ELECTRIC
- T— TELEPHONE
- W— WATER LINE
- G— GAS
- TV— CABLE TV
- FO— FIBER OPTIC
- STM— STORMWATER SEWER
- SAN— SANITARY SEWER
- STEAM— STEAM
- ▣ CATCH BASIN
- MANHOLE
- VALVE
- ⊕ TRAFFIC LIGHT
- ⊕ TRANSFORMER
- ⊕ AIR CONDITIONER
- ⊕ METER
- ⊕ LIGHT POLE
- ⊕ GUY UTILITY POLE / GUY
- ⊕ TREE
- ⊕ FIRE HYDRANT
- ⊕ TELEPHONE PEDESTAL
- ⊕ CONTROL BOX
- ⊕ MONITORING WELL
- ⊕ ABANDONED MONITORING WELL
- SOIL TREATMENT BOUNDARY
- TEMPORARY FENCE
- SILT FENCE
- ▭ TEMPORARY ACCESS GATE
- ▭ ACCESS GATE

NOTES:

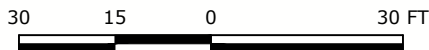
1. GENERAL CONTRACTOR FOR SITE REDEVELOPMENT SHALL CONSTRUCT THE SILT FENCE. IT WILL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO CHECK ALL SILT FENCE INSTALLATION AFTER A STORM EVENT AND PROVIDE ANY MAINTENANCE REQUIRED.
2. GENERAL CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROLS AROUND ANY STORM SEWER CATCH BASINS/GRATE INLETS. INLETS SHALL BE PROTECTED DURING EARTHWORK ACTIVITIES TO PREVENT SEDIMENT FROM ENTERING STORM SEWERS IN PUBLIC RIGHT-OF-WAY.
3. GENERAL CONTRACTOR SHALL REMOVE AND RECYCLE/DISPOSE OF THE EXISTING CONCRETE FOUNDATION SLAB AND FOOTINGS PRIOR TO PERFORMANCE OF THE SOIL TREATMENT ACTIVITIES. ANY CONTAMINATED CONCRETE SHALL BE MANAGED AS DIRECTED BY THE ENGINEER.
4. GENERAL CONTRACTOR SHALL EXCAVATE, REMOVE, AND DISPOSE OF ALL DISCONNECTED UTILITIES ENCOUNTERED DURING BUILDING DEMOLITION IN THE SOIL TREATMENT AREA BOUNDARY. ALL EXCAVATED UTILITIES SHALL BE FREE OF CONTAMINATED SOIL PRIOR TO DISPOSAL. ANY OVERHEAD UTILITIES ASSOCIATED WITH THE EXISTING SITE BUILDING SHALL BE REMOVED AND DISPOSED OF BY THE GENERAL CONTRACTOR AS PART OF THE BUILDING DEMOLITION ACTIVITIES.
5. PZ-1 AND PZ-3 WERE PREVIOUSLY ABANDONED. ALL OTHER MONITORING WELLS TO REMAIN IN PLACE AND SHALL NOT BE DAMAGED.
6. REMEDIATION CONTRACTOR SHALL SECURE THE WATER NECESSARY TO COMPLETE THE SOIL TREATMENT ACTIVITIES. THE ENGINEER WILL ASSIST THE REMEDIATION CONTRACTOR IN THE IDENTIFICATION OF POSSIBLE WATER SOURCES; HOWEVER, IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO OBTAIN ANY NECESSARY PERMITS/APPROVALS, PAY FEES, AND PROVIDE MEANS OF CONVEYANCE. PLEASE NOTE THAT MARQUETTE UNIVERSITY HAS INDICATED THAT A FAUCET IS AVAILABLE FOR USE WITHIN THE ADJACENT PARKING STRUCTURE.

TEMPORARY CONSTRUCTION FENCING:

1. GENERAL CONTRACTOR FOR SITE REDEVELOPMENT SHALL PROVIDE TEMPORARY FENCING FOR THE PURPOSE OF SECURING THE WORK AREA. THE FENCING WILL INCLUDE ACCESS GATES. THE GATES SHALL BE LOCKED WHENEVER NOT IN USE AND DURING NON-WORKING HOURS OF THE DAY.
2. GENERAL CONTRACTOR SHALL REMOVE THE TEMPORARY FENCING ONLY AFTER SOIL BLENDING ACTIVITIES AND SITE RESTORATION ACTIVITIES ARE COMPLETE.

NOTE:

SOUTHERN BASEMENT WALL AND FOOTINGS ADJACENT TO WELLS STREET SHALL REMAIN FOLLOWING BUILDING DEMOLITION.

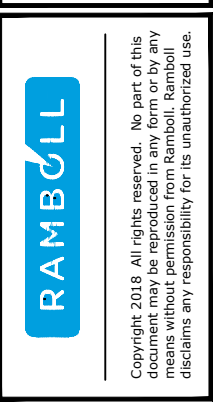


REFERENCE: THE SITE LAYOUT, SITE FEATURES, ELEVATIONS, UTILITIES, AND OTHER FEATURES NEAR THE PROPERTY WERE OBTAINED FROM GRAEF-USA IN DECEMBER 2017.

ISSUED FOR	
NO.	DESCRIPTION

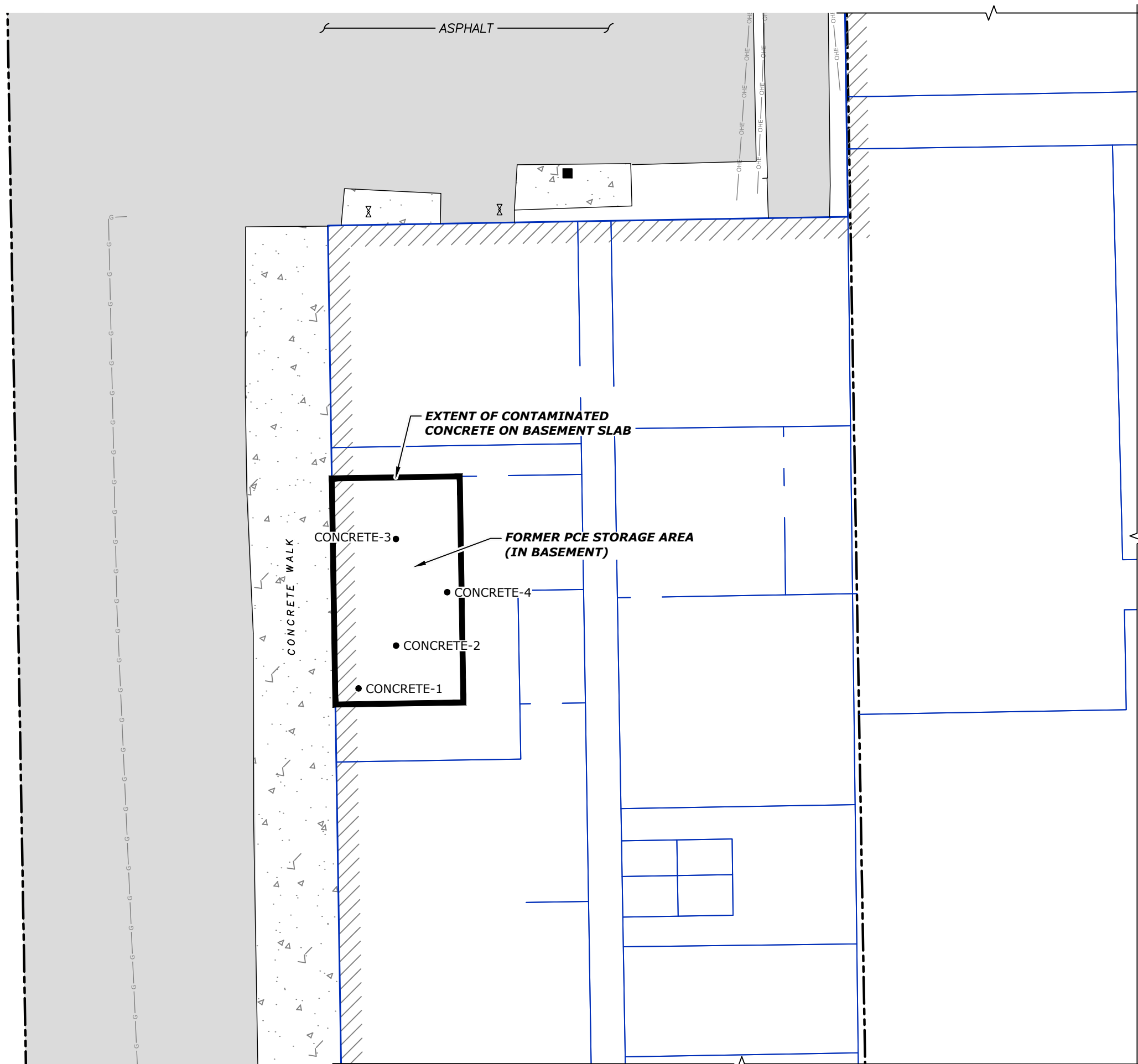
PROJECT MGR: ST	DRAFTED BY: APR
CHECKED BY: ST	SCALE: AS SHOWN
DATE: 2/1/18	

**PRE-REMEDIATION
SITE CONSTRUCTION PLAN**
FORMER ONE-HOUR VALET DRY CLEANERS
1214 WEST WELLS STREET
MILWAUKEE, WISCONSIN



E:_CAD\1690005819_Former 1hr Dry Cleaners_Dwgs & Specs\02_Pre-Rem Site Construction Plan.dwg

PUBLIC ALLEY



LEGEND

- PROPERTY BOUNDARY
- BUILDING FOOTPRINT
- ASPHALT
- CONCRETE
- OVERHEAD ELECTRIC
- GAS
- AIR CONDITIONER
- METER
- EXTENT OF CONTAMINATED CONCRETE ON BASEMENT SLAB
- CONCRETE CORE SAMPLE LOCATION (APPROXIMATE)

NOTES:

1. THE EXTENT OF IDENTIFIED CONTAMINATED CONCRETE, AS SHOWN ON SHEET 3, IS TO BE MANAGED BY THE GENERAL CONTRACTOR AS DIRECTED BY THE OWNER.
2. GENERAL CONTRACTOR SHALL REMOVE AND STAGE THE CONTAMINATED CONCRETE AS DIRECTED BY THE OWNER.
3. OWNER WILL RETAIN AND COORDINATE WITH A DISPOSAL CONTRACTOR FOR TRANSPORTATION AND DISPOSAL OF THE CONCRETE AS A LISTED HAZARDOUS WASTE.

REFERENCE: THE SITE LAYOUT, SITE FEATURES, ELEVATIONS, UTILITIES, AND OTHER FEATURES NEAR THE PROPERTY WERE OBTAINED FROM GRAEF-USA IN DECEMBER 2017.



ISSUED FOR	
NO.	DESCRIPTION

PROJECT MGR: ST
DRAFTED BY: APR
CHECKED BY: ST
SCALE: AS SHOWN
DATE: 2/1/18

DETAILS FOR MANAGEMENT OF PCE-IMPACTED CONCRETE
 FORMER ONE-HOUR VALET DRY CLEANERS
 1214 WEST WELLS STREET
 MILWAUKEE, WISCONSIN

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HOSPITAL PARKING STRUCTURE

ACCESS GATE

PUBLIC ALLEY

UNIVERSITY PARKING STRUCTURE

EQUIPMENT AND MATERIAL STAGING AREA

JOB TRAILER

TEMPORARY ACCESS GATE

N 12th STREET

TEMPORARY ACCESS GATE

CITY OF MILWAUKEE FIRE HYDRANT

SOIL TREATMENT BOUNDARY

ACCESS GATE

FIRE HYDRANT 170 FEET WEST OF SITE (AT NORTHEAST CORNER OF 13TH ST AND W WELLS ST)

WELLS STREET

LEGEND

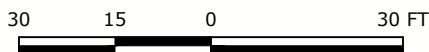
- PROPERTY BOUNDARY
- GUARD RAIL
- 75 --- 1-FT ELEVATION CONTOUR
- UNDERGROUND ELECTRIC
- OHE --- OVERHEAD ELECTRIC
- T --- TELEPHONE
- W --- WATER LINE
- G --- GAS
- TV --- CABLE TV
- FO --- FIBER OPTIC
- STM --- STORMWATER SEWER
- SAN --- SANITARY SEWER
- STEAM --- STEAM
- ☐ CATCH BASIN
- MANHOLE
- VALVE
- ⬇️ TRAFFIC LIGHT
- ☒ TRANSFORMER
- AIR CONDITIONER
- ⊗ METER
- ⊗ LIGHT POLE
- ☐ GUY UTILITY POLE / GUY
- 🌳 TREE
- ⊗ FIRE HYDRANT
- ⊗ TELEPHONE PEDESTAL
- ☒ CONTROL BOX
- ⊗ MONITORING WELL
- ⊗ ABANDONED MONITORING WELL
- ⊗ SOIL BORING
- SOIL TREATMENT BOUNDARY
- TEMPORARY FENCE
- SILT FENCE
- ☐ TEMPORARY ACCESS GATE
- ☐ ACCESS GATE

NOTES:

1. ALL MONITORING WELLS SHALL REMAIN IN PLACE AND SHALL NOT BE DAMAGED. REMEDIATION CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO ANY MONITORING WELLS.
2. THE DEPTH OF THE SOIL BLENDING IN THE TREATMENT AREA RANGES BETWEEN APPROXIMATELY 0 TO 35 FEET BELOW GROUND SURFACE.
3. REMEDIATION CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, SUPERVISION, TRANSPORTATION, AND EQUIPMENT NECESSARY FOR CONDUCTING IN-SITU SOIL BLENDING. THE IN-SITU BLENDER SHALL BE MOUNTED ON A LARGE EXCAVATOR WITH A HYDRAULIC SYSTEM. THE IN-SITU BLENDER UTILIZES A 28-INCH DIAMETER MIXING DRUM AND OPERATES AT SPEEDS UP TO 120 REVOLUTIONS PER MINUTE (RPM) WITH TORQUE IN EXCESS OF 20,000 FOOT-POUNDS.
4. AN EXCAVATOR SHALL BE OPERATED BY THE REMEDIATION CONTRACTOR IN TANDEM WITH THE SOIL BLENDING EQUIPMENT. THE EXCAVATOR SHALL BE USED TO LOOSEN AND/OR EXCAVATE SOILS AS NEEDED PRIOR TO BLENDING AND TO LOCATE ANY BURIED ITEMS THAT MAY DAMAGE THE IN-SITU BLENDER. REMEDIATION CONTRACTOR SHALL USE THE EXCAVATOR TO MANAGE SOIL AND MOVEMENT OF CHEMICAL AMENDMENTS.
5. THE SOIL BLENDING SHALL BE COMPLETED ACCORDING TO THE IMPLEMENTATION PLAN TO BE PREPARED BY THE REMEDIATION CONTRACTOR PRIOR TO THE START OF REMEDIATION ACTIVITIES.
6. REMEDIATION CONTRACTOR SHALL MEASURE THE DEPTH OF THE LIFTS BY PLACING A VISUAL MARKER ON THE BOOM OF THE EXCAVATOR. THE DEPTH OF THE TREATMENT LIFTS WILL BE SPECIFIED IN THE IMPLEMENTATION PLAN TO BE DEVELOPED BY THE REMEDIATION CONTRACTOR.
7. REMEDIATION CONTRACTOR SHALL DELIVER THE PREDETERMINED AMOUNT OF AMENDMENTS TO EACH TREATMENT CELL LIFT PER THE APPROVED IMPLEMENTATION PLAN. THE ZVI AMENDMENT WILL BE ADDED PRIOR TO SOIL BLENDING WITHIN THE TREATMENT CELL, AND IT WILL BE ADDED FROM SUPER SACKS. THE ABC® SOLUTION WILL BE ADDED TO THE TREATMENT CELL WHILE THE SOIL IS BEING BLENDED. THE ABC® SOLUTION WILL BE ADDED VIA TRANSFER PUMPS AND HOSES.
 - A. THE SOIL BLENDING AMENDMENTS SHALL BE STORED WITHIN THE TEMPORARY FENCE AND IN THE EQUIPMENT AND MATERIAL STAGING AREA DESIGNATED ON THE NORTHERN PORTION OF THE SITE.
 - B. THE ABC® SOLUTION SHALL BE STORED IN 330-GALLON TOTES OR 550-GALLON TANKS.
 - C. THE ZVI SHALL BE STORED IN 2,000 POUND SUPER SACKS.
8. REMEDIATION CONTRACTOR SHALL DETERMINE THE SOIL BLENDING TO BE COMPLETE FOR A TREATMENT CELL ONCE A HOMOGENEOUS MIXTURE HAS BEEN OBTAINED.
9. REMEDIATION CONTRACTOR SHALL MINIMIZE THE USE OF WATER IN ORDER TO AVOID PRODUCING EXTREMELY WET CONDITIONS WITHIN THE TREATMENT AREA. THE POTABLE WATER USED TO ASSIST IN THE SOIL BLENDING PROCESS WILL BE OBTAINED BY THE REMEDIATION CONTRACTOR AND APPROVED BY THE ENGINEER.
10. REMEDIATION CONTRACTOR SHALL MANAGE ANY EXCESS TREATED SOIL MATERIAL BY MOUNDING THIS MATERIAL WITHIN THE TREATMENT AREA.
11. REMEDIATION CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TOOLS, AND EQUIPMENT NEEDED TO DECONTAMINATE THE SOIL BLENDER AND EXCAVATOR. DECONTAMINATION SHALL BE COMPLETED USING POTABLE WATER AND/OR A STEAM CLEANER. DECONTAMINATION SHALL BE COMPLETED ABOVE THE TREATMENT AREA IN ORDER TO MINIMIZE THE MANAGEMENT AND DISPOSAL OF DECONTAMINATION RINSE WATER.
12. OPEN EXCAVATION AND DEEP SOIL BLENDING AREAS SHALL BE COVERED WITH VAPOR SUPPRESSANT FOAM AS DIRECTED BY ENGINEER OR FIELD CONSTRUCTION MANAGER.
 - A. THE VAPOR SUPPRESSANT FOAM SHALL BE RUSMAR FOAM, AND THE CONTRACTOR SHALL MAINTAIN TWO 450-POUND DRUMS OF LIQUID CONCENTRATE ON-SITE.
 - B. REMEDIATION CONTRACTOR SHALL OBTAIN THE RUSMAR® PNEUMATIC FOAM UNIT USED TO APPLY THE FOAM TO THE SOIL BLENDING AREA AS DIRECTED.

NOTE:

NOT ALL ANALYTICAL DATA OUTSIDE SOIL TREATMENT AREA IS PRESENTED ON THIS SHEET FOR DISPLAY PURPOSES.



REFERENCE: THE SITE LAYOUT, SITE FEATURES, ELEVATIONS, UTILITIES, AND OTHER FEATURES NEAR THE PROPERTY WERE OBTAINED FROM GRAEF-USA IN DECEMBER 2017.

ISSUED FOR	DESCRIPTION

PROJECT MGR:	ST
DRAFTED BY:	APR
CHECKED BY:	ST
SCALE:	AS SHOWN
DATE:	2/1/18

SOIL BLENDING AREA
 FORMER ONE-HOUR VALET DRY CLEANERS
 1214 WEST WELLS STREET
 MILWAUKEE, WISCONSIN



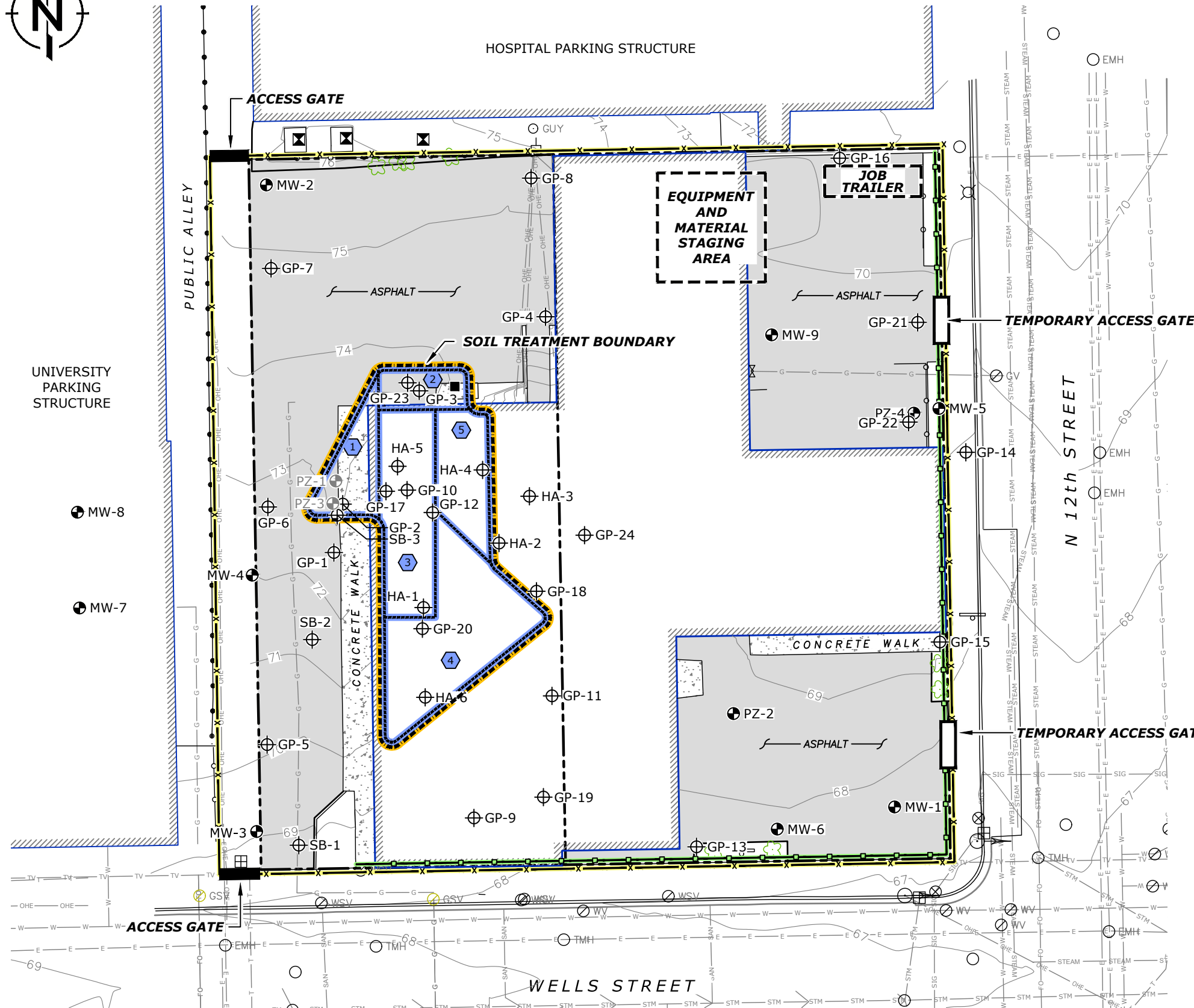
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SHEET

4

1690005819

E:_CAD\1690005819_Former 1hr Dry Cleaners\Drawings & Specs\04_Soil Blending Area.dwg



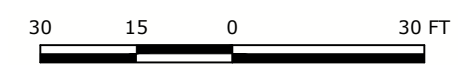
LEGEND

--- (dashed line)	PROPERTY BOUNDARY	⊙ (circle with dot)	TRAFFIC LIGHT
▨ (hatched area)	BUILDING FOOTPRINT	⊠ (square with X)	TRANSFORMER
▭ (solid grey)	ASPHALT	⬛ (solid black)	AIR CONDITIONER
▭ (stippled)	CONCRETE	⊗ (circle with X)	METER
⊙ (circle with dot)	FENCE LINE	⊗ (circle with X)	LIGHT POLE
—●— (line with dots)	GUARD RAIL	⊙ (circle with dot)	GUY UTILITY POLE / GUY
—75— (line with number)	1-FT ELEVATION CONTOUR	⊙ (circle with dot)	TREE
—E—E— (line with E's)	UNDERGROUND ELECTRIC	⊙ (circle with dot)	FIRE HYDRANT
—OHE— (line with OHE)	OVERHEAD ELECTRIC	⊙ (circle with dot)	TELEPHONE PEDESTAL
—T—T— (line with T's)	TELEPHONE	⊠ (square with X)	CONTROL BOX
—W—W— (line with W's)	WATER LINE	⊙ (circle with dot)	MONITORING WELL
—G—G— (line with G's)	GAS	⊙ (circle with dot)	ABANDONED MONITORING WELL
—TV—TV— (line with TV's)	CABLE TV	⊙ (circle with dot)	SOIL BORING
—FO—FO— (line with FO's)	FIBER OPTIC	⊙ (circle with dot)	SOIL TREATMENT BOUNDARY
—STM— (line with STM)	STORMWATER SEWER	⊙ (circle with dot)	TEMPORARY FENCE
—SAN— (line with SAN)	SANITARY SEWER	⊙ (circle with dot)	SILT FENCE
—STEAM— (line with STEAM)	STEAM	⊙ (circle with dot)	TEMPORARY ACCESS GATE
⊠ (square with X)	CATCH BASIN	⊙ (circle with dot)	ACCESS GATE
⊙ (circle)	MANHOLE	⊙ (circle with dot)	SOIL BLENDING TREATMENT AREA
⊙ (circle with dot)	VALVE		

Treatment Area	Treatment Depth (feet below ground surface)	Area (square feet)
1	0-35 feet below ground surface	432.65
2	0-35 feet below ground surface	282.04
3	15-35 feet below ground surface	786.65
4	15-20 feet below ground surface	1283.90
5	15-25 feet below ground surface	496.72

- NOTES:**
1. THE TREATMENT AREAS SHALL BE TREATED TO THE DEPTH SPECIFIED ON THE TABLE. REMEDIATION CONTRACTOR SHALL DIVIDE THE TREATMENT AREAS INTO SMALLER TREATMENT CELLS IN ORDER TO ACCOMPLISH THE WORK.
 2. REMEDIATION CONTRACTOR SHALL DEVELOP AN IMPLEMENTATION PLAN WITH EXCAVATION PROTECTION, TREATMENT CELL LAYOUT, CHEMICAL AMENDMENT DOSING, AND SEQUENCING AND PROVIDE TO ENGINEER IN ADVANCE OF THE START OF REMEDIATION ACTIVITIES.
 3. REMEDIATION CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION PROTECTION IN ACCORDANCE WITH OSHA STANDARDS DURING SOIL BLENDING ACTIVITIES.
 4. REMEDIATION CONTRACTOR TO MAINTAIN A SEPARATION DISTANCE OF 20 FT FROM THE ADJACENT PARKING STRUCTURE TO SUBSURFACE WORK.

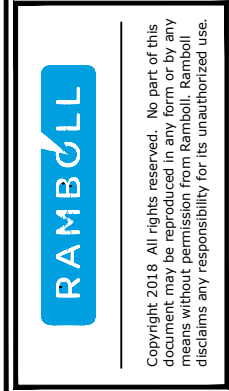
REFERENCE: THE SITE LAYOUT, SITE FEATURES, ELEVATIONS, UTILITIES, AND OTHER FEATURES NEAR THE PROPERTY WERE OBTAINED FROM GRAEF-USA IN DECEMBER 2017.



ISSUED FOR	
NO.	DESCRIPTION

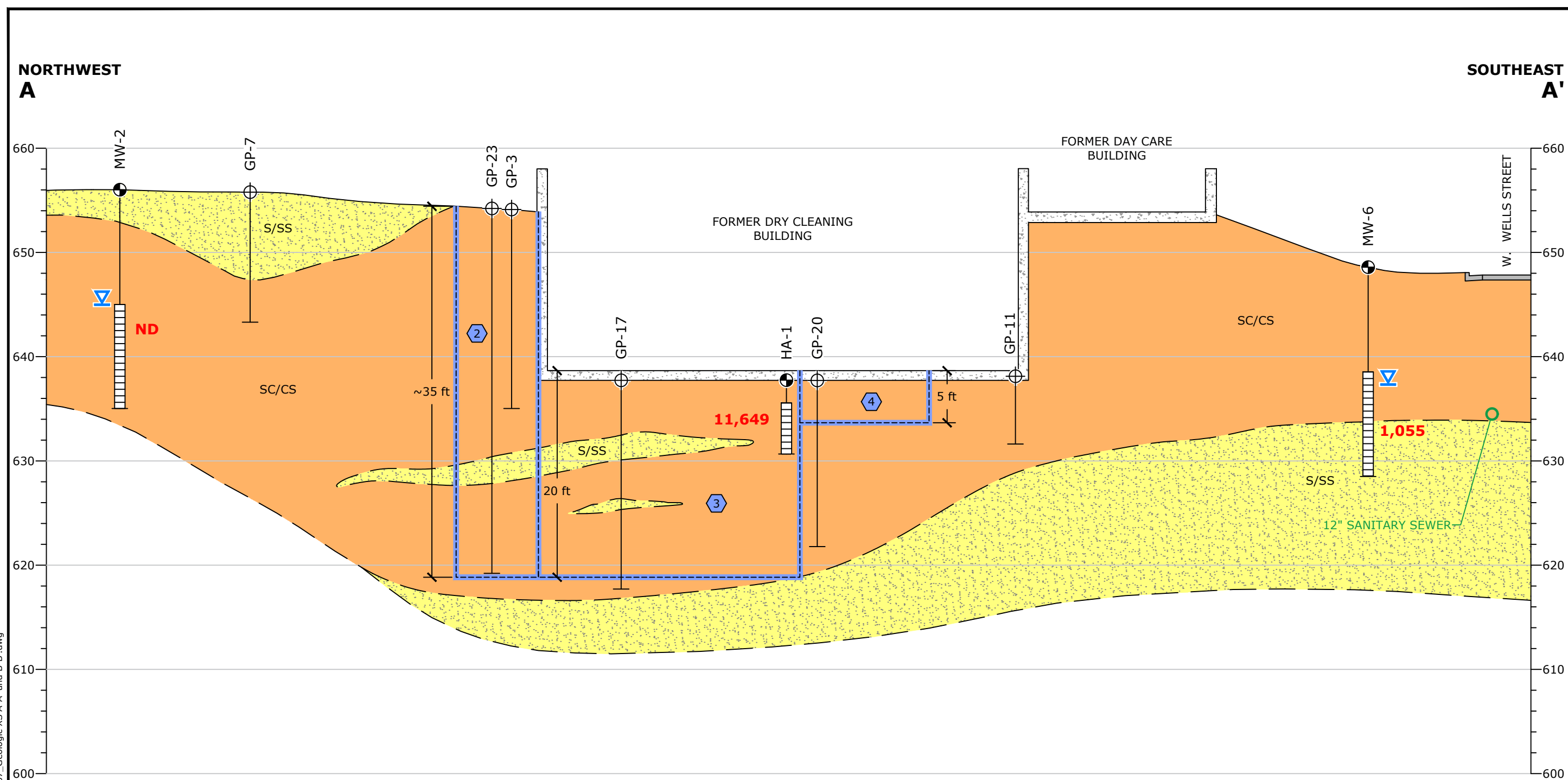
PROJECT MGR: ST	DRAFTED BY: APR
CHECKED BY: ST	SCALE: AS SHOWN
DATE: 2/1/18	

**SOIL BLENDING
TREATMENT AREA LAYOUT**
FORMER ONE-HOUR VALET DRY CLEANERS
1214 WEST WELLS STREET
MILWAUKEE, WISCONSIN



E:_CAD\1690005819_Former 1hr Dry Cleaners_Dwgs & Specs\05_Soil Blending Treatment Area Layout.dwg

E:_CAD\1690005819_Former 1hr Dry Cleaners\Drawings & Specs\06&07_Geologic XS A-A' and B-B'.dwg

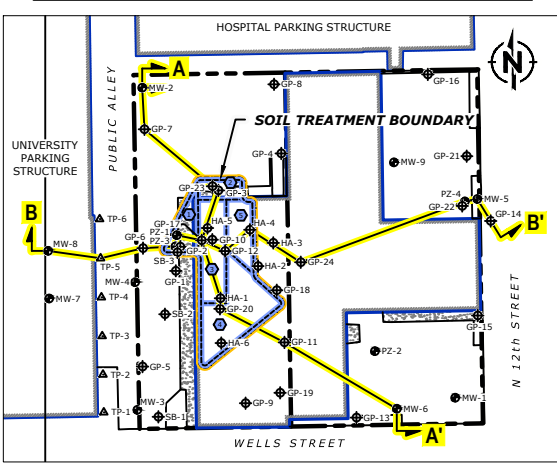


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NO.	DESCRIPTION

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DRAFTED BY: APR
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SCALE: AS SHOWN
DATE: 2/1/18

GEOLOGIC CROSS-SECTION A-A'
 FORMER ONE-HOUR VALET DRY CLEANERS
 1214 WEST WELLS STREET
 MILWAUKEE, WISCONSIN

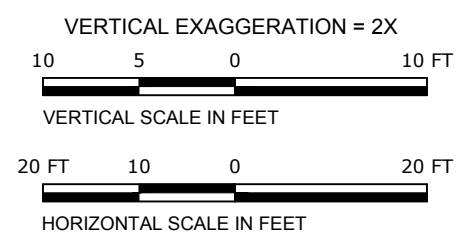
CROSS-SECTION LOCATION PLAN



LEGEND

- SC/CS SILTY CLAY AND CLAYEY SILT WITH THIN (<1/4") DISCONTINUOUS SILT AND FINE SAND SEAMS
- S/SS SAND AND SILTY FINE SAND WITH CLAY LENSES
- 11,649 TOTAL CVOCs DETECTED IN GROUNDWATER SAMPLE, AUGUST 2009. CONCENTRATIONS IN ug/L.
- ND DENOTES "NOT DETECTED"
- 1 TREATMENT CELL
- SCREEN INTERVAL
- ▽ GROUNDWATER TABLE ELEVATION (AUG 09)
- △ POTENTIOMETRIC SURFACE ELEVATION (AUG 09)
- MONITORING WELL
- SOIL BORING

NOTE: TREATMENT DEPTHS DISPLAYED ARE APPROXIMATE.

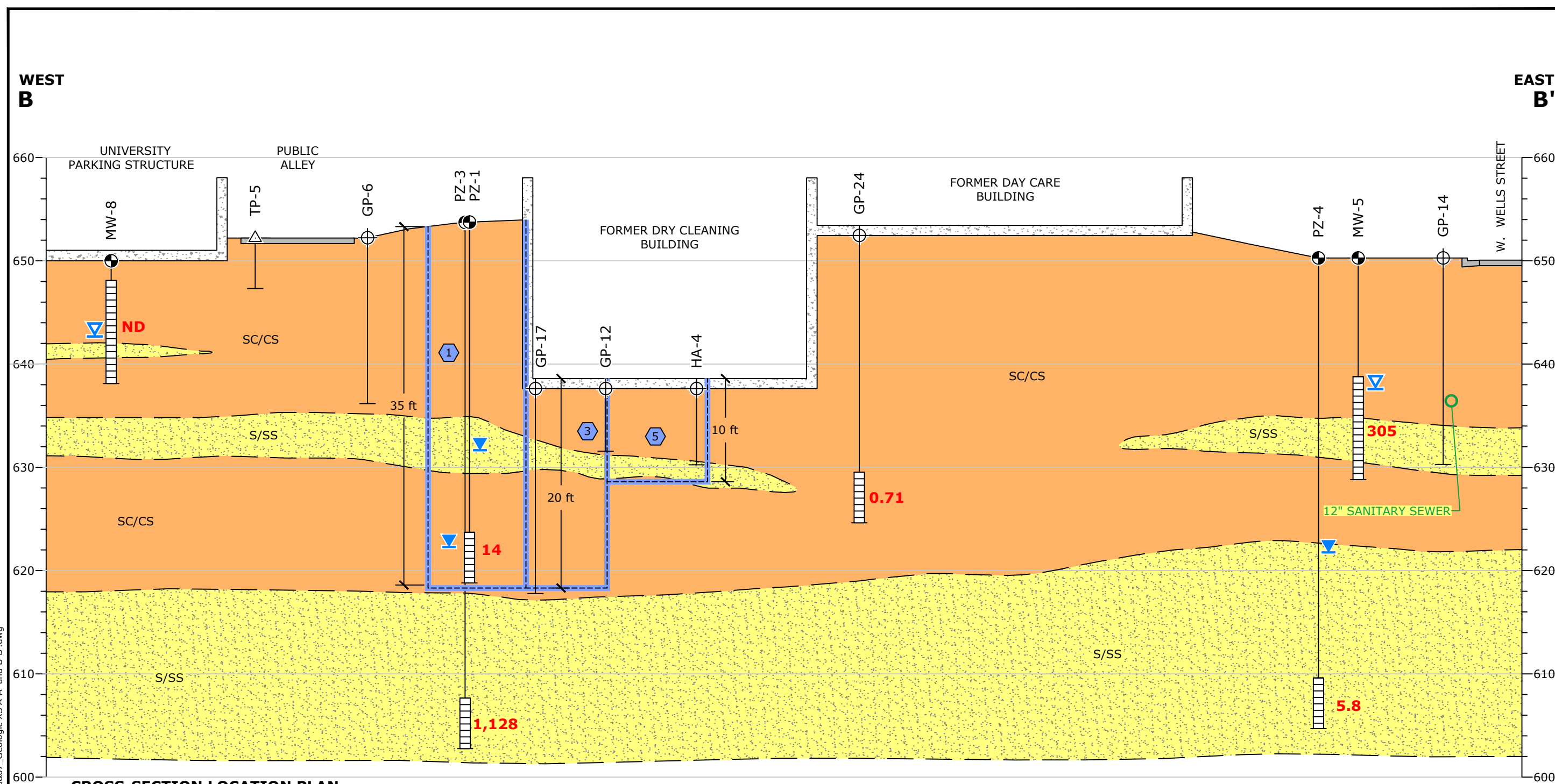


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Source: Figure 3, Geologic Cross-Section A to A', Site Investigation Report Dry Cleaning Solvent Release, GZA GeoEnvironmental, Inc., February 2012.

E:_CAD\1690005819_Former 1hr Dry Cleaners\Drawings & Specs\06&07_Geologic XS A-A' and B-B'.dwg

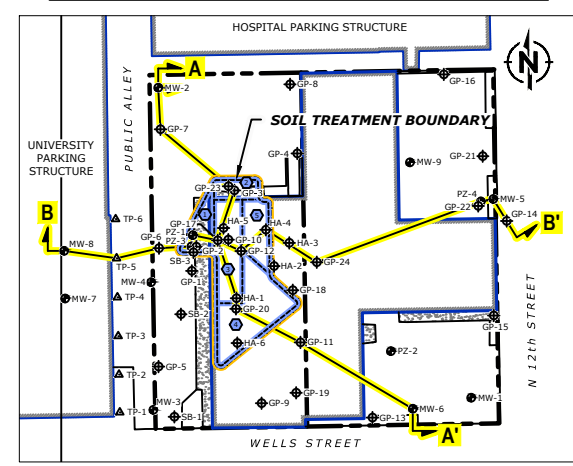


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DATE: 1/22/18

GEOLOGIC CROSS-SECTION B-B'
 FORMER ONE-HOUR VALET DRY CLEANERS
 1214 WEST WELLS STREET
 MILWAUKEE, WISCONSIN

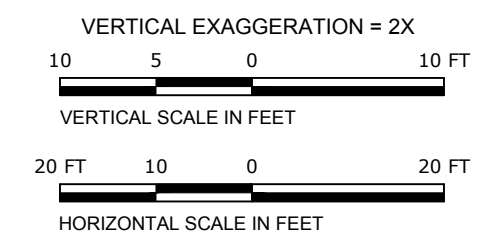
CROSS-SECTION LOCATION PLAN



LEGEND

- SC/CS SILTY CLAY AND CLAYEY SILT WITH THIN (<1/4") DISCONTINUOUS SILT AND FINE SAND SEAMS
- S/SS SAND AND SILTY FINE SAND WITH CLAY LENSES
- 11,649** TOTAL CVOCs DETECTED IN GROUNDWATER SAMPLE, AUGUST 2009. CONCENTRATIONS IN ug/L.
- ND** DENOTES "NOT DETECTED"
- 1 TREATMENT CELL
- SCREEN INTERVAL
- GROUNDWATER TABLE ELEVATION (AUG 09)
- POTENTIOMETRIC SURFACE ELEVATION (AUG 09)
- MONITORING WELL
- SOIL BORING
- TEST PIT

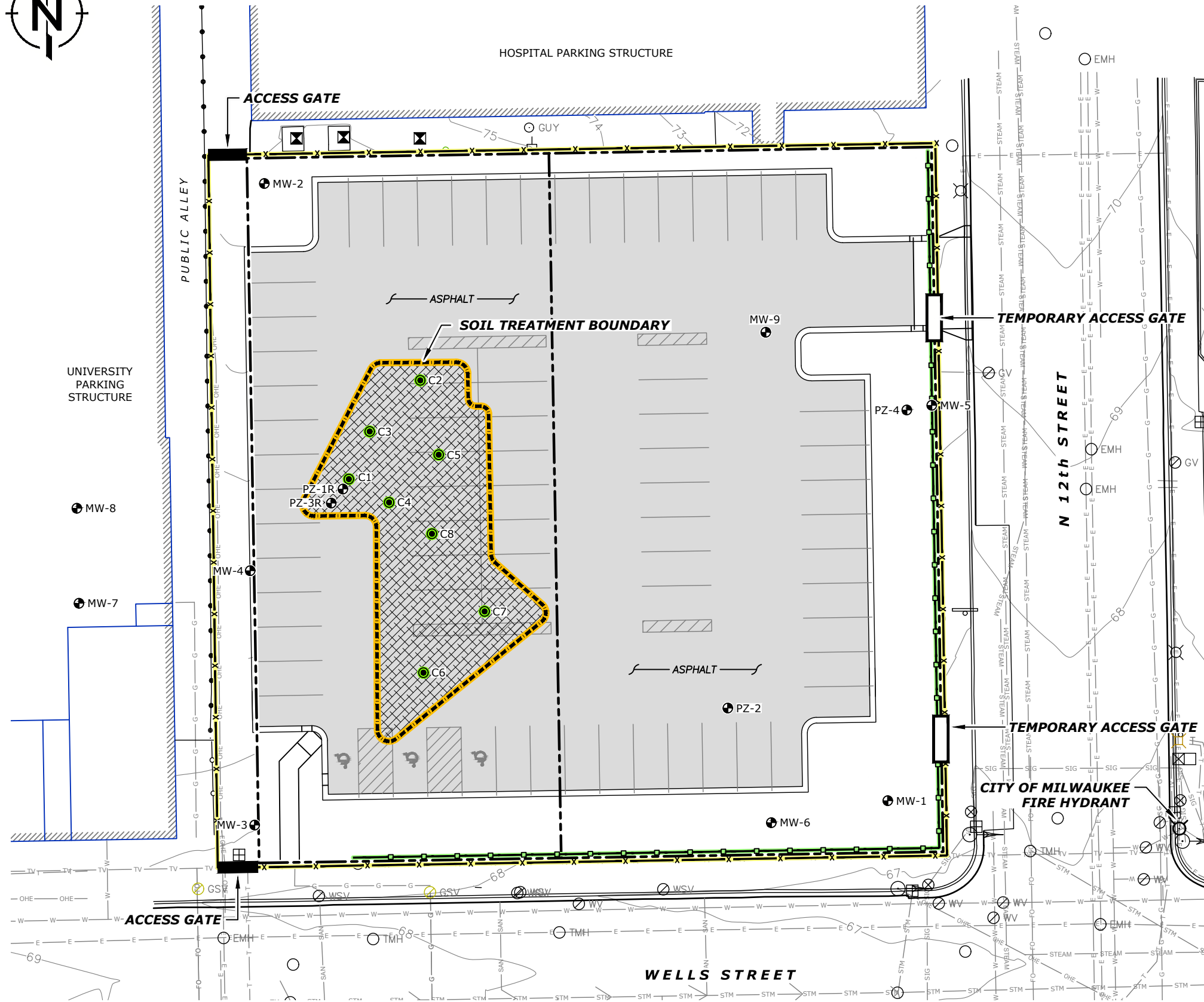
NOTE: TREATMENT DEPTHS DISPLAYED ARE APPROXIMATE.



Source: Figure 4, Geologic Cross-Section B to B', Site Investigation Report Dry Cleaning Solvent Release, GZA GeoEnvironmental, Inc., February 2012.

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LEGEND

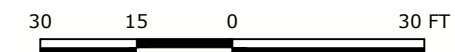
- PROPERTY BOUNDARY
- ▨ BUILDING FOOTPRINT
- ▭ ASPHALT
- FENCE LINE
- GUARD RAIL
- 75--- 1-FT ELEVATION CONTOUR
- E-E- UNDERGROUND ELECTRIC
- OHE-OHE- OVERHEAD ELECTRIC
- T-T- TELEPHONE
- W-W- WATER LINE
- G-G- GAS
- TV-TV- CABLE TV
- FO-FO- FIBER OPTIC
- STM-STM- STORMWATER SEWER
- SAN-SAN- SANITARY SEWER
- STEAM-STEAM- STEAM
- ☐ CATCH BASIN
- MANHOLE
- ⊙ VALVE
- ⊙ TRAFFIC LIGHT
- ⊠ TRANSFORMER
- AIR CONDITIONER
- ⊗ METER
- ⊗ LIGHT POLE
- ⊙ GUY UTILITY POLE / GUY
- 🌳 TREE
- ⊙ FIRE HYDRANT
- ⊗ TELEPHONE PEDESTAL
- ⊠ CONTROL BOX
- ⊙ MONITORING WELL
- SOIL TREATMENT BOUNDARY
- TEMPORARY FENCE
- SILT FENCE
- ▭ TEMPORARY ACCESS GATE
- ▭ ACCESS GATE
- ▨ SOIL AND CRUSHED CONCRETE BACKFILL
- ⊙ POST-REMEDIATION SOIL SAMPLING LOCATION

Confirmation Soil Boring	Sampling Depths (feet below post-remediation ground surface)
C-1	16-17' and 25-27'
C-2	16-17' and 25-27'
C-3	16-17' and 25-27'
C-4	16-17' and 28-30'
C-5	16-17' and 22-24'
C-6	16-17' and 18-19'
C-7	16-17' and 18-19'
C-8	16-17' and 18-19'

NOTES:

1. REMEDIATION CONTRACTOR SHALL PLACE A GEOTEXTILE FABRIC ON TOP OF TREATED SOIL TO PROVIDE SEPARATION OF TREATED SOIL FROM BACKFILL MATERIAL.
2. GENERAL CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, SUPERVISION, TRANSPORTATION, AND INSTALLATION EQUIPMENT NECESSARY FOR BACKFILLING THE TREATED AREA TO MEET SITE REDEVELOPMENT REQUIREMENTS.
3. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR GRADING ALL UNEVEN SURFACES AROUND THE IMMEDIATE TREATMENT AREA AND PREPARING THE SITE FOR FINAL RESTORATION.
4. GENERAL CONTRACTOR SHALL RESTORE THE SURFACE OF THE TREATMENT AREA AS DIRECTED BY MARQUETTE. FINAL RESTORATION MAY INCLUDE AN ASPHALT PARKING LOT AS SHOWN, OR THE SITE MAY REMAIN A VACANT LOT FOR A PERIOD OF TIME FOLLOWING COMPLETION OF ACTIVE REMEDIAL SITE WORK.
5. ENGINEER SHALL COLLECT CONFIRMATION SAMPLES APPROXIMATELY 20 MONTHS FOLLOWING THE COMPLETION OF SOIL BLENDING.

REFERENCE: THE SITE LAYOUT, SITE FEATURES, ELEVATIONS, UTILITIES, AND OTHER FEATURES NEAR THE PROPERTY WERE OBTAINED FROM GRAEF-USA IN DECEMBER 2017.



ISSUED FOR	
NO.	DESCRIPTION

PROJECT MGR: ST
DRAFTED BY: APR
CHECKED BY: ST
SCALE: AS SHOWN
DATE: 2/7/18

**CONCEPTUAL
SITE RESTORATION PLAN**
FORMER ONE-HOUR VALET DRY CLEANERS
1214 WEST WELLS STREET
MILWAUKEE, WISCONSIN



E:_CAD\1690005819_Former 1hr Dry Cleaners_Dwgs & Specs\08_Conceptual Site Restoration Plan.dwg

APPENDIX E

EROSION CONTROL PERMIT



City of Milwaukee

Department of Neighborhood Services

Erosion Control Permit

Permit Number: ECP-17-00381 **Issue Date:** 12/06/2017

Project Location: 1200 W WELLS ST, MILWAUKEE, WI 532331304

Application Name: Raze

Description of Work: Erosion control measures for garage & store front. This permit is specific to these buildings & this demolition site. Call Inspector Kraus at 286-8003.

Issued to:

Herb Pundsack
2445 S 179th Street
New Berlin, WI 53046

Owner:

MARQUETTE UNIVERSITY
PO BOX 1881
MILWAUKEE, WI 53201

Issued By: WSPARA

No asbestos project, as defined in Ch. 66 of the Milwaukee Code of Ordinances, is included in the work performed under this permit. I understand that any falsification or misinformation may result in penalties prescribed in the Milwaukee Code of Ordinances

To obtain more information about this permit or to schedule a required inspection log on to: www.Milwaukee.gov/LMS or call (414) 286-2513

Permits expire if work is not started within 6 months of issuance or if new construction ceases more than 3 months.

**Permits are non-transferrable.
There is no refund for a minimum fee permit.**



APPENDIX F

DOCUMENTATION OF FENCELINE AIR ACTION LEVELS FOR TETRACHLOROETHENE AND TRICHLOROETHENE

Table F-1
Toxicity Criteria for Tetrachloroethene and Trichloroethene
 Former One-Hour Valet Dry Cleaners Property
 Milwaukee, Wisconsin

Chemical	Inhalation Unit Risk ($\mu\text{g}/\text{m}^3$) ⁻¹	Inhalation Reference Concentration (mg/m^3) ^(c)
TCE (USEPA)	4.1E-06 (a)	2.00E-03 (a)
PCE (USEPA)	2.60E-07 (b)	4.00E-02 (b)
<p>Notes:</p> <p>(a) USEPA, 2017. Integrated Risk Information System (IRIS), Chemical Assessment Summary for Trichloroethene (Completion date: September 28, 2011). Available online at: https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=199</p> <p>(b) USEPA, 2017. Integrated Risk Information System (IRIS), Chemical Assessment Summary for Tetrachloroethene (Completion date: February 10, 2012). Available online at: https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=106</p> <p>(c) The reference concentration is "an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime." (USEPA, 2009a). The reference concentrations are derived to be protective of chronic (long-term) inhalation exposures, and thus are very conservative for evaluating a subchronic period of exposure.</p>		

Table F-2
Derivation of Risk-Based Air Concentration for PCE and TCE (Carcinogenic Effects)
 Former One-Hour Valet Dry Cleaners Property
 Milwaukee, Wisconsin

Chemical	Target Cancer Risk Level	Lifetime (years)	Days per year Exposed (days/year)	Averaging Time (days) ^(a)	Inhalation Unit Risk (m ³ /ug)	Conversion Factor (ug/mg)	Hours of exposure ^(b)	Hours in a day ^(b)	Exposure Frequency ^(c)	Exposure Duration (yr) ^(d)	RBAC (mg/m ³) ^(e)
TCE (USEPA)	1.00E-06	70	365	25550	4.10E-06	1.00E+03	12	24	14	1	0.89
PCE (USEPA)	1.00E-06	70	365	25550	2.60E-07	1.00E+03	12	24	14	1	14.0

Notes:

RBAC - Risk-Based Air Concentration

(a) Averaging Time (days) = 365 days/year for 70 years

(b) The hours of exposure and hours in a day are used to calculate the exposure time, which is the ratio of the number of hours of exposure to the number of hours in a day.

(c) The work will be conducted over a 14 day period during one year, giving an exposure frequency of 14 days per year.

(e) Risk-Based Air Concentration (mg/m³) =
$$\frac{\text{IUR (m}^3\text{/ug)} * (1000 \text{ ug/mg}) * \text{Exposure Time} * \text{Exposure Frequency} * \text{Exposure Duration (yr)}}{\text{TR} * \text{AT (days)}}$$

Table F-3
Derivation of Risk-Based Air Concentration for PCE and TCE (Noncarcinogenic Effects)
 Former One-Hour Valet Dry Cleaners Property
 Milwaukee, Wisconsin

Chemical	Reference Concentration (mg/m ³)	Hours of exposure ^(a)	Hours in a day ^(a)	Days per year Exposed ^(b)	Averaging time (days) ^(c)	RBAC (mg/m ³) ^(d)
TCE (USEPA)	2.00E-03	12	24	14	365	0.10
PCE (USEPA)	4.00E-02	12	24	14	365	2.1

Notes:
 RBAC - Risk-Based Air Concentration
 (a) The hours of exposure and hours in a day are used to calculate the exposure time, which is the ratio of the number of hours of exposure to the number of hours in a day.
 (b) The work will be conducted over a 14 day period during one year, giving an exposure frequency of 14 days per year.
 (c) An averaging time of 365 days per year is assumed since the work will be completed during one year.
 (d) Risk-Based Air Concentration (mg/m3) =
$$\frac{\text{Reference Concentration (mg/m3)} * \text{Averaging Time (365 days/year)}}{\text{Exposure Time (unitless)} * \text{Exposure Frequency (14 days/year)}}$$

Table F-4
Selection of Fenceline Air Action Level for PCE and TCE
Former One-Hour Valet Dry Cleaners Property
Milwaukee, Wisconsin

Chemical	Risk-Based Air Concentration (mg/m ³)			Fenceline Air Action Level ^(a) (mg/m ³)	Fenceline Air Action Level ^(a) (ug/m ³)	Fenceline Air Action Level ^(a,b) (ppm _v)	
	Non-cancer	Cancer					
		10 ⁻⁶	10 ⁻⁵				10 ⁻⁴
TCE (USEPA)	0.10	0.89	8.9	89	0.10	104	0.019
PCE (USEPA)	2.1	14	140	1,404	2.1	2,086	0.31

Notes:
(a) - Lowest of cancer and non-cancer risk-based air concentrations for each chemical.
(b) - Molecular weights for PCE and TCE are as follows:
Molecular Weight_{PCE} = 165.83 g/mol
Molecular Weight_{TCE} = 131.4 g/mol