

# Revised Remedial Action Plan

## Former Shorewood Queensway Drycleaning Site

Project No.: 17-1124

April 24, 2019



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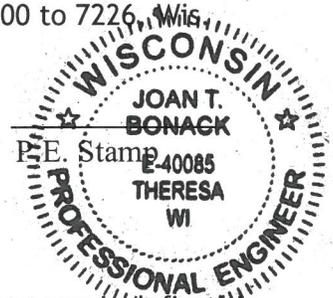
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ATTACHMENT A: Revised Remediation Site Hazardous Waste Determination Form 4430-019

"I, Joan Bonack, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of Ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in Ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in Chs. NR 700 to 7226, Wis. Adm. Code."

Joan T. Bonack, Project Manager 40085  
Signature, title and P.E. number



I, Kendrick A. Ebbott, 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 754, Wis. Adm. Code.

Kendrick A. Ebbott  
Signature

April 24, 2019  
Date

## 1.0 INTRODUCTION

Fehr Graham sent a Remedial Action Plan dated July 2018 that presented information from additional soil, concrete, and groundwater samples retained at the Former Shorewood Cleaners BRRTS site (Property) located at 4300 North Oakland Avenue, Shorewood, Wisconsin. Appropriate Wisconsin Department of Natural Resources (WDNR) review fees were included with the submittal.

The July 2018 report summarized the site conditions and presented an approach for implementation of a remedial action that involves building demolition, source soil removal, backfill, and groundwater monitoring so that redevelopment of the Property can occur. Redevelopment will include the neighboring property to the east, at 1808 East Marion Street, which is also owned by the owner of Shorewood Queensway Cleaners. The structure at 1808 East Marion Street is residential with a basement and the surface grades are approximately three feet higher than the dry-cleaning Property.

The WDNR responded with a September 5, 2018 preliminary response letter and a formal letter dated November 12, 2018 requesting additional information on the plan. A Revised Remedial Action Plan was prepared and sent to the WDNR dated February 11, 2019. Further clarifications were requested by the WDNR.

### 1.1 Objective

The purpose of this submittal is to provide further information and present a Final Remedial Action Plan. Changes occur primarily in Section 2.2 and are related to the criteria needed to allow for landfill disposal of soil that has been treated due to the presence of elevated levels of tetrachloroethene (PCE) in the soil.

This submittal includes a request for concurrence with the proposed Contained-out Determination for excavated concrete, soil, and treated soil.

This document has been prepared by a licensed professional geologist with signature by a licensed professional engineer, as required under NR 712. The previously paid WDNR review fees should also cover the revisions to this plan.

To keep the submittal brief, previously presented information regarding the site conditions have only been briefly summarized. Please refer to the July 2018 report for further details on the site conditions.

### 1.2 Site Conditions : Geology and Hydrogeology

The Property is a former drycleaner that has been vacant since 2017. A site investigation has been completed that has defined the extent of contamination related to released tetrachloroethene (PCE). The PCE is present in soil, groundwater, and vapor beneath the Property and the neighboring property to the north. A vapor mitigation system operates to extract subsurface vapor from beneath the south end of the basement of the neighboring structure to the north.

The site geology consists of a small amount of sand and gravel fill beneath the building and parking area to depths of approximately one foot below grade. There is also

apparently a former basement or root cellar beneath the 25' x 40' northwest part of the building, based on borehole refusal at five feet in several interior borings, but there is no access to the basement; the interior floor of the building is solid at grade across the structure.

Native soil beneath fill at the Property consists of silt and clay to the evaluated depth of approximately 28 feet. The materials are dense with a low hydraulic conductivity and all nine of the site monitoring wells bail dry. No piezometers have been installed at the site, as the dense clay soil at depths of at least 28 feet has tested clean in several borings. As requested by the WDNR, installation of piezometers following removal of the most contaminated soil is proposed for completion.

The depth to bedrock is mapped as approximately 150 feet below grade and consists of the carbonates of the Devonian-age Milwaukee Formation.

The depth to water ranges from four to eight feet next to the building and groundwater flow is to the north/northeast.

### 1.3 Conceptual Model for Releases, Contaminants, and Receptors

Elevated levels of primarily PCE are present in soil, groundwater, and vapor on the Property. Some degradation products of PCE have been identified (trichloroethene (TCE), DCE), but in minimal concentrations, and PCE is the main contaminant of concern. The highest concentrations of drycleaning solvents are present in the saturated soil approximately eight to ten feet below grade beneath the building adjacent to the former drycleaning machine.

The conceptual model for contaminant releases at the site includes surface spills from historic drycleaning operations. From 1960 until 1986, when upgraded equipment and waste handling practices were implemented, releases occurred related to routine wet transfer machine operations, filter draining/disposal of filters, and legal discarding of wastewater via the floor drain or outside the rear door. These releases occurred primarily adjacent to the drycleaning machine but also may have occurred near the rear building doors, with runoff to the edge of the outside concrete or asphalt surfaces. The functioning building sanitary sewer lateral empties to the west into North Oakland Street, and investigation borings and vapor sampling have established that impacts adjacent to the lateral are present but minimal.

Migration of PCE in the subsurface has extended vertically downward to a depth of approximately 18 feet. Clean saturated soil samples from depths of 20 feet and below have been noted at several locations. Borings right at the drycleaning machine have not extended below approximately 15 feet intentionally for fear of providing a vertical migration pathway downward for contamination. After removal of the bulk of the contaminated soil via excavation, soil samples will be retained from the excavation base to evaluate the vertical extent of remaining saturated soil impacts. The WDNR has requested that piezometers be installed to depths of 30 feet below grade after the soil remedial action has been completed to document deeper groundwater chemistry.

Migration of contaminated groundwater has extended to the north in the direction of groundwater flow and extends beneath the alley north of the site and beneath the building of the adjacent property to the north (4312 to 4334 North Oakland Avenue). The

building has an eight-foot deep basement, and soil and groundwater samples obtained from the basement indicate PCE contamination is present. Two active vapor mitigation systems are operating to capture vapors beneath the basement floor of 4312 to 4334 North Oakland Avenue to keep the subslab vapors from entering the structure.

Contamination also extends to the east onto the 1808 East Marion Street property and south of the building on the Shorewood Cleaners property at relatively low concentrations (typically less than 0.5 mg/kg).

Contaminant receptor risks include migration of contamination to groundwater and vapors. The site and all residences nearby are connected to municipal water which is obtained from surface water from Lake Michigan, so ingestion of contaminated groundwater is not a concern.

Vapor migration is being controlled beneath the adjacent neighboring property to the north via an operating vapor mitigation system, but a source remedial action should reduce future sub-building vapor contaminant concentrations. Post-remediation testing should be conducted to assess if the remedial action can eliminate the need for a vapor mitigation system beneath the building.

## 2.0 REMEDIATION APPROACH AND REGULATORY APPROVAL OF WASTES FOR DISPOSAL

### 2.1 Remediation Goals

The overall goals for remediation at the site will be the NR 140 groundwater standards (ES and PAL). Efforts will be made to significantly reduce the soil contaminant mass.

Cost-effective elimination of all contamination in soil to levels below the generic WDNR Residual Contaminant Levels (RCLs) will not be possible, regardless of the remediation method, as low levels of PCE are present off-site beneath Oakland Avenue.

Once the remedial action has eliminated most of the contamination and groundwater contaminant levels display stable or declining concentrations over time, it will be possible to obtain case closure. A Geographic Information System (GIS) listing for residual soil and groundwater contamination will be necessary for this site, as well as a Maintenance Plan requiring the upkeep of a remaining cap over residual soil containing concentrations of drycleaning chemicals above the leach to groundwater RCLs. Remaining groundwater and vapor contamination that extends to off-site properties and the adjacent streets will require notification to the property owner(s).

Operation and maintenance of the subslab vapor mitigation system beneath the neighboring building will likely be necessary even after removal of most of the contaminant mass on the Property.

Any new construction on the Property will need to plan for proper management of excavated soil, likely with landfill disposal. In addition, any future Property structure will likely need a vapor mitigation or control system. Subsurface parking with exhaust ventilation will likely prove adequate to address the post-remediation chemical vapor control needs.

### 2.2 Contained Out Determination Request and Soil Disposal, Sampling, and Handling Procedures

Concurrence with the contained-out determination request in Attachment A is needed to obtain landfill approval so the project can proceed. In the July 2018 Fehr Graham report, a Hazardous Waste Determination Form 4400-319 was provided as an attachment. The form has been revised to reflect additional information and is attached to this report.

For simplicity in discussions, PCE is the only compound present in soil that has been identified at levels above threshold values that would make the soil characteristically hazardous. This discussion of soil threshold levels focuses primarily on PCE contaminant levels as they relate to the cleanup project. However, we understand that if other chlorinated volatile organic compounds (CVOCs), such as TCE or vinyl chloride (VC) are identified in test results that exceed their respective TCLP or industrial direct contact threshold values, those results will also need to meet the contained-out determination criteria. All three compounds, PCE, TCE, and VC have the same universal treatment standard value of 6.0 mg/kg, per NR 668.48, but the compounds have different industrial direct contact and TCLP values.

Based on discussions with the long time former facility operator, Ms. Shirley Carlson, the releases of PCE at the site likely occurred between 1960 and 1986. Information has been provided previously related to the changes in operations that occurred in 1986 that resulted in significantly less potential for continued releases of PCE.

Some contaminated soil will need to be treated to reduce the concentration of PCE prior to being allowed to be landfilled, as the concentration levels exceed characteristically hazardous criteria (greater than industrial direct contact levels for PCE of 153 mg/kg, 8.8 mg/kg for TCE, and 2.0 mg/kg for VC, and/or fail the TCLP leach levels of 0.7 mg/l for PCE, 0.5 mg/l for TCE and 0.2 mg/l for VC).

### Treated Soil

Based on conversations with Mr. Michael Ellenbecker of the WDNR and the likelihood that that releases occurred prior to 1986, the PCE in the site soil likely predates the November 8, 1988 effective date for the Land Disposal Restriction (LDR) found in Appendix VII, Chapter NR 668 for F002 waste. However, the WDNR has indicated releases could have occurred after the date of implementation of the LDR's, since the facility operated after 1988, and the treated soil excavated from the site must meet the LDRs to be allowed to be landfilled.

Some of the untreated soil that contains higher levels of PCE, upon excavation, would be considered listed hazardous waste. However, we propose to treat the soil in-situ, sample the soil, and then remove the soil from the ground to store the treated soil in drop boxes so further work can proceed.

Based on anticipated results from the treated soil, we anticipate the results will demonstrate that the treated soil meets the contained-out criteria (i.e.: the treated soil is below direct contract threshold values for PCE of 153 mg/kg, TCE of 8.8 mg/kg and VC of 2.0 mg/kg, and that the treated soil passes the TCLP characteristically hazardous threshold criteria).

### Re-Treated Soil

Treated soil that does not pass these criteria that has been removed from the excavation into drop boxes will need to be retreated until the hazardous waste threshold criteria referenced above have been met. In addition, since this material was removed from the ground, the retreated soil must also meet the LDR restriction of ten times the universal treatment standards of NR 668.48, which is 60 mg/kg for all three compounds (PCE, TCE, VC). Only upon demonstration the retreated soil passes the TCLP criteria and meets the LDR limits can it be landfilled in Wisconsin at a subtitle D facility.

During the remediation project, there are six potential materials planned for excavation and removal at the site.

1. Standard Demolition Building Debris (plaster, drywall, roofing, etc.)
2. Uncontaminated Concrete and Brick
3. Contaminated Concrete Flooring
4. Direct Haul Contaminated Soil
5. Treated Contaminated Soil

## 6. Re-Treated Contaminated Soil

In summary, the discussion below supports the following framework for material handling and disposal, and WDNR approval of these plans is requested and necessary to obtain landfill approval.

- Concrete and brick from the building walls and footings on both parcels is expected to be clean and will be removed and recycled.
- Concrete flooring across the entire drycleaner building interior surface will be landfilled at a subtitle D facility.
- Soil with PCE below 14 mg/kg will be directly landfilled.
- Soil with PCE above 14 mg/kg will be treated, followed by retesting.
- Treated soil will be sampled in-situ following treatment for total VOCs and TCLP VOCs. If the results are below the direct contact threshold values of 153 mg/kg for PCE, 8.8 mg/kg for TCE, and 2.0 mg/kg for VC, and levels pass the TCLP criteria of 0.7 mg/l for PCE, 0.5 mg/l for TCE and 0.2 mg/l for VC, the material can be accepted for landfill disposal at a subtitle D facility in Wisconsin. If the total levels of PCE, TCE and VC are less than 20 times the TCLP concentrations (less than 14 mg/kg PCE, 10 mg/kg TCE, and 4.0 mg/kg VC), TCLP testing may not be necessary, as the soil will be considered by default to be able to pass the TCLP criteria due to the method's 20 time dilution in the sample handling process.
- If treated soil concentrations fail to pass these criteria, re-treated soil will be created by further mixing additional chemical to the treated soil. In order for re-treated soil to be acceptable for landfill disposal at a subtitle D facility in Wisconsin, this re-treated soil must meet the LDR restriction of ten times the universal treatment standards of NR 668.48, which is 60 mg/kg for all three compounds (PCE, TCE, VC), and also pass the TCLP limits.

The handling and justification for the six types of materials are described below:

### 2.2.1 Standard Demolition Debris and Uncontaminated Concrete Building Footings/Walls

Demolition of the structures at 4300 North Oakland Avenue and 1808 East Marion Street will be handled per standard demolition procedures with landfill disposal and off-site recycling of clean concrete and brick, if possible.

Asbestos and lead paint testing have been completed and asbestos-containing materials have been abated. There was no lead-based paint, brick, or concrete identified in testing of the structures, so these materials could be recycled instead of landfilled. Clean concrete will include all basement walls and floor of the 1808 East Marion Street residence and the vertical walls and footings of the former Shorewood Cleaners structure. Although not anticipated, if odors are noted when excavating concrete footings or concrete from any portion of the former Shorewood Cleaners building, the material will be segregated and landfilled.

### 2.2.2 Contaminated Concrete Flooring

Based on existing test results from four concrete samples obtained across the interior building floor (Borings A, C, E, M, and Table 2), the concrete contains a

maximum of 2.12 mg/kg PCE and the TCLP test results from all four samples indicate the levels of PCE are below the threshold value of 0.7 mg/l.

Based on the concentration of PCE in the concrete, under the contained out rule, the concrete meets criteria that allows disposal as a solid waste at a licensed facility.

Based on these results, all concrete flooring from the building, estimated at 151 tons, will be landfilled at a licensed subtitle D facility.

### 2.2.3 Direct Haul Contaminated Soil

Existing soil chemistry results from more than 130 soil samples have been reviewed, including six TCLP extraction soil samples. At the suggestion of the WDNR, efforts were made to reinterpret the information into Decision Units as part of this assessment, to identify segregated areas for remediation purposes. However, because soil sampling was conducted in several phases with the intention to define the horizontal and vertical extent of contamination and not define the potential contaminant treatment zones, the number of sample results from potential various decision units do not have statistically adequate representation to prove useful for Decision Unit calculations. As a result, a traditional evaluation of the soil results and treatment plan has been proposed.

The default criteria for soil that can be directly landfilled is 20 times the TCLP threshold value for PCE of 0.7 mg/l or 14 mg/kg. TCLP results from the site soil indicates concentrations greater than 14 mg/kg can be present and not leach above the 0.7 mg/l threshold value, (concentrations of PCE of 27.3 mg/kg and 46.1 mg/kg passed the 0.7 mg/l threshold value - Table 2).

However, for the sake of simplicity, the default level of 14 mg/kg will be used to define which soil can be directly excavated and landfilled at a subtitle D facility.

Using this criteria, an estimated 1380 tons of soil from the areas shown on Table 1, Figure 3, and Figures 4B to 4E will be landfilled at a subtitle D facility.

### 2.2.4 Treated Contaminated Soil

Soil containing more than 14 mg/kg PCE will be treated on site with Fenton's Reagent and BAM<sup>®</sup>. Mixing will be conducted in-situ using a backhoe with sprayed-on liquid chemical application of the Fenton's reagent solutions. Following the addition of Fenton's, a strong oxidizer, solid BAM<sup>®</sup> will be mixed with the soil using the backhoe bucket until the soil has been thoroughly blended and has the consistency of thick oatmeal. Using this procedure, an estimated 416 cubic yards of soil from the areas shown in Figures 4B to 4E will be treated, tested, and landfilled at a subtitle D facility.

Upon completion of the in-situ mixing, the treated soil will be sampled in-situ, and then excavated and stored in eight 30-cubic yard drop boxes on the Property, likely along the 1808 East Marion Street parcel. The boxes will be lined with plastic, and upon filling, will be covered with plastic. Each box will be labeled as containing hazardous waste with the date of placement of the treated soil into the box. This will be a conservative approach for compliance with labeling requirements, because if the treated soil does not pass the criteria for landfill

disposal described below, the soil in the boxes will be considered hazardous waste until treatment can document the material is no longer hazardous.

While we don't anticipate the boxes holding the treated soil for more than a few days, if they remain filled with treated soil for longer than a week, the boxes will be inspected weekly to make sure the boxes remain covered and are properly labeled. At that point, warning signs will be posted on the Property indicating the presence of hazardous waste. Temporary snow fencing or an equivalent barrier will be placed around the property to keep the public protected.

Sampling of the treated soil will be completed using the Incremental Sampling Methodology, as requested by WDNR. Using this process, three grab samples of the mixed soil will be retained from the backhoe bucket as the mixed soil is being placed into each 30 cubic yard drop box. We estimate 30 backhoe bucket loads fill each 30 cubic yard box, and we plan to sample every third bucket so the process of filling the boxes is not unnecessarily delayed. If a different size of bucket is used, the sampling protocol will adjust accordingly.

An estimated 30 incremental samples of the treated soil will be placed in a large two-gallon Ziploc freezer bag which will be sealed between sample additions to minimize volatilization. After 30 shovels of treated soil are placed in the Ziploc bag, the treated soil will be thoroughly mixed. One representative sample will be retained for laboratory analysis of total VOCs with methanol preservation, and one sample will be retained for analysis of TCLP CVOCs by filling a 4-ounce amber glass jar with the material.

The laboratory will process the soil for analysis on a hurry-up turnaround, estimated at 48 to 72 hours for receipt of results.

Interpretation of the analytical results for the treated soil will be performed as follows:

1. If the treated soil total VOC results fall below the 20 times TCLP leachate values (PCE <14 mg/kg, TCE <10 mg/kg, VC <4.0 mg/kg) AND the total soil VOC results are below the direct contact levels noted below (PCE < 153 mg/kg, TCE <8.8 mg/kg and VC < 2.0 mg/kg), no TCLP testing will be necessary, and the soil can be considered acceptable for landfill disposal.
2. The treated soil can be landfilled when the total VOC results fall below the direct contact threshold values of 153 mg/kg PCE, 8.8 mg/kg TCE, and 2.0 mg/kg VC, AND the soil passes the TCLP criteria for characteristically hazardous waste (<0.7 mg/l PCE, <0.5 mg/l TCE, <0.2 mg/l VC).

If the treated soil exceeds any of these threshold values above, re-treated soil will be generated. The re-treated soil will be created via mixing within an empty 30 cubic yard drop box. Additional BAM® will be added to the soil for further mixing. The re-treated soil will then be sampled using the same procedures as previously identified, with 30 incremental samples retained using the backhoe from soil across the 30 cubic yards of remixed soil. One lab sample of re-treated soil will be

submitted, and the results will be used to determine if the re-treated soil displays concentrations that support a "contained-out" determination of no longer being hazardous.

1. Re-treated soil can be landfilled when the total VOC results fall below the direct contact threshold values of 153 mg/kg PCE, 8.8 mg/kg TCE, and 2.0 mg/kg VC, AND the total VOC results are below the land disposal restriction value of 60 mg/kg for PCE, TCE, and VC. In addition, the re-treated soil must pass the TCLP threshold criteria for characteristically hazardous waste (<0.7 mg/l PCE, <0.5 mg/l TCE, <0.2 mg/l VC).

If advantageous from a scheduling standpoint, we expect deeper soil from approximately nine to 18 feet below grade will be mixed in the excavation and left in the excavation instead of placed into drop boxes. It will depend on the timing for the overall project and how quickly the initial treated soil can be tested and removed from the eight 30-cubic yard drop boxes.

If soil is mixed and left in the hole, it will be sampled with the same procedure as mixed soil that is removed from the excavation into drop boxes, with incremental samples retained from the backhoe bucket.

Approximately 134 cubic yards of soil from nine to 14 feet below grade is proposed for mixing (Table 1), and another 60 cubic yards from the 14 to 18 foot depth. For the nine to 14 foot depth, sampling will be divided into a north and south half, with 35 incremental samples retained from the north, and 35 incremental samples retained from the south half, using the backhoe bucket. The samples will be retained in a Ziploc bag for mixing and subsequent laboratory analysis, as described previously.

For the soil from 14 to 18 feet below grade, an estimated 60 cubic yards of soil will be treated and mixed. Thirty incremental samples will be retained from the mixture from that depth, resulting in one soil sample for laboratory analysis.

Upon mixing, the treated soil will remain in place until receipt of the laboratory analytical results. If the results pass the direct contact and TCLP criteria noted above, the in-situ treated soil will be removed and landfilled. If the results fail the criteria noted above, additional chemical addition, mixing, and retesting will be performed until the soil passes the direct contact and TCLP criteria, and the material can be landfilled.

### 3.0 REMEDIAL ACTION PLAN

The following remedial action plan is proposed and needs WDNR approval to proceed. The plan is laid out on a task by task basis, with additional details provided per WDNR request.

#### 3.1 Task 1: Injection Permit, Local Permit, Landfill Approval, Project Set Up

Once the WDNR indicates the proposed approach has been approved, we can begin lining up other approvals and permits, including the following:

- WDNR WPDES Permit / Injection Permit
- Village of Shorewood Approval
- Neighboring Property Owner Access / Approval
- Landfill Approval
- Utility Approval

Details follow:

##### 3.1.1 WDNR WPDES Permit / Injection Permit

The WDNR WPDES permit/injection permit will be obtained from Mr. Binyoti Amungwafor of the WDNR. The permit is a requirement because the plan for soil handling involves application of chemicals to the contaminated soil. Mixing of chemicals in soil is considered injection that requires a permit.

The permit application materials will be filled out and submitted and the separate \$700 WDNR permit review fee will be submitted with the application. It is expected the permit can be issued within a few weeks of the request.

##### 3.1.2 Village of Shorewood Approval

The Village of Shorewood has indicated they need to be kept informed of the project status and planned activities. Likely requirements include:

- Presentation to the Design Review Board to inform them of the plans. The Village will request specific restoration requirements, including a discussion of the final surface cover.
- Demolition permit, with 10-day notification to the WDNR, per state requirements. Utility disconnections will be part of the demolition process and will be completed per code requirements. Lead and asbestos surveys have been completed. Abatement of asbestos has been addressed and no lead-based paint was identified in either structure.
- Handouts describing the project will be prepared so the Village can answer questions from neighbors. The handout will include details regarding the spilled contaminant of concern (PCE) and associated health risks via ingestion or inhalation. Information on proactive monitoring and potential response actions during the remedial action will be provided, including information on monitoring to detect potentially elevated vapors in the breathing space around the Property perimeter. We anticipate completion of routine breathing space monitoring using a field meter (PID).
- Preparation of a Health and Safety Plan documenting any emergency processes and procedures. The plan will be provided to the Village Fire and

Police Departments, so everyone is aware of the nature of the chemical treatment process and physical/chemical hazards at the site. The plan will include erection of a fence or other physical barriers, as needed, for protection of the public.

### 3.1.3 Neighboring Property Owner Access/Approval

Access has already been negotiated with the neighboring property owner to the north at 4312 to 4334 North Oakland Avenue. The agreement will need to be broadened to include excavation and restoration activities and potential placement of a 30 cubic yard roll off box on the corner of their property, if needed due to space limitations. Further discussions will be held with the owner of the 4312 to 4334 North Oakland Avenue and their legal representative.

Restoration will include replacement of the existing concrete and asphalt surfaces in the private alley immediately east of the building. We propose to remove soil to the edge of the approximately four foot deep storm sewer catch basin but leave the catch basin in place. The Village of Shorewood has indicated the catch basin and storm sewer line is privately owned.

### 3.1.4 Landfill Approval

All soil removed from the site will be hauled to a licensed subtitle D facility in Wisconsin for disposal. Landfill approval will be obtained prior to excavation and the landfill will need WDNR concurrence that the soil can be accepted under the proposed disposal criteria and contained-out determination in this report.

### 3.1.5 Electric Pole and Overhead Utilities

WEPCO has been contacted regarding the electric pole on the northeast corner of the Shorewood Cleaners property. The pole has electric and utility lines and a private light mounted on it. When the plans are approved by the WDNR, WEPCO will be contacted to further discuss best management practices for excavation near this pole. We expect to remove and replace the poles to the eastern property line but are awaiting final relocation costs and plans from the utility. Further discussions with the utility can clarify specifics once the project moves forward.

## 3.2 Task 2: Excavation and Soil Treatment

After obtaining permits, the following activities will be completed (see Table 1, and Figures 3 and 4A to 4E).

- Utility Shutoff and Support of Power Pole
- Erection of fencing
- Building demolition of 4300 North Oakland Avenue to grade
- Building demolition of 1808 East Marion Street with backfilling of the basement with clean, imported fill to grade
- Disposal and recycling of demolition materials (clean brick and concrete) from both structures
- Landfill disposal of an estimated 151 tons of contaminated concrete consisting of the entire floor of the Shorewood Cleaners property

- Landfill disposal of an estimated 1380 tons of direct haul soil from the Shorewood Cleaners Property and alley to the north
- Excavation and treatment of an estimated 416 cubic yards (936 tons) of soil (Treated Soil) using Fenton's Reagent and BAM<sup>®</sup> (a carbon-based amendment) from the Shorewood Cleaners property and the alley to the north
- Temporary storage of Treated Soil, on-site in eight 30 cubic yard lined drop boxes
- Potential temporary storage of Treated Soil in-situ after mixing-in-place in the base of the proposed 14 to 18 foot deep excavation
- Laboratory testing of Treated Soil using the Incremental Sampling Method from the backhoe bucket
- If needed, retreatment with additional BAM<sup>®</sup> by partially emptying the drop boxes into other drop boxes, then adding more BAM<sup>®</sup>, with mixing using the backhoe bucket. Additional laboratory testing of the retreated soil will be completed using the same incremental sampling methods as noted above
- Upon receipt of laboratory reports documenting the disposal criteria have been met, removal and disposal of Treated Soil or Re-Treated soil at a licensed subtitle D landfill

Water in the excavation will be minimized to the extent possible. The site will be graded to slope away from the open excavation to the extent possible, minimizing surface water flow into the open hole.

The soils consist of tight clay and we do not anticipate infiltration of groundwater into the excavation to any appreciable amount. We also plan to have clean, imported backfill ready for placement in the excavation upon reaching the final excavation depth. If there are small quantities of water in the excavation base, the use of 3-inch clear stone in the excavation base can accommodate some minor amounts of water.

A contingency for handling of water has been researched, and if necessary due to rainfall or inflow, accumulated water in the excavation will be removed via pump or suction truck to a tanker truck or a rented 18,000 gallon frac tank. Testing of water will be necessary to assess disposal or pretreatment requirements. While the (MMSD) can accept the water discharges via a nearby sanitary sewer manhole, there may be a need for carbon pre-treatment before disposal. Rented carbon vessels, pumps, and a second storage tank will be arranged, if needed, to treat water for MMSD disposal.

Alternatively, it may be easier and more cost effective to hire an off-site private treatment company to remove, haul, and treat the water at their location prior to permitted disposal at their facility. The selected option will depend on the quantity of water present and the water chemistry.

### **3.3 Task 3: Chemical Treatment of the Excavation Base, Backfill, and Replacement Well Installation**

Upon completion of the excavation, the following will be completed:

- Placement of 12 cubic yards of BAM within soil from the bottom foot of the deepest part of the excavation, with treatment directed on soil beneath the north wall of the excavation adjacent to the neighboring building. The BAM will be briefly incorporated into the base soils using the backhoe bucket to facilitate contact with the soil, then tamped into place

- Obtain an estimated 35 soil samples from the excavation perimeter to document remaining chemistry results. Wall soil sample depths will typically include two intervals, one from the top four feet of soil, to assess potential future direct contact risks and disposal needs during redevelopment, and deeper intervals from the excavation base
- Backfill the excavation to one foot below grade using imported bank run sand and gravel compacted in one foot lifts. The base of the excavation will receive a minimum of one foot of 3-inch clear stone
- Traffic bond, or other compactible granular material with significant fines will be placed on the 4300 N. Oakland Street property. The surficial material will be thoroughly compacted and crowned to limit infiltration of precipitation and direct surficial drainage to the adjacent remaining asphalt surfaces. This material should contain abundant fines and granular material that sets up hard to minimize infiltration of precipitation. Compaction will be required in two 0.5 foot lifts to ensure proper density to limit infiltration.
- The surficial six inches of all site disturbed areas on the 1808 E. Marion Street parcel will be backfilled with soil. A vegetative cover, likely grass, will be planted, with the specific blend as specified by the Village of Shorewood
- Restoration of monitoring wells MW-3 and MW-5 with wells MW-3R and MW-5R in the excavation backfill. Well screened intervals will extend from approximately 3 to 13 feet below grade at each location
- Installation of two piezometers (PZ-10 and PZ-11) with screened intervals from 25 to 30 feet below grade at locations adjacent to wells MW-3R and MW-5R
- Except for the excavation proposed on the 4312 parcel to the north, no resurfacing with concrete or asphalt will be performed. The 4312 property to the north will be restored to current conditions, with installation of concrete and asphalt

#### 3.4 Task 4: Semi-Annual Groundwater Monitoring and Vapor Assessments

After the excavation, the following field sampling activities will be completed:

- Installation of the replacement wells and piezometers, as noted under Task 3
- Well development and surveying
- Groundwater sampling from all nine monitoring wells and the two new piezometers; Sampling will be completed one month after the excavation has been completed, and every six months thereafter for an estimated four events post-excavation. Sampling will be completed using individually dedicated bailers and nylon rope
- Analysis of groundwater for VOCs, and on two events, methane, ethane, and ethene.
- Field monitoring for D.O., ORP, pH, and conductivity
- Field monitoring of the subslab vapor systems and subfloor chemistry beneath the adjacent building to the north at 4312 to 4316 North Oakland Avenue; Monitoring will include use of a field PID to monitor the ambient and subslab concentration of VOCs in the air
- Laboratory sampling of the indoor and subslab vapor of the 4312 and 4316 building basements on two sample events. Samples will be obtained once the groundwater chemistry results demonstrate that the project is on track for closure. Vapor

analytical results are expected to be necessary to evaluate whether the subslab venting system will require continued operation following case closure

### 3.5 Task 5: Reporting

After the excavation, the following reports are anticipated:

- Completion of a remedial action documentation report after receipt of the initial post-excavation groundwater chemistry results. The report will document the remaining soil chemistry results, proper disposal of the contaminated materials, and the restoration of the site. The report will be sent to the WDNR and the neighboring property owner to the north.
- After each of the proposed four groundwater sample events, the data will be tabulated and plotted. A brief email transmittal communicating the findings will be provided to the WDNR. Results will also be provided to the neighboring property to the north to keep residents and property owners aware of the situation on their property.

### 3.6 Task 6: Case Closure Request

Upon obtaining results that warrant closure, a case closure request will be prepared. The report will include information required by the WDNR to be filed for the property and it is expected a soil and groundwater GIS packet will be part of the closure submittal.

The closure will also include notifications to off-site properties that have been affected by the contamination and will include a Maintenance Plan that will include requirements for maintenance of the existing subslab vapor mitigation system within the 4312 and 4316 building basements.

Submittal of the Closure Report and GIS packet requires payment to the DNR of \$1,700 in fees

This plan for remediation and closure assumes restoration, but not redevelopment. Plans for redevelopment on the Property will likely require further excavation with proper handling of removed soil. Any structure built on the Property will likely require installation of a vapor mitigation system.

### 3.7 Task 7: Well Abandonment

Upon obtaining case closure, the WDNR will require that the existing monitoring wells be properly abandoned per NR141 code requirements and proper documentation be provided of the abandonment.

## Tables

---

**TABLE 1 Remedial Excavation Soil Volume**

Remedial Excavation, Monitoring, Closure Actions  
 Shorewood Queensway Cleaners, 4300 N. Oakland Avenue, Shorewood, WI  
 Assumptions: Dig to approximately 1,000 ug/kg PCE Soil RCL.  
 Treated Soil Limits see 2018 06 06 Treat Soil Vol Sheet  
 Assume No Dig 1808 Marion St; No Dig S of Bldg, Limited dig W of Bldg  
 Assume use Imported Fill to backfill basement of Marion Street. Do not regrade or redistribute site soil. Keep existing surface grades

Area	Description	Excavation and Disposal Quantities				Surface : Concrete and Asphalt			SOIL				COMMENTS		
		Length N / S	Width E / W	Depth	Volume Dig CY	Quantity Conc / Asph CY	How Handle Conc / Asph ton	Thickness Soil direct LF	Soil LF CY	Soil Direct LF Ton	Soil Treat then LF Ton	TOTAL SOIL Ton			
<b>Area 1 : Treated Soil Footprint Under and N of Building</b>															
Building Footprint	Entire Floor and Pad to East					76	151	Conc landfill						See "concrete quantity" sheet	
Building Footprint	Footings and subfloors						235	Conc recycle						See "concrete quantity" sheet	
Treated Soil															
Around DCM	A, B, SB5, C, GP1	29	7	0.5 to 5'	34						51		51		
Around MW-3	SB3, I, J	16	7	0.5 to 5'	19						28		28		
Off-Site North	SB-11 / MW-5	9	7	5 to 9'	9						14		14		
N of DCM	F, SB4, GP1	14	19	5 to 9'	39						59		59		
DCM	A, I	7	26	5 to 9'	27						40		40		
S of DCM	M, C, B, SB5, SB3	30	21	5 to 9'	93						140		140		
West Under Basement	Assumed - no samples	27	7	9 to 14'	35						53		53		
Large Box under Bldg	M, C, B, SB5, A, F, GP1	50	10	9 to 14'	93						139		139		
Outside East	J	4	9	9 to 14'	7						10		10		
Under Bldg	M	11	9	14 to 18'	15						22		22		
Under Bldg	A, B, SB5, GP1	5	8	14 to 18'	6						9		9		
Outside East	J	19	14	14 to 18'	39						59		59		
Boring F, SB-4, from depth 14 to 18'	Soil 5' to 14' treated, top soil and deep soil dig to remove more mass	12	12	0.5 to 5', 14 to 18'	45	0.0	0	Inc Above	8.5	45	68		68		
West under Basement W of T3	Soil above T3 and below T3	25	10	5 to 9' and 14 to 18'	74	0.0	0	Inc Above	8	74	111		111		
N of Boring I to PL, NE Corner outside Bldg	Under Basement	5	25	5 to 14'	37	0.0	0	Inc Above	8	37	56		56		
	1/2 soil treated, other half direct LF	8	22	0.5 to 15'	47	0	0	Inc Above	14.5	47	71		71	cut in half because half area is treated soil	
	1/2 soil treated, other half direct LF	8	22	9 to 15'	20	0	0	Inc Above	6	20	29		29	cut in half because half area is treated soil	
Under Bldg, Bore C, M	Shallow soil LF above 5'	18	18	0.5 to 5'	54	0	0	Inc Above	4.5	54	81		81		
S of SB-9 & M to Bldg Corner	all soil to LF to 12'	10	33	0 to 12'	70	0	0	Inc Above	11.5	70	105		105		
SW Corner of treated soil area, no borings	Square up treated area dimensions	21	12	0.5 to 12'	107	0	0	Inc Above	11.5	107	161		161		
<b>TOTAL Area 1 : Direct Haul around and Under Treated Soil Footprint</b>					<b>871</b>						<b>682</b>	<b>624</b>	<b>1306</b>		
<b>Area 2 - W of Treated Area Under Bldg</b>															
N Under Basement by Neighbor 4312	basement to 5', dig to 12'	27	4	5 to 12'	28			Inc Above	7	28	42		42		
W under basement to H Under bldg: H to N midpoint	basement to 5', dig to 12'	34	17	5 to 12'	150			Inc Above	7	150	225		225		
	contam 0.5 to 12'	7	20	0 to 12'	60			Inc Above	11.5	60	89		89		
<b>TOTAL Area 2 - W of Treated Area Under Bldg</b>					<b>237</b>						<b>356</b>	<b>0</b>	<b>356</b>		
<b>Area 3 - W of Building to Oakland</b>															
W Bldg Util to Oklnd, HA1, 2, 6	All LF to 8'	5	35	0.5 to 8'	49	3.2	6.5	Asph	7.5	49	73		73		
W Bldg by GP-3	All LF to 5'	15	12	0.5 to 5'	30	3.3	6.7	Asph	4.5	30	45		45		
<b>TOTAL Area 3 - W of Building to Oakland</b>					<b>79</b>						<b>118</b>	<b>0</b>	<b>118</b>		
<b>Area 4 - S of Building to Marion</b>															
<b>TOTAL Area 4 - S of Building to Marion</b>					<b>0</b>						<b>0</b>	<b>0</b>	<b>0</b>		
<b>Area 5 - E of Building to 1808 Marion House</b>															
<b>TOTAL Area 5 - E of Building to 1808 Marion House</b>					<b>0</b>						<b>0</b>	<b>0</b>	<b>0</b>		
<b>Area 6 - 1808 Marion</b>															
<b>TOTAL Area 6 - 1808 Marion</b>					<b>0</b>						<b>0</b>	<b>0</b>	<b>0</b>		
<b>Area 7 - Off Site Alley to North</b>															
Treated Soil SB-11 / MW-5	Treat 5 to 9', soil above and below to 14' LF	15	5	0 to 14'	39	1.4	2.8	Asph Recycle	9.5	39	58		58	Removed T2 Soil from thickness	
West to Bldg Basement Wall	All LF to 9' (base of Basement)	15	7	0 to 9'	35	1.9	3.9	Conc Recycle	9	35	53		53	see "Concrete Quantity" sheet	
East of Treated, Boring K	All LF to 9'	15	15	0 to 9'	75	4.2	8.3	Asph Recycle	9	75	113		113		
<b>TOTAL Area 7 - Off Site Alley to North</b>					<b>149</b>						<b>149</b>	<b>223</b>	<b>223</b>		
<b>TOTAL MATERIAL HANDLED FOR ENVIRONMENTAL ISSUES</b>					<b>1336</b>	<b>90</b>	<b>414</b>				<b>149</b>	<b>1380</b>	<b>624</b>	<b>2315</b>	
					2003	Asphalt Rcycl	57				Final Weight		936	Tons	
Total Conc as Haz		0		Ton											
Total Conc landfill		151		Ton											
Total Conc / Asph clean		235		Ton											
Total Soil Treat		624		Ton											
Treat Soil Final Weight (water, BAM)	50%	936		ton											
Total Soil Direct LF		1380		Ton											
Total Soil to LF		2315		Ton											
Total Soil Excvn		2939		Ton											

**Table 2**  
**Soil Analytical Results: Total and TCLP Values for VOCs**  
 Shorewood Queensway Cleaners  
 4300 N. Oakland Ave., Shorewood, WI 53211  
 BRRTS# 02-41-552089

Sample ID		PRE-EXCAVATION RESULTS FROM BORINGS													
		A		B		C		E	H	J	M				
Date		1/16/18		1/16/18		1/15/18		1/16/18	1/16/18	1/15/18	1/15/18				
Depth		0-0.5'	2-3'	2-3'	0-0.5'	8-9'	0-0.5'	8-9'	7'	0-0.5'	5-6'				
Description		CONC.	CLAY	CLAY	CONC.	CLAY	CONC.	CLAY	CLAY	CONC.	CLAY				
Depth from Seasonal Low Water Table (ft)		7'	7'	7'	7'	7'	7'	7'	7'	7'	7'				
Saturated (S) or Unsaturated (U)		U	U	U	U	S	U	S	S	U	U				
PID Reading		--	27.2	19.1	--	2.4	--	0.0	2.2	--	20.3				
Notes															
		Landfill	Treat	Treat	Landfill	Treat	Landfill	Landfill	Landfill	Landfill	Treat				
TOTAL Tetrachloroethene (PCE)	ug/kg		<b>60,000</b>	153,000	<b>33,000</b>	542	<b>45,800</b>	<b>69,900</b>	517	<b>46,100</b>	2,120	5,160	27,300	402	<b>81,000</b>
TCLP Tetrachloroethene (PCE)	(ug/L)		<b>700</b>			13	<b>770</b>	<b>1,100</b>	5.9 J	140	29	39	520	<5.0	<b>850</b>
TOTAL Trichloroethene (TCE)	ug/kg			8810	1,300	<25.0	<200	<250	<25.0	<200	<25.0	129	<132	<25.0	<500
TCLP Trichloroethene (TCE)	(ug/L)		500			<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	3.6 J	<3.3	<3.3	<6.6
TOTAL Vinyl Chloride	ug/kg			2080	67	<25.0	<200	<250	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<500
TCLP Vinyl Chloride	(ug/L)		200			<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<3.5
TCLP Benzene	(ug/L)		500			<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
TCLP Carbon Tetrachloride	(ug/L)		500			<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
TCLP Chlorobenzene	(ug/L)		100,000			<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
TCLP Chloroform	(ug/L)		6,000			<25	<25	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<50
TCLP 1,2-Dichloroethane	(ug/L)		500			<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<3.4
TCLP 1,1-Dichloroethene	(ug/L)		700			<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2
TCLP 2-Butanone (MEK)	(ug/L)		200,000			<30	<30	<30	<30	<30	47 J	<30	<30	<30	<60

Exceedance Highlights:

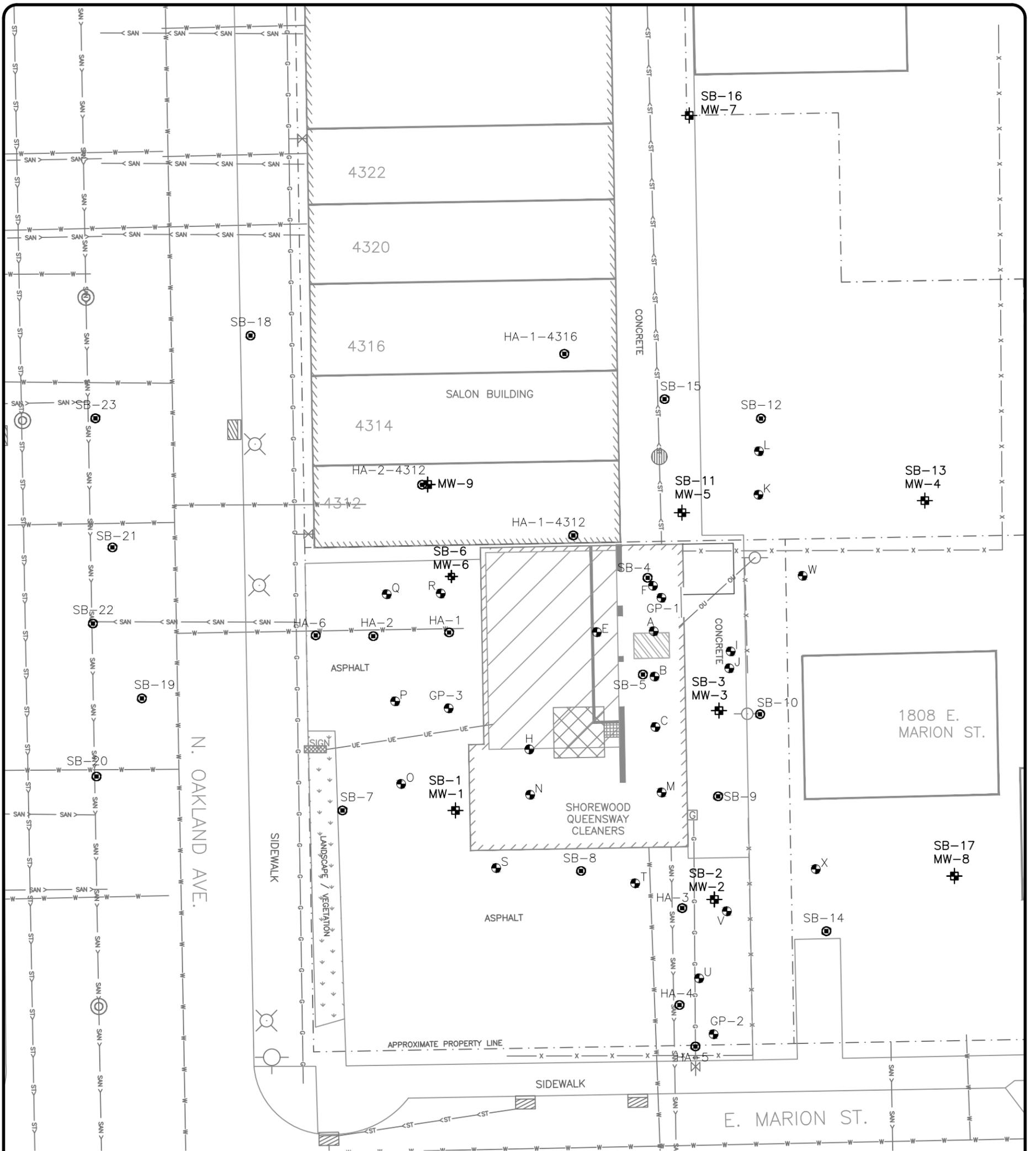
**BOLD Red** font indicates individual or cumulative DC RCL  
**\*B1\***: Cumulative exceedance (HI > 1), eventhough no  
*Italic Red* font indicates GW RCL Exceedance per DNR

Notes:

**BOLD** = Exceeds Regulatory Levels  
 NS = No standard established  
 -- = Not analyzed for parameter  
 NR = Not Reported  
 RCL = Residual Contaminant Level  
 DC = Direct Contact  
 Landfill = Can landfill directly upon excavation  
 Treat = Requires treatment and retesting prior to landfill disposal

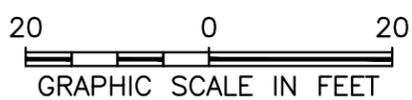
## Figures

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### LEGEND

- |     |   |   |                             |
|-----|---|---|-----------------------------|
| ⊙   | SOIL BORING (ENVIROFORENSICS)                   | ⊗ | UTILITY VALVE (GAS / WATER) |
| ⊕   | MONITORING WELL / SOIL BORING (ENVIROFORENSICS) | ⊗ | LIGHT POLE                  |
| ⊙   | SOIL BORING (ALPHA TERRA ~ FEHR GRAHAM)         | ⊙ | POWER POLE                  |
| ■   | FORMER DRY CLEANING MACHINE                     | ⊙ | FIRE HYDRANT                |
| ▨   | BASEMENT  | ⊙ | GAS METER                   |
| -x- | FENCE LINE                                      | ⊙ | MANHOLE                     |
|     |   | ⊙ | CATCH BASIN                 |



**FEHR GRAHAM** ILLINOIS IOWA WISCONSIN  
ENGINEERING & ENVIRONMENTAL

SHOREWOOD QUEENSWAY CLEANERS  
(BAYSIDE MANAGEMENT LLC)  
4300 N. OAKLAND AVE.  
SHOREWOOD, WI 53211

DRWN:MKH DATE:03/01/17 APPD:KE

TITLE:

### SITE LAYOUT

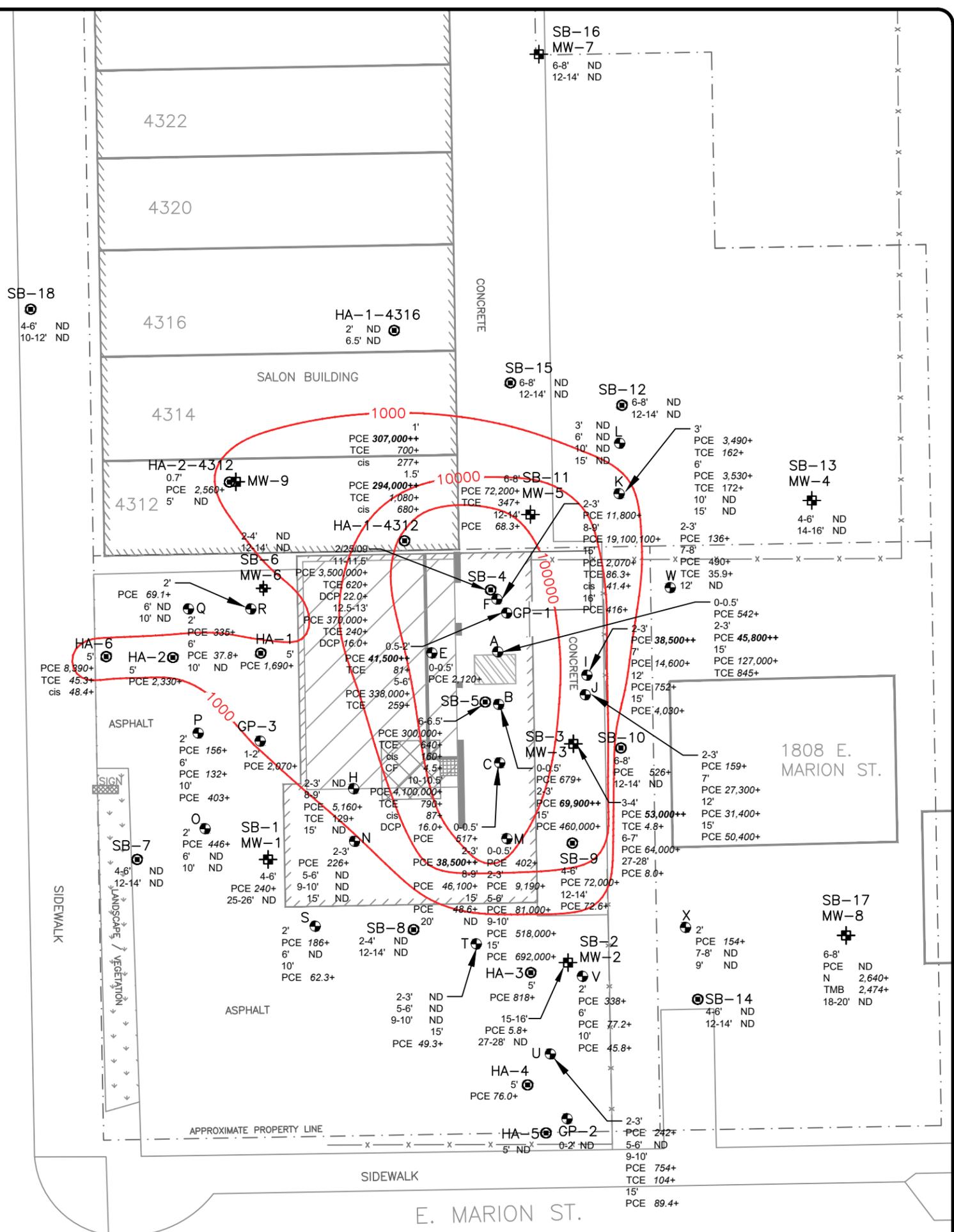
BRRTS: 02-41-552089

JOB NO.:17-1124

PLOT DATE: 2/7/19

FIGURE:

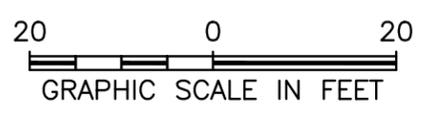
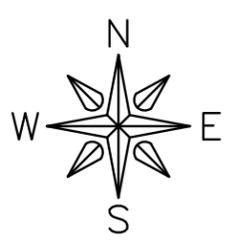
1



### LEGEND

- ⊙ SOIL BORING (ENVIROFORENSICS)
- ⊕ MONITORING WELL / SOIL BORING (ENVIROFORENSICS)
- ⊙ SOIL BORING (ALPHA TERRA ~ FEHR GRAHAM)
- x- FENCE LINE
- ESTIMATED EXTENT OF PCE CONTAMINATED SOIL
- ▨ FORMER DRY CLEANING MACHINE
- ▨ BASEMENT
- ▨ BOILER ROOM
- ▨ SMOKE STACK

- 0-1' SAMPLE DEPTH
- PCE TETRACHLOROETHENE (ug/kg)
- TCE TRICHLOROETHENE (ug/kg)
- cis cis-1,2-DICHLOROETHENE (ug/kg)
- DCP 1,2-DICHLOROPROPANE (ug/kg)
- CF CHLOROFORM (ug/kg)
- ND NO DETECT
- ITALICS+* EXCEEDS GROUNDWATER PATHWAY RCL
- BOLD++** EXCEEDS NON-INDUSTRIAL DIRECT CONTACT (0-4') RCL
- ITALICS/BOLD++* EXCEEDS BOTH GW & DIRECT CONTACT RCL



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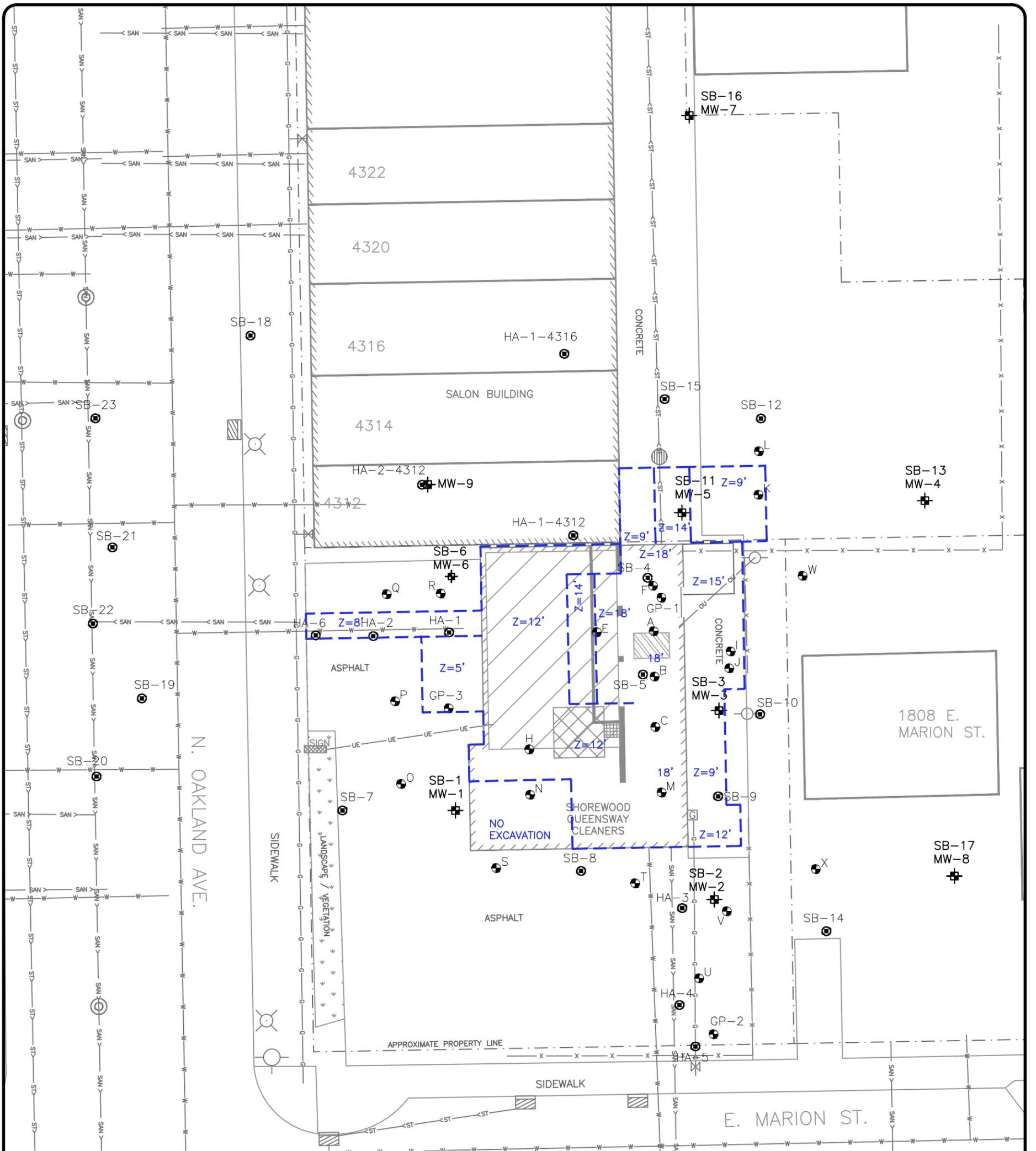
SHOREWOOD QUEENSWAY CLEANERS  
4300 N. OAKLAND AVE.  
SHOREWOOD, WI 53211

DRWN:MKH DATE:03/01/17 APPD:KE

TITLE:  
**SITE SOIL CHEMISTRY**

BRRTS: 02-41-552089  
JOB NO.: 17-1124  
PLOT DATE: 2/7/19

FIGURE:  
**2**



### LEGEND

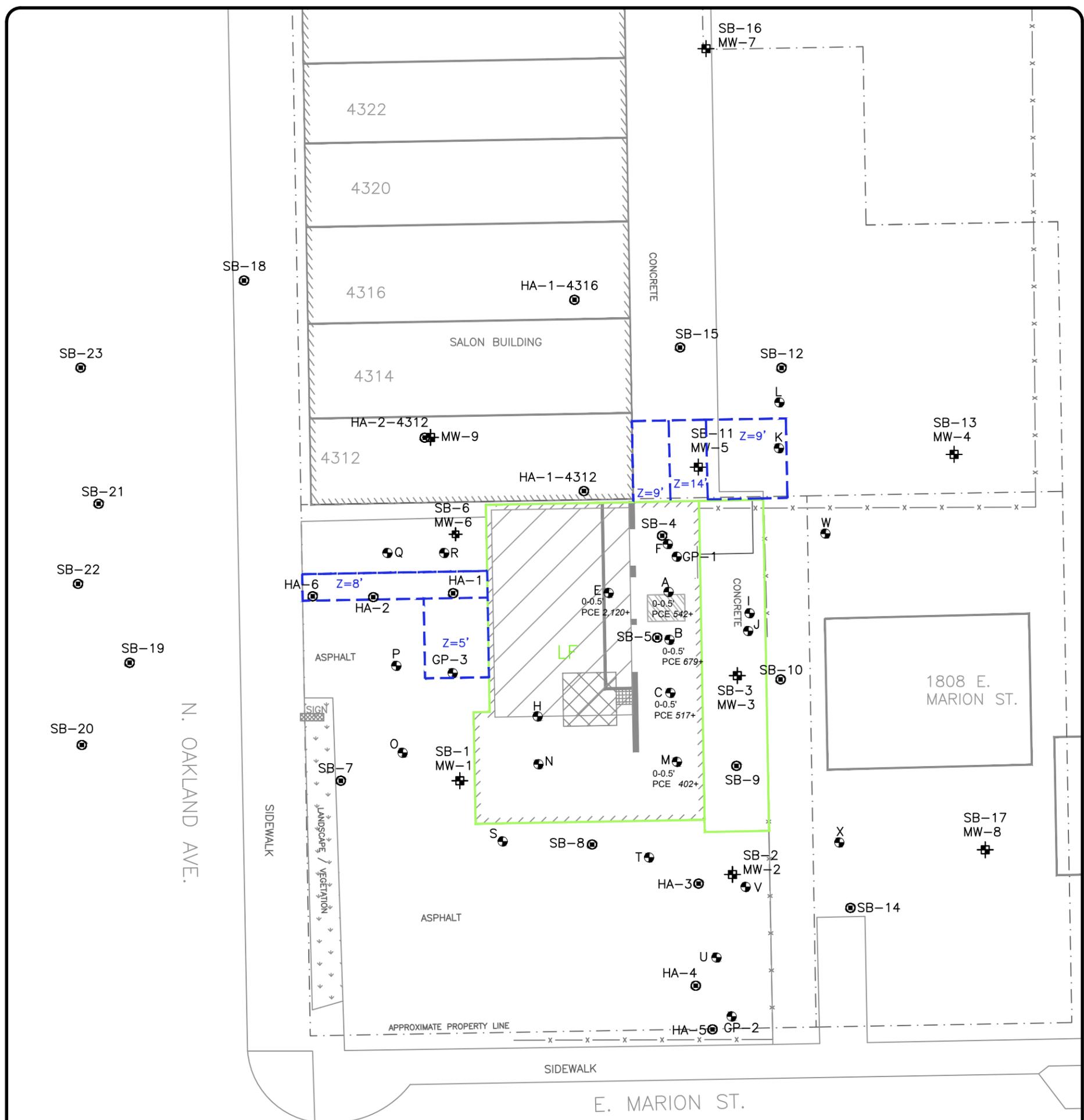
- SOIL BORING (ENVIROFORENSICS)
- MONITORING WELL / SOIL BORING (ENVIROFORENSICS)
- SOIL BORING (ALPHA TERRA ~ FEHR GRAHAM)
- PROPOSED EXCAVATION BOUNDARY & DEPTH
- FORMER DRY CLEANING MACHINE
- BASEMENT
- FENCE LINE
- UTILITY VALVE (GAS / WATER)
- LIGHT POLE
- POWER POLE
- FIRE HYDRANT
- GAS METER
- MANHOLE
- CATCH BASIN



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ENGINEERING & ENVIRONMENTAL

SHOREWOOD QUEENSWAY CLEANERS  
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4300 N. OAKLAND AVE.  
SHOREWOOD, WI 53211  
DRWN:MKH DATE:03/01/17 APPD:KE

TITLE: EXCAVATION BOUNDARIES & DEPTHS  
BRRTS: 02-41-552089  
JOB NO.:17-1124  
PLOT DATE: 2/7/19  
FIGURE: 3



### LEGEND

- ⊙ SOIL BORING (ENVIROFORENSICS)
- ⊕ MONITORING WELL / SOIL BORING (ENVIROFORENSICS)
- SOIL BORING (ALPHA TERRA ~ FEHR GRAHAM)
- x- FENCE LINE

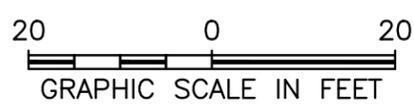
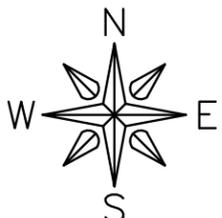
LF CONCRETE TO BE LANDFILLED UPON REMOVAL

Z=9' EXCAVATION LIMITS BEYOND BUILDING FOOTPRINT: CONCRETE/ASPHALT TO BE RECYCLED

- FORMER DRY CLEANING MACHINE
- BASEMENT
- BOILER ROOM
- SMOKE STACK

- 0-1' SAMPLE DEPTH
- PCE TETRACHLOROETHENE (ug/kg)
- TCE TRICHLOROETHENE (ug/kg)
- cis cis-1,2-DICHLOROETHENE (ug/kg)
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- BOLD++** EXCEEDS NON-INDUSTRIAL DIRECT CONTACT (0-4') RCL
- ITALICS/BOLD++* EXCEEDS BOTH GW & DIRECT CONTACT RCL

NOTE: ALL SAMPLES ARE PULVERIZED CONCRETE AND ALL PASSED TCLP CRITERIA (NON-HAZARDOUS)



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ENGINEERING & ENVIRONMENTAL

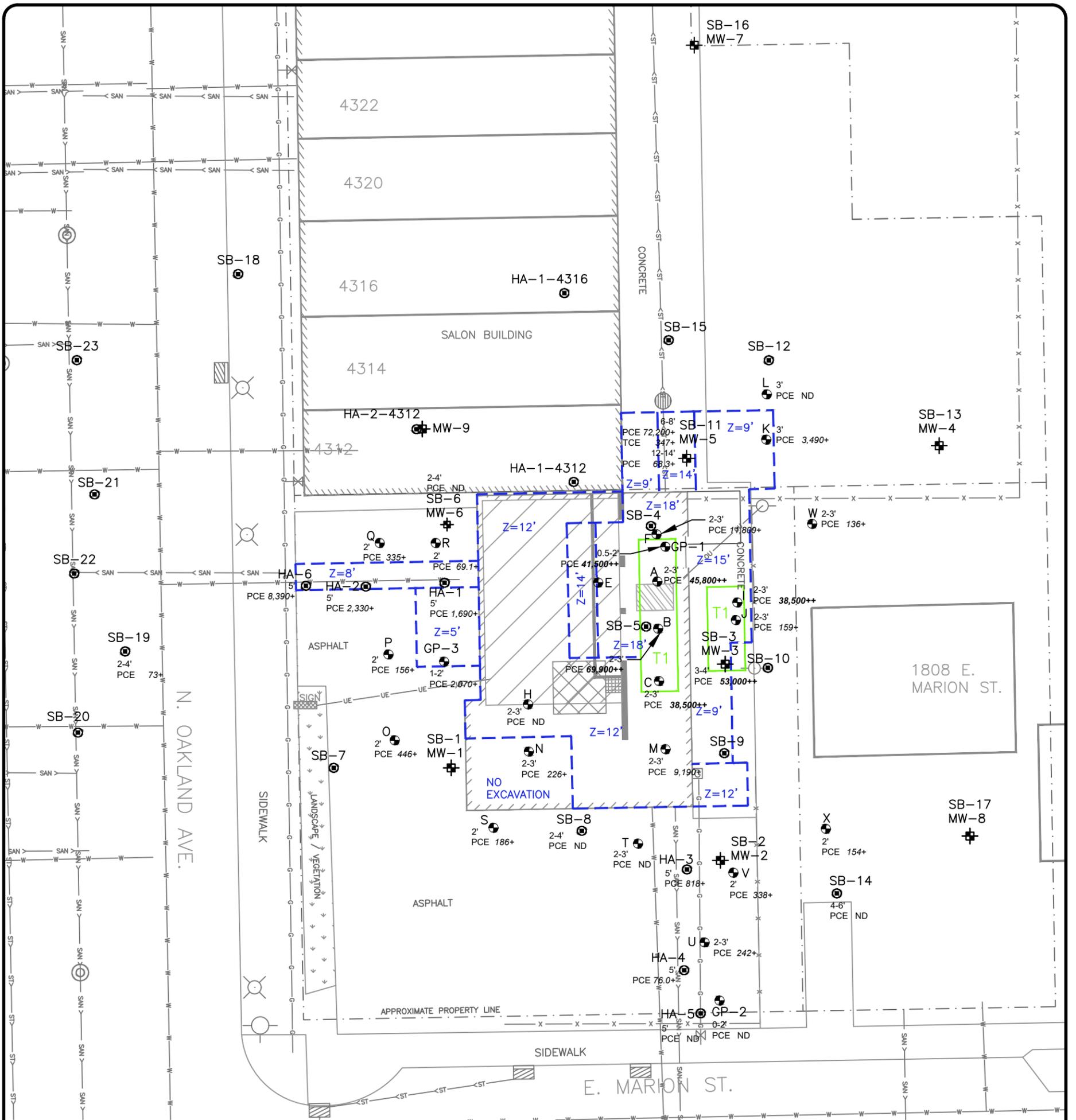
SHOREWOOD QUEENSWAY CLEANERS  
4300 N. OAKLAND AVE.  
SHOREWOOD, WI 53211

DRWN:MKH DATE:03/01/17 APPD:KE

TITLE:  
**PROPOSED CONCRETE DISPOSAL & CHEMISTRY**

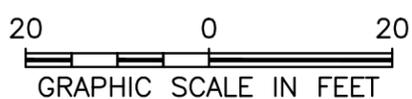
BRRTS: 02-41-552089  
JOB NO.:17-1124  
PLOT DATE: 10/23/18

FIGURE:  
**4A**



### LEGEND

- SOIL BORING (ENVIROFORENSICS)
- MONITORING WELL / SOIL BORING (ENVIROFORENSICS)
- SOIL BORING (ALPHA TERRA ~ FEHR GRAHAM)
- FENCE LINE
- 0.5-5' PROPOSED TREATED SOIL EXCAVATION LIMIT
- PROPOSED EXCAVATION BOUNDARY & DEPTH
- FORMER DRY CLEANING MACHINE
- BASEMENT
- BOILER ROOM
- SMOKE STACK
- 0-1' SAMPLE DEPTH
- PCE TETRACHLOROETHENE (ug/kg)
- ND NO DETECT
- ITALICS+* EXCEEDS GROUNDWATER PATHWAY RCL
- BOLD++** EXCEEDS NON-INDUSTRIAL DIRECT CONTACT (0-4') RCL
- ITALICS/BOLD++* EXCEEDS BOTH GW & DIRECT CONTACT RCL



**FEHR GRAHAM** ILLINOIS IOWA WISCONSIN  
ENGINEERING & ENVIRONMENTAL

SHOREWOOD QUEENSWAY CLEANERS  
4300 N. OAKLAND AVE.  
SHOREWOOD, WI 53211

DRWN:MKH DATE:03/01/17 APPD:KE

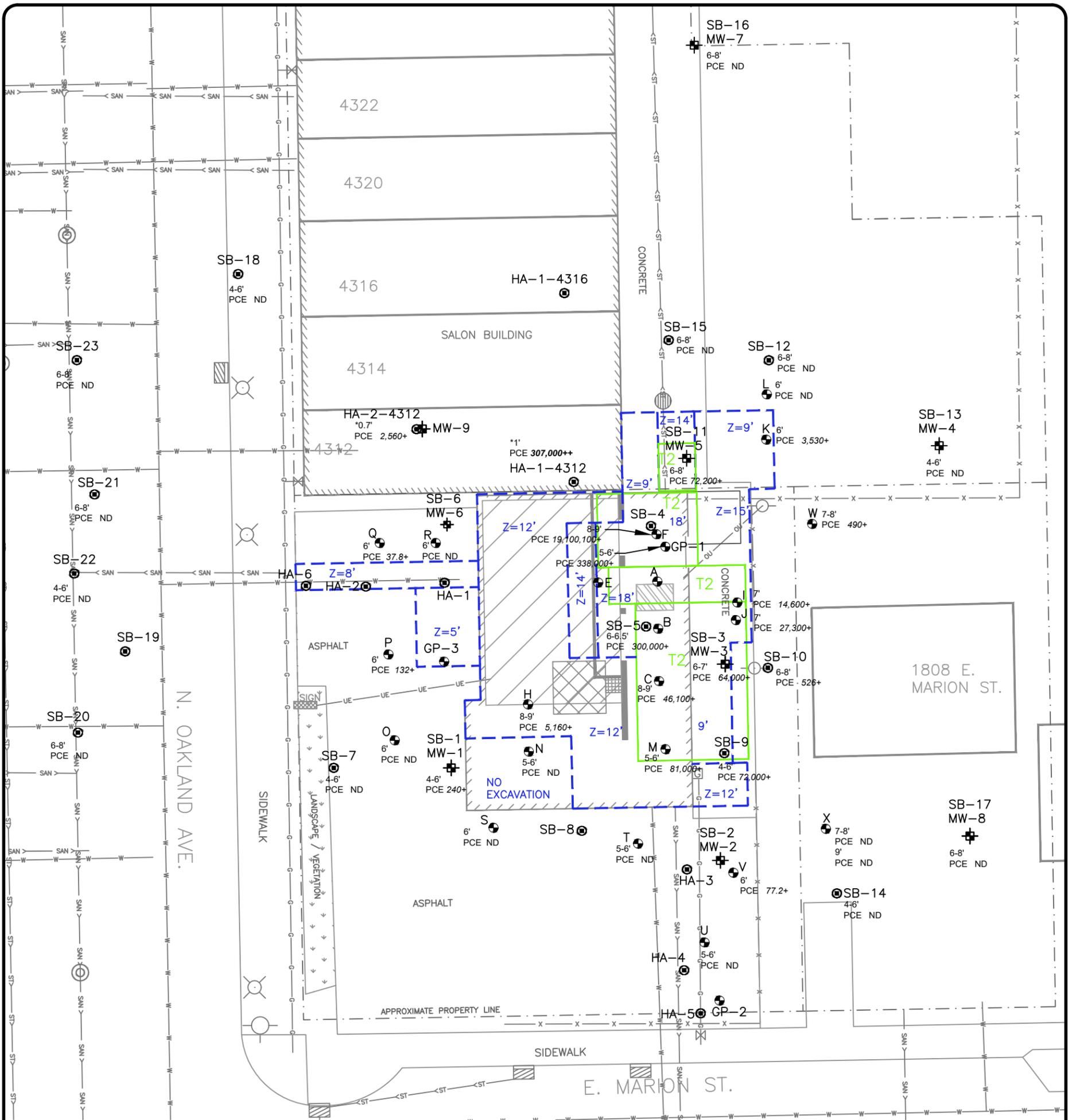
TITLE: PROPOSED EXCAVATION & TREATED SOIL BOUNDARY w/ SOIL CHEMISTRY 0.5-5'

BRRTS: 02-41-552089

JOB NO.:17-1124

PLOT DATE: 2/7/19

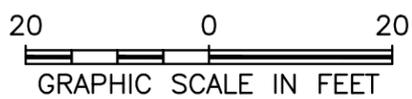
FIGURE: 4B



### LEGEND

- SOIL BORING (ENVIROFORENSICS)
- MONITORING WELL / SOIL BORING (ENVIROFORENSICS)
- SOIL BORING (ALPHA TERRA ~ FEHR GRAHAM)
- x - FENCE LINE
- T2 5-9' PROPOSED TREATED SOIL EXCAVATION LIMIT
- Z=9' PROPOSED EXCAVATION BOUNDARY & DEPTH
- FORMER DRY CLEANING MACHINE
- BASEMENT
- BOILER ROOM
- SMOKE STACK

- 0-1' SAMPLE DEPTH
- PCE TETRACHLOROETHENE (ug/kg)
- ND NO DETECT
- ITALICS+* EXCEEDS GROUNDWATER PATHWAY RCL
- BOLD++** EXCEEDS NON-INDUSTRIAL DIRECT CONTACT (0-4') RCL
- ITALICS/BOLD++* EXCEEDS BOTH GW & DIRECT CONTACT RCL
- \*1.5' BASEMENT SAMPLES, DEPTH BELOW GRADE IS 8' PLUS SHOWN DEPTH



**FEHR GRAHAM** ILLINOIS IOWA WISCONSIN  
 ENGINEERING & ENVIRONMENTAL

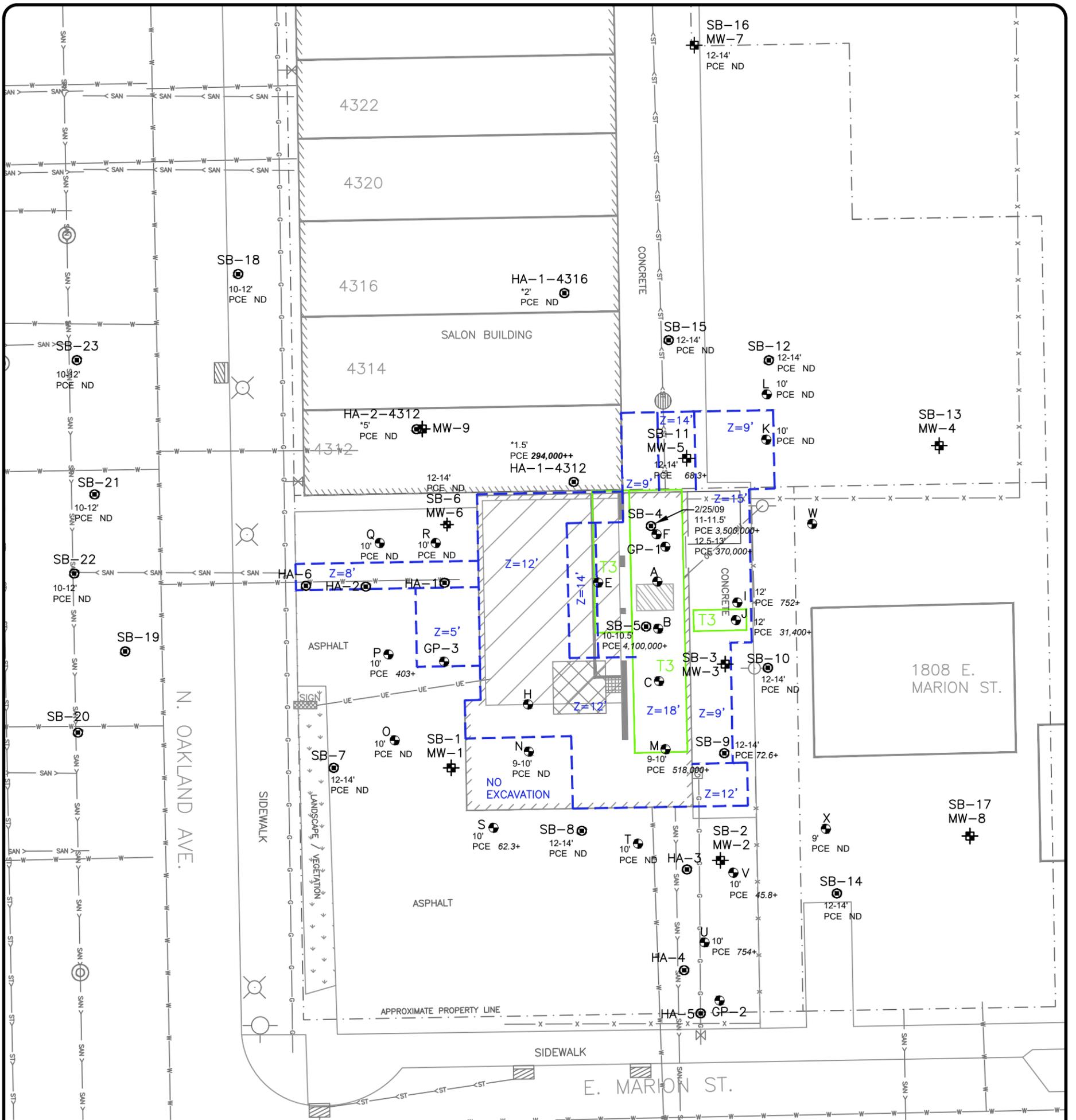
SHOREWOOD QUEENSWAY CLEANERS  
 4300 N. OAKLAND AVE.  
 SHOREWOOD, WI 53211

DRWN: MKH DATE: 03/01/17 APPD: KE

TITLE: **PROPOSED EXCAVATION & TREATED SOIL BOUNDARY w/ SOIL CHEMISTRY 5-9'**

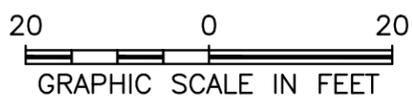
BRRTS: 02-41-552089 JOB NO.: 17-1124 PLOT DATE: 2/7/19

FIGURE: **4C**



### LEGEND

- ⊕ SOIL BORING (ENVIROFORENSICS)
- ⊕ MONITORING WELL / SOIL BORING (ENVIROFORENSICS)
- ⊕ SOIL BORING (ALPHA TERRA ~ FEHR GRAHAM)
- x - FENCE LINE
- T3 9-14' PROPOSED TREATED SOIL EXCAVATION LIMIT
- Z=9' PROPOSED EXCAVATION BOUNDARY & DEPTH
- FORMER DRY CLEANING MACHINE
- BASEMENT
- BOILER ROOM
- SMOKE STACK
- 0-1' SAMPLE DEPTH
- PCE TETRACHLOROETHENE (ug/kg)
- ND NO DETECT
- ITALICS+* EXCEEDS GROUNDWATER PATHWAY RCL
- BOLD++** EXCEEDS NON-INDUSTRIAL DIRECT CONTACT (0-4') RCL
- ITALICS/BOLD++* EXCEEDS BOTH GW & DIRECT CONTACT RCL
- \*1.5' BASEMENT SAMPLES, DEPTH BELOW GRADE IS 8' PLUS SHOWN DEPTH



**FEHR GRAHAM** ILLINOIS IOWA WISCONSIN  
ENGINEERING & ENVIRONMENTAL

SHOREWOOD QUEENSWAY CLEANERS  
4300 N. OAKLAND AVE.  
SHOREWOOD, WI 53211

DRWN: MKH DATE: 03/01/17 APPD: KE

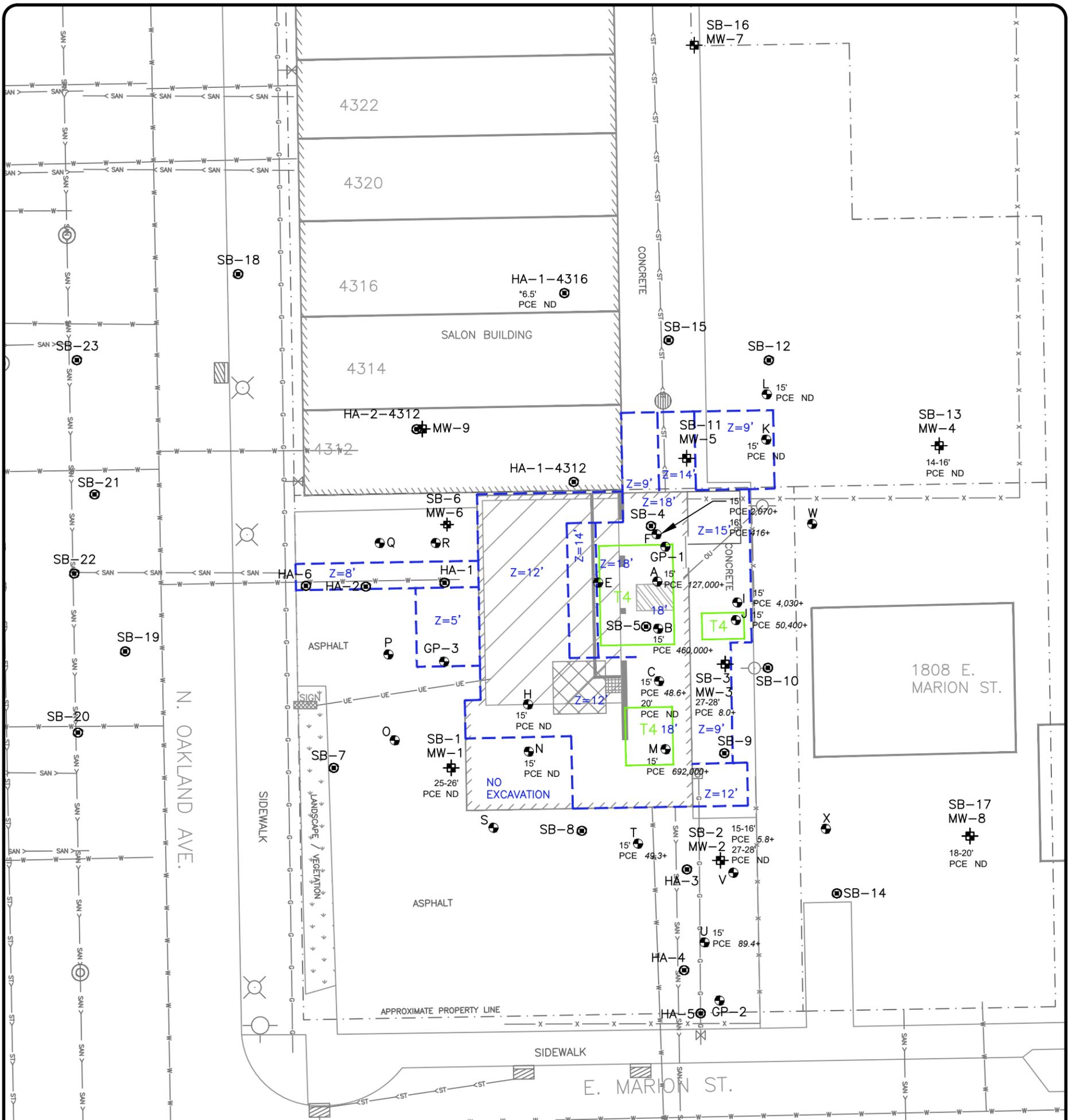
TITLE: PROPOSED EXCAVATION & TREATED SOIL BOUNDARY w/ SOIL CHEMISTRY 9-14'

BRRTS: 02-41-552089

JOB NO.: 17-1124

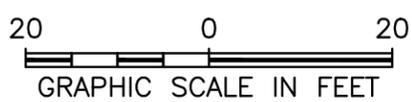
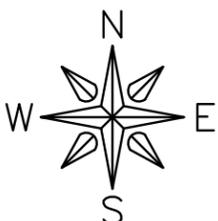
PLOT DATE: 2/7/19

FIGURE: 4D



### LEGEND

- ⊙ SOIL BORING (ENVIROFORENSICS)
- ⊕ MONITORING WELL / SOIL BORING (ENVIROFORENSICS)
- ⊙ SOIL BORING (ALPHA TERRA ~ FEHR GRAHAM)
- x- FENCE LINE
- T4 14-18' PROPOSED TREATED SOIL EXCAVATION LIMIT
- Z=9' PROPOSED EXCAVATION BOUNDARY & DEPTH
- FORMER DRY CLEANING MACHINE
- BASEMENT
- BOILER ROOM
- SMOKE STACK
- 0-1' SAMPLE DEPTH
- PCE TETRACHLOROETHENE (ug/kg)
- ND NO DETECT
- ITALICS+* EXCEEDS GROUNDWATER PATHWAY RCL
- BOLD++** EXCEEDS NON-INDUSTRIAL DIRECT CONTACT (0-4') RCL
- ITALICS/BOLD++* EXCEEDS BOTH GW & DIRECT CONTACT RCL
- \*1.5' BASEMENT SAMPLES, DEPTH BELOW GRADE IS 8' PLUS SHOWN DEPTH



**FEHR GRAHAM** ILLINOIS IOWA WISCONSIN  
ENGINEERING & ENVIRONMENTAL

SHOREWOOD QUEENSWAY CLEANERS  
4300 N. OAKLAND AVE.  
SHOREWOOD, WI 53211

DRWN: MKH DATE: 03/01/17 APPD: KE

TITLE: PROPOSED EXCAVATION & TREATED SOIL BOUNDARY w/ SOIL CHEMISTRY  
14-18'

BRRTS: 02-41-552089

JOB NO.: 17-1124

PLOT DATE: 2/7/19

FIGURE:  
4E



## Attachment A

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**Notice:** This voluntary form is intended as an aid for use by Generators and Responsible Parties in determining whether *contaminated soil or groundwater and wastes* encountered or generated during the remediation of contaminated sites in Wisconsin are or would be listed or characteristic hazardous wastes subject to regulation under ch. 291, Wis. Stats. and chs. NR 600 to 690, Wis. Adm. Code. There are no penalties for failure to provide information requested. Personally identifiable information collected will be used for program management. Wisconsin's Open Records law requires the Department to provide this information upon request [ss. 19.31 - 19.69, Wis. Stats.].

Listing determinations are often particularly difficult in the remedial context because the listings are generally identified by the sources of the hazardous wastes rather than the concentrations of various hazardous constituents. Therefore, analytical testing alone, without information on a waste's source, will not generally produce information that will conclusively indicate whether a given waste is a listed hazardous waste. Generators and Responsible Parties should use available site information such as material safety data sheets (MSDS's), manifests, vouchers, bills of lading, sales and inventory records, accident reports, spill reports, inspection reports, and other available information. It may also be necessary to conduct interviews of current or former personnel who would have knowledge of the processes and hazardous materials used including waste handling or past spills in an effort to ascertain the sources of wastes or contaminants.

Where a person makes a good faith effort to determine if a material is a listed hazardous waste but cannot make such a determination because documentation regarding a source of contamination, contaminant, or waste is unavailable or inconclusive, EPA has stated that one may assume the source, contaminant or waste is not listed hazardous waste and, therefore, provided the material in question does not exhibit a characteristic of hazardous waste, RCRA requirements do not apply.

**Generator Information**

Generator's Name <b>4300 Oakland, LLC, Attn Tom Schafer</b>	Preparer's Name <b>Kendrick Ebbott</b>
Address <b>2551 North Wahl Avenue</b>	Address <b>909 N 8th Street, Suite 101</b>
City, State and ZIP Code <b>Milwaukee, WI 53211</b>	City, State and ZIP Code <b>Sheboygan, WI 53081</b>
Telephone Number <b>414 840-6667</b>	Telephone Number <b>920 453-0700</b>

**Site Information**

Site Name <b>Former Shorewood Queensway Cleaners</b>	Other name(s) site is known by <b>4300 Oakland LLC</b>
Address <b>4300 Oakland Avenue</b>	County <b>Milwaukee</b>
Located in the City, Town or Village ZIP Code <b>Village of Shorewood, 53211</b>	

**Hazardous Waste Determination Information Reviewed**

**Listed Hazardous Waste Determination**

Manifests reviewed <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None Found <input checked="" type="checkbox"/> None Available	Vouchers reviewed <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None Found <input checked="" type="checkbox"/> None Available
Bills of lading reviewed <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None Found <input checked="" type="checkbox"/> None Available	Sales and inventory records reviewed <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None Found <input checked="" type="checkbox"/> None Available
Material safety data sheets <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None Found <input checked="" type="checkbox"/> None Available	Accident reports reviewed <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None Found <input checked="" type="checkbox"/> None Available
Spill reports reviewed <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None Found <input checked="" type="checkbox"/> None Available	Inspection reports reviewed <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None Found <input checked="" type="checkbox"/> None Available
DNR's case files reviewed <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None Found <input checked="" type="checkbox"/> None Available	Interviewed current and/or former employees who are likely to know about the use and/or disposal of the chemical or waste of concern (not just managers). <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None Found <input type="checkbox"/> None Available

**Remediation Site  
Hazardous Waste Determination**

Form 4430-019 (R 4/03)

Page 2 of 2

**Hazardous Waste Determination Information Reviewed (continued)**

Other information considered (provide description)

Yes   
  No   
  None Found   
  None Available

Former owner / operator Shirley Carlson reports that the site commenced operations in 1960. She and her husband acquired the business in 1977, and the building and land in 1983. In 1986 they contracted with Safety Kleen to properly handle dry cleaning waste materials, plus they installed a new solvent recovery dry cleaning machine. These measures significantly limited releases of PCE, and from 1986 on there were significantly fewer releases of PCE. Drycleaning ceased in 2017, when Ms. Carlson closed the business and sold the property.

Based on this information, even though the majority of contamination stems from pre-1986, the released dry cleaning solvent is considered a Listed Hazardous waste based on the source.

We will treat the soil in-situ with Fenton's Reagent and Bio-Available Material (BAM) a pyrolyzed carbon product. The in-situ treatment will reduce the contaminant levels below the industrial direct contact threshold values for PCE. The treatment process will also remove the low levels of trichloroethene (TCE) and vinyl chloride (VC) that may also be present in the soil. Sampling and laboratory testing of total VOCs and TCLP VOCs will be performed. The treated soil total VOC levels must be below direct contact threshold values and TCLP VOC analytical results must pass the threshold values of 0.7 mg/l PCE, 0.5 mg/l TCE, and 0.2 mg/l VC to be considered a contained out soil that can be landfilled as a solid waste in a subtitle D landfill in Wisconsin. If the treated soil passes these limits, it will be removed from the site and landfilled. If it does not pass these threshold values, additional BAM will be added and mixed, and the treated soil will be retested for laboratory analysis until it passes the threshold criteria. This process will be repeated until the soil passes TCLP limits and can be landfilled. Treated soil placed in the drop boxes will be covered with plastic, labeled, and inspected per hazardous waste regulations until testing documents that the treated soil is not hazardous. Ambient vapor monitoring and a safety fact sheet will be provided to the local municipality for sharing of information purposes with the community.

**Characteristic Hazardous Waste Determination**

Identified location(s)

- Borings and Depths
- A 0-0.5' Concrete
- A 2-3'
- B 2-3'
- C 0-0.5' Concrete
- C 8-9'
- E 0-0.5' Concrete
- H 8-9'
- J 7'
- M 0-0.5' Concrete
- M 5-6'

Testing results

**BORING DEPTH AND MATERIAL**  
 Total PCE (mg/kg); TCLP PCE (ug/l)  
 Plan for Handling: LF=Landfill, Treat = Chemically Treat, retest, then landfill if meets criteria

- A 0-0.5' Concrete, 0.542 mg/kg; 13 ug/l LF
- A 2-3' Soil 45.8 mg/kg; 770 ug/l Treat, then LF
- B 2-3' Soil 69.9 mg/kg; 1,100 ug/l Treat, Then LF
- C 0-0.5' Concrete 0.517 mg/kg; 5.9 ug/l LF
- C 8-9' Soil 46.1 mg/kg; 140 ug/l Treat, then LF
- E 0-0.5' Concrete 2.12 mg/kg; 29 ug/l LF
- H 8-9' Soil 5.16 mg/kg; 39 ug/l LF
- J 7' Soil 27.3 mg/kg; 520 ug/l Treat, then LF
- M 0-0.5' Concrete 0.402 mg/kg; <5.0 ug/l LF
- M 5-6' Soil 81.0 mg/kg; 850 ug/l Treat, Then LF

**Certification**

I certify that the information documented above in the "Information reviewed to make a hazardous waste determination" section was developed and used as part of a good faith effort to make a hazardous waste determination. Reasonable diligence was used in collecting the information, evaluating the information, and using the compiled information. I certify that this document is true and correct to the best of my knowledge, and that I have authority to make this certification.

Name and Title      **Kendrick Ebbott, P.G., Branch Manager**

Signature      *Kendrick Ebbott*

Date      **April 24, 2019**

**Table 2**  
**Soil Analytical Results: Total and TCLP Values for VOCs**  
 Shorewood Queensway Cleaners  
 4300 N. Oakland Ave., Shorewood, WI 53211  
 BRRTS# 02-41-552089

Sample ID		PRE-EXCAVATION RESULTS FROM BORINGS														
		A		B		C		E	H	J	M					
Date		1/16/18		1/16/18		1/15/18		1/16/18	1/16/18	1/15/18	1/15/18					
Depth		0-0.5'	2-3'	2-3'	0-0.5'	8-9'	0-0.5'	8-9'	7'	0-0.5'	5-6'					
Description		CONC.	CLAY	CLAY	CONC.	CLAY	CONC.	CLAY	CLAY	CONC.	CLAY					
Depth from Seasonal Low Water Table (ft)		7'	7'	7'	7'	7'	7'	7'	7'	7'	7'					
Saturated (S) or Unsaturated (U)		U	U	U	U	S	U	S	S	U	U					
PID Reading		--	27.2	19.1	--	2.4	--	0.0	2.2	--	20.3					
Notes																
		Landfill	Treat	Treat	Landfill	Treat	Landfill	Landfill	Treat	Landfill	Treat					
TOTAL Tetrachloroethene (PCE)	ug/kg			60,000	153,000	33,000	542	45,800	69,900	517	46,100	2,120	5,160	27,300	402	81,000
TCLP Tetrachloroethene (PCE)	(ug/L)		700				13	770	1,100	5.9 J	140	29	39	520	<5.0	850
TOTAL Trichloroethene (TCE)	ug/kg				8810	1,300	<25.0	<200	<250	<25.0	<200	<25.0	129	<132	<25.0	<500
TCLP Trichloroethene (TCE)	(ug/L)		500				<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	3.6 J	<3.3	<3.3	<6.6
TOTAL Vinyl Chloride	ug/kg				2080	67	<25.0	<200	<250	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<500
TCLP Vinyl Chloride	(ug/L)		200				<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<3.5
TCLP Benzene	(ug/L)		500				<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
TCLP Carbon Tetrachloride	(ug/L)		500				<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
TCLP Chlorobenzene	(ug/L)		100,000				<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
TCLP Chloroform	(ug/L)		6,000				<25	<25	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<50
TCLP 1,2-Dichloroethane	(ug/L)		500				<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<3.4
TCLP 1,1-Dichloroethene	(ug/L)		700				<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2
TCLP 2-Butanone (MEK)	(ug/L)		200,000				<30	<30	<30	<30	<30	47 J	<30	<30	<30	<60

Exceedance Highlights:

**BOLD Red** font indicates individual or cumulative DC RCL  
**\*B1\***: Cumulative exceedance (HI > 1), eventhough no  
*Italic Red* font indicates GW RCL Exceedance per DNR

Notes:

**BOLD** = Exceeds Regulatory Levels  
 NS = No standard established  
 -- = Not analyzed for parameter  
 NR = Not Reported  
 RCL = Residual Contaminant Level  
 DC = Direct Contact  
 Landfill = Can landfill directly upon excavation  
 Treat = Requires treatment and retesting prior to landfill disposal

January 26, 2018

Ken Ebbott  
Fehr Graham Engineering and Environmental  
1237 Pilgrim Rd  
Plymouth, WI 53073

RE: Project: 17-1124 SHOREWOOD CLEANERS  
Pace Project No.: 40163585

Dear Ken Ebbott:

Enclosed are the analytical results for sample(s) received by the laboratory on January 17, 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,



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

Enclosures

cc: Megan Hansen, Fehr Graham Engineering and  
Environmental



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

---

### 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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## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: A 0-0.5' Lab ID: 40163585001 Collected: 01/16/18 09:40 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Benzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	71-43-2	W
Bromobenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	108-86-1	W
Bromochloromethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	74-97-5	W
Bromodichloromethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	75-27-4	W
Bromoform	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	75-25-2	W
Bromomethane	<69.9	ug/kg	250	69.9	1	01/19/18 06:30	01/22/18 16:06	74-83-9	W
n-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	104-51-8	W
sec-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	135-98-8	W
tert-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	98-06-6	W
Carbon tetrachloride	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	56-23-5	W
Chlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	108-90-7	W
Chloroethane	<67.0	ug/kg	250	67.0	1	01/19/18 06:30	01/22/18 16:06	75-00-3	W
Chloroform	<46.4	ug/kg	250	46.4	1	01/19/18 06:30	01/22/18 16:06	67-66-3	W
Chloromethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	74-87-3	W
2-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	95-49-8	W
4-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	106-43-4	W
1,2-Dibromo-3-chloropropane	<91.2	ug/kg	250	91.2	1	01/19/18 06:30	01/22/18 16:06	96-12-8	W
Dibromochloromethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	124-48-1	W
1,2-Dibromoethane (EDB)	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	106-93-4	W
Dibromomethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	74-95-3	W
1,2-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	95-50-1	W
1,3-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	541-73-1	W
1,4-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	106-46-7	W
Dichlorodifluoromethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	75-71-8	W
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	75-34-3	W
1,2-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	107-06-2	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	75-35-4	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	156-59-2	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	156-60-5	W
1,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	78-87-5	W
1,3-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	142-28-9	W
2,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	594-20-7	W
1,1-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	563-58-6	W
cis-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	10061-01-5	W
trans-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	10061-02-6	W
Diisopropyl ether	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	108-20-3	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	100-41-4	W
Hexachloro-1,3-butadiene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	87-68-3	W
Isopropylbenzene (Cumene)	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	98-82-8	W
p-Isopropyltoluene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	99-87-6	W
Methylene Chloride	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	75-09-2	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	01/19/18 06:30	01/22/18 16:06	91-20-3	W
n-Propylbenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	103-65-1	W
Styrene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	100-42-5	W

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: A 0-0.5' Lab ID: 40163585001 Collected: 01/16/18 09:40 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
1,1,1,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	630-20-6	W
1,1,2,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	79-34-5	W
Tetrachloroethene	542	ug/kg	60.4	25.2	1	01/19/18 06:30	01/22/18 16:06	127-18-4	
Toluene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	108-88-3	W
1,2,3-Trichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	87-61-6	W
1,2,4-Trichlorobenzene	<47.6	ug/kg	250	47.6	1	01/19/18 06:30	01/22/18 16:06	120-82-1	W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	79-00-5	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	79-01-6	W
Trichlorofluoromethane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	75-69-4	W
1,2,3-Trichloropropane	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	96-18-4	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	95-63-6	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	108-67-8	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	75-01-4	W
m&p-Xylene	<50.0	ug/kg	120	50.0	1	01/19/18 06:30	01/22/18 16:06	179601-23-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	01/19/18 06:30	01/22/18 16:06	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	99	%	68-130		1	01/19/18 06:30	01/22/18 16:06	1868-53-7	
Toluene-d8 (S)	127	%	68-149		1	01/19/18 06:30	01/22/18 16:06	2037-26-5	
4-Bromofluorobenzene (S)	125	%	58-141		1	01/19/18 06:30	01/22/18 16:06	460-00-4	
<b>8260 MSV TCLP</b>									
Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 01/18/18 11:50									
Benzene	<0.0050	mg/L	0.010	0.0050	10		01/19/18 12:06	71-43-2	
2-Butanone (MEK)	<0.030	mg/L	0.20	0.030	10		01/19/18 12:06	78-93-3	
Carbon tetrachloride	<0.0050	mg/L	0.010	0.0050	10		01/19/18 12:06	56-23-5	
Chlorobenzene	<0.0050	mg/L	0.010	0.0050	10		01/19/18 12:06	108-90-7	
Chloroform	<0.025	mg/L	0.050	0.025	10		01/19/18 12:06	67-66-3	
1,2-Dichloroethane	<0.0017	mg/L	0.010	0.0017	10		01/19/18 12:06	107-06-2	
1,1-Dichloroethene	<0.0041	mg/L	0.010	0.0041	10		01/19/18 12:06	75-35-4	
Tetrachloroethene	0.013	mg/L	0.010	0.0050	10		01/19/18 12:06	127-18-4	
Trichloroethene	<0.0033	mg/L	0.010	0.0033	10		01/19/18 12:06	79-01-6	
Vinyl chloride	<0.0018	mg/L	0.010	0.0018	10		01/19/18 12:06	75-01-4	
<b>Surrogates</b>									
Toluene-d8 (S)	92	%	70-130		10		01/19/18 12:06	2037-26-5	
4-Bromofluorobenzene (S)	78	%	61-130		10		01/19/18 12:06	460-00-4	
Dibromofluoromethane (S)	110	%	67-130		10		01/19/18 12:06	1868-53-7	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	0.70	%	0.10	0.10	1		01/22/18 11:15		

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: A 2-3' Lab ID: 40163585002 Collected: 01/16/18 09:50 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	71-43-2	W
Bromobenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	108-86-1	W
Bromochloromethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	74-97-5	W
Bromodichloromethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	75-27-4	W
Bromoform	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	75-25-2	W
Bromomethane	<559	ug/kg	2000	559	8	01/18/18 08:00	01/18/18 15:33	74-83-9	W
n-Butylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	104-51-8	W
sec-Butylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	135-98-8	W
tert-Butylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	98-06-6	W
Carbon tetrachloride	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	56-23-5	W
Chlorobenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	108-90-7	W
Chloroethane	<536	ug/kg	2000	536	8	01/18/18 08:00	01/18/18 15:33	75-00-3	W
Chloroform	<372	ug/kg	2000	372	8	01/18/18 08:00	01/18/18 15:33	67-66-3	W
Chloromethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	74-87-3	W
2-Chlorotoluene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	95-49-8	W
4-Chlorotoluene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	106-43-4	W
1,2-Dibromo-3-chloropropane	<730	ug/kg	2000	730	8	01/18/18 08:00	01/18/18 15:33	96-12-8	W
Dibromochloromethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	124-48-1	W
1,2-Dibromoethane (EDB)	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	106-93-4	W
Dibromomethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	74-95-3	W
1,2-Dichlorobenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	95-50-1	W
1,3-Dichlorobenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	541-73-1	W
1,4-Dichlorobenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	106-46-7	W
Dichlorodifluoromethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	75-71-8	W
1,1-Dichloroethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	75-34-3	W
1,2-Dichloroethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	107-06-2	W
1,1-Dichloroethene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	75-35-4	W
cis-1,2-Dichloroethene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	156-59-2	W
trans-1,2-Dichloroethene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	156-60-5	W
1,2-Dichloropropane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	78-87-5	W
1,3-Dichloropropane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	142-28-9	W
2,2-Dichloropropane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	594-20-7	W
1,1-Dichloropropene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	563-58-6	W
cis-1,3-Dichloropropene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	10061-01-5	W
trans-1,3-Dichloropropene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	10061-02-6	W
Diisopropyl ether	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	108-20-3	W
Ethylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	100-41-4	W
Hexachloro-1,3-butadiene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	87-68-3	W
Isopropylbenzene (Cumene)	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	98-82-8	W
p-Isopropyltoluene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	99-87-6	W
Methylene Chloride	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	75-09-2	W
Methyl-tert-butyl ether	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	1634-04-4	W
Naphthalene	<320	ug/kg	2000	320	8	01/18/18 08:00	01/18/18 15:33	91-20-3	W
n-Propylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	103-65-1	W
Styrene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	100-42-5	W

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: A 2-3' Lab ID: 40163585002 Collected: 01/16/18 09:50 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	630-20-6	W
1,1,2,2-Tetrachloroethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	79-34-5	W
Tetrachloroethene	45800	ug/kg	555	231	8	01/18/18 08:00	01/18/18 15:33	127-18-4	
Toluene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	108-88-3	W
1,2,3-Trichlorobenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	87-61-6	W
1,2,4-Trichlorobenzene	<380	ug/kg	2000	380	8	01/18/18 08:00	01/18/18 15:33	120-82-1	L2,W
1,1,1-Trichloroethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	71-55-6	W
1,1,2-Trichloroethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	79-00-5	W
Trichloroethene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	79-01-6	W
Trichlorofluoromethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	75-69-4	W
1,2,3-Trichloropropane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	96-18-4	W
1,2,4-Trimethylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	95-63-6	W
1,3,5-Trimethylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	108-67-8	W
Vinyl chloride	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	75-01-4	W
m&p-Xylene	<400	ug/kg	960	400	8	01/18/18 08:00	01/18/18 15:33	179601-23-1	W
o-Xylene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 15:33	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	131	%	68-130		8	01/18/18 08:00	01/18/18 15:33	1868-53-7	1q
Toluene-d8 (S)	96	%	68-149		8	01/18/18 08:00	01/18/18 15:33	2037-26-5	
4-Bromofluorobenzene (S)	81	%	58-141		8	01/18/18 08:00	01/18/18 15:33	460-00-4	
<b>8260 MSV TCLP</b>		Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 01/18/18 11:50							
Benzene	<0.0050	mg/L	0.010	0.0050	10		01/22/18 08:52	71-43-2	
2-Butanone (MEK)	<0.030	mg/L	0.20	0.030	10		01/22/18 08:52	78-93-3	
Carbon tetrachloride	<0.0050	mg/L	0.010	0.0050	10		01/22/18 08:52	56-23-5	
Chlorobenzene	<0.0050	mg/L	0.010	0.0050	10		01/22/18 08:52	108-90-7	
Chloroform	<0.025	mg/L	0.050	0.025	10		01/22/18 08:52	67-66-3	
1,2-Dichloroethane	<0.0017	mg/L	0.010	0.0017	10		01/22/18 08:52	107-06-2	
1,1-Dichloroethene	<0.0041	mg/L	0.010	0.0041	10		01/22/18 08:52	75-35-4	
Tetrachloroethene	0.77	mg/L	0.010	0.0050	10		01/22/18 08:52	127-18-4	
Trichloroethene	<0.0033	mg/L	0.010	0.0033	10		01/22/18 08:52	79-01-6	
Vinyl chloride	<0.0018	mg/L	0.010	0.0018	10		01/22/18 08:52	75-01-4	
<b>Surrogates</b>									
Toluene-d8 (S)	87	%	70-130		10		01/22/18 08:52	2037-26-5	
4-Bromofluorobenzene (S)	80	%	61-130		10		01/22/18 08:52	460-00-4	
Dibromofluoromethane (S)	104	%	67-130		10		01/22/18 08:52	1868-53-7	
<b>Percent Moisture</b>		Analytical Method: ASTM D2974-87							
Percent Moisture	13.5	%	0.10	0.10	1		01/22/18 11:15		

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: A 15' Lab ID: 40163585003 Collected: 01/16/18 10:05 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	71-43-2	W
Bromobenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	108-86-1	W
Bromochloromethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	74-97-5	W
Bromodichloromethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	75-27-4	W
Bromoform	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	75-25-2	W
Bromomethane	<1400	ug/kg	5000	1400	20	01/18/18 08:00	01/18/18 15:56	74-83-9	W
n-Butylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	104-51-8	W
sec-Butylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	135-98-8	W
tert-Butylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	98-06-6	W
Carbon tetrachloride	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	56-23-5	W
Chlorobenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	108-90-7	W
Chloroethane	<1340	ug/kg	5000	1340	20	01/18/18 08:00	01/18/18 15:56	75-00-3	W
Chloroform	<929	ug/kg	5000	929	20	01/18/18 08:00	01/18/18 15:56	67-66-3	W
Chloromethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	74-87-3	W
2-Chlorotoluene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	95-49-8	W
4-Chlorotoluene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	106-43-4	W
1,2-Dibromo-3-chloropropane	<1820	ug/kg	5000	1820	20	01/18/18 08:00	01/18/18 15:56	96-12-8	W
Dibromochloromethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	124-48-1	W
1,2-Dibromoethane (EDB)	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	106-93-4	W
Dibromomethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	74-95-3	W
1,2-Dichlorobenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	95-50-1	W
1,3-Dichlorobenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	541-73-1	W
1,4-Dichlorobenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	106-46-7	W
Dichlorodifluoromethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	75-71-8	W
1,1-Dichloroethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	75-34-3	W
1,2-Dichloroethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	107-06-2	W
1,1-Dichloroethene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	75-35-4	W
cis-1,2-Dichloroethene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	156-59-2	W
trans-1,2-Dichloroethene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	156-60-5	W
1,2-Dichloropropane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	78-87-5	W
1,3-Dichloropropane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	142-28-9	W
2,2-Dichloropropane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	594-20-7	W
1,1-Dichloropropene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	563-58-6	W
cis-1,3-Dichloropropene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	10061-01-5	W
trans-1,3-Dichloropropene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	10061-02-6	W
Diisopropyl ether	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	108-20-3	W
Ethylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	100-41-4	W
Hexachloro-1,3-butadiene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	87-68-3	W
Isopropylbenzene (Cumene)	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	98-82-8	W
p-Isopropyltoluene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	99-87-6	W
Methylene Chloride	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	75-09-2	W
Methyl-tert-butyl ether	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	1634-04-4	W
Naphthalene	<801	ug/kg	5000	801	20	01/18/18 08:00	01/18/18 15:56	91-20-3	W
n-Propylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	103-65-1	W
Styrene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	100-42-5	W

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: A 15' Lab ID: 40163585003 Collected: 01/16/18 10:05 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	630-20-6	W
1,1,2,2-Tetrachloroethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	79-34-5	W
Tetrachloroethene	127000	ug/kg	1460	608	20	01/18/18 08:00	01/18/18 15:56	127-18-4	
Toluene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	108-88-3	W
1,2,3-Trichlorobenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	87-61-6	W
1,2,4-Trichlorobenzene	<951	ug/kg	5000	951	20	01/18/18 08:00	01/18/18 15:56	120-82-1	L2,W
1,1,1-Trichloroethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	71-55-6	W
1,1,2-Trichloroethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	79-00-5	W
Trichloroethene	845J	ug/kg	1460	608	20	01/18/18 08:00	01/18/18 15:56	79-01-6	
Trichlorofluoromethane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	75-69-4	W
1,2,3-Trichloropropane	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	96-18-4	W
1,2,4-Trimethylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	95-63-6	W
1,3,5-Trimethylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	108-67-8	W
Vinyl chloride	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	75-01-4	W
m&p-Xylene	<1000	ug/kg	2400	1000	20	01/18/18 08:00	01/18/18 15:56	179601-23-1	W
o-Xylene	<500	ug/kg	1200	500	20	01/18/18 08:00	01/18/18 15:56	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	0	%	68-130		20	01/18/18 08:00	01/18/18 15:56	1868-53-7	S4
Toluene-d8 (S)	0	%	68-149		20	01/18/18 08:00	01/18/18 15:56	2037-26-5	S4
4-Bromofluorobenzene (S)	0	%	58-141		20	01/18/18 08:00	01/18/18 15:56	460-00-4	S4
<b>Percent Moisture</b>		Analytical Method: ASTM D2974-87							
Percent Moisture	17.8	%	0.10	0.10	1		01/22/18 11:15		

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: B 0-0.5' Lab ID: 40163585004 Collected: 01/16/18 10:15 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	71-43-2	W
Bromobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	108-86-1	W
Bromochloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	74-97-5	W
Bromodichloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	75-27-4	W
Bromoform	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	75-25-2	W
Bromomethane	<69.9	ug/kg	250	69.9	1	01/18/18 08:00	01/19/18 10:24	74-83-9	W
n-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	104-51-8	W
sec-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	135-98-8	W
tert-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	98-06-6	W
Carbon tetrachloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	56-23-5	W
Chlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	108-90-7	W
Chloroethane	<67.0	ug/kg	250	67.0	1	01/18/18 08:00	01/19/18 10:24	75-00-3	W
Chloroform	<46.4	ug/kg	250	46.4	1	01/18/18 08:00	01/19/18 10:24	67-66-3	W
Chloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	74-87-3	W
2-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	95-49-8	W
4-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	106-43-4	W
1,2-Dibromo-3-chloropropane	<91.2	ug/kg	250	91.2	1	01/18/18 08:00	01/19/18 10:24	96-12-8	W
Dibromochloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	124-48-1	W
1,2-Dibromoethane (EDB)	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	106-93-4	W
Dibromomethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	74-95-3	W
1,2-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	95-50-1	W
1,3-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	541-73-1	W
1,4-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	106-46-7	W
Dichlorodifluoromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	75-71-8	W
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	75-34-3	W
1,2-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	107-06-2	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	75-35-4	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	156-59-2	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	156-60-5	W
1,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	78-87-5	W
1,3-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	142-28-9	W
2,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	594-20-7	W
1,1-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	563-58-6	W
cis-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	10061-01-5	W
trans-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	10061-02-6	W
Diisopropyl ether	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	108-20-3	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	100-41-4	W
Hexachloro-1,3-butadiene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	87-68-3	W
Isopropylbenzene (Cumene)	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	98-82-8	W
p-Isopropyltoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	99-87-6	W
Methylene Chloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	75-09-2	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	01/18/18 08:00	01/19/18 10:24	91-20-3	W
n-Propylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	103-65-1	W
Styrene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	100-42-5	W

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### ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

**Sample: B 0-0.5'**      **Lab ID: 40163585004**      Collected: 01/16/18 10:15      Received: 01/17/18 13:00      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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
1,1,1,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	630-20-6	W
1,1,2,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	79-34-5	W
Tetrachloroethene	679	ug/kg	63.1	26.3	1	01/18/18 08:00	01/19/18 10:24	127-18-4	
Toluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	108-88-3	W
1,2,3-Trichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	87-61-6	W
1,2,4-Trichlorobenzene	<47.6	ug/kg	250	47.6	1	01/18/18 08:00	01/19/18 10:24	120-82-1	L2,W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	79-00-5	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	79-01-6	W
Trichlorofluoromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	75-69-4	W
1,2,3-Trichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	96-18-4	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	95-63-6	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	108-67-8	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	75-01-4	W
m&p-Xylene	<50.0	ug/kg	120	50.0	1	01/18/18 08:00	01/19/18 10:24	179601-23-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:24	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	139	%	68-130		1	01/18/18 08:00	01/19/18 10:24	1868-53-7	S1
Toluene-d8 (S)	139	%	68-149		1	01/18/18 08:00	01/19/18 10:24	2037-26-5	
4-Bromofluorobenzene (S)	121	%	58-141		1	01/18/18 08:00	01/19/18 10:24	460-00-4	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	5.0	%	0.10	0.10	1		01/22/18 11:15		

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

**Sample: B 2-3'**      **Lab ID: 40163585005**      Collected: 01/16/18 10:20      Received: 01/17/18 13:00      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
<b>8260 MSV Med Level Normal List</b> Analytical Method: EPA 8260      Preparation Method: EPA 5035/5030B									
Benzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	71-43-2	W
Bromobenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	108-86-1	W
Bromochloromethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	74-97-5	W
Bromodichloromethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	75-27-4	W
Bromoform	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	75-25-2	W
Bromomethane	<699	ug/kg	2500	699	10	01/18/18 08:00	01/19/18 12:17	74-83-9	W
n-Butylbenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	104-51-8	W
sec-Butylbenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	135-98-8	W
tert-Butylbenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	98-06-6	W
Carbon tetrachloride	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	56-23-5	W
Chlorobenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	108-90-7	W
Chloroethane	<670	ug/kg	2500	670	10	01/18/18 08:00	01/19/18 12:17	75-00-3	W
Chloroform	<464	ug/kg	2500	464	10	01/18/18 08:00	01/19/18 12:17	67-66-3	W
Chloromethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	74-87-3	W
2-Chlorotoluene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	95-49-8	W
4-Chlorotoluene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	106-43-4	W
1,2-Dibromo-3-chloropropane	<912	ug/kg	2500	912	10	01/18/18 08:00	01/19/18 12:17	96-12-8	W
Dibromochloromethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	124-48-1	W
1,2-Dibromoethane (EDB)	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	106-93-4	W
Dibromomethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	74-95-3	W
1,2-Dichlorobenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	95-50-1	W
1,3-Dichlorobenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	541-73-1	W
1,4-Dichlorobenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	106-46-7	W
Dichlorodifluoromethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	75-71-8	W
1,1-Dichloroethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	75-34-3	W
1,2-Dichloroethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	107-06-2	W
1,1-Dichloroethene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	75-35-4	W
cis-1,2-Dichloroethene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	156-59-2	W
trans-1,2-Dichloroethene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	156-60-5	W
1,2-Dichloropropane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	78-87-5	W
1,3-Dichloropropane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	142-28-9	W
2,2-Dichloropropane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	594-20-7	W
1,1-Dichloropropene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	563-58-6	W
cis-1,3-Dichloropropene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	10061-01-5	W
trans-1,3-Dichloropropene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	10061-02-6	W
Diisopropyl ether	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	108-20-3	W
Ethylbenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	100-41-4	W
Hexachloro-1,3-butadiene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	87-68-3	W
Isopropylbenzene (Cumene)	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	98-82-8	W
p-Isopropyltoluene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	99-87-6	W
Methylene Chloride	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	75-09-2	W
Methyl-tert-butyl ether	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	1634-04-4	W
Naphthalene	<400	ug/kg	2500	400	10	01/18/18 08:00	01/19/18 12:17	91-20-3	W
n-Propylbenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	103-65-1	W
Styrene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	100-42-5	W

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### ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

**Sample: B 2-3'** Lab ID: 40163585005 Collected: 01/16/18 10:20 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b> Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
1,1,1,2-Tetrachloroethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	630-20-6	W
1,1,2,2-Tetrachloroethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	79-34-5	W
Tetrachloroethene	69900	ug/kg	699	291	10	01/18/18 08:00	01/19/18 12:17	127-18-4	
Toluene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	108-88-3	W
1,2,3-Trichlorobenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	87-61-6	W
1,2,4-Trichlorobenzene	<476	ug/kg	2500	476	10	01/18/18 08:00	01/19/18 12:17	120-82-1	L2,W
1,1,1-Trichloroethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	71-55-6	W
1,1,2-Trichloroethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	79-00-5	W
Trichloroethene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	79-01-6	W
Trichlorofluoromethane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	75-69-4	W
1,2,3-Trichloropropane	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	96-18-4	W
1,2,4-Trimethylbenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	95-63-6	W
1,3,5-Trimethylbenzene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	108-67-8	W
Vinyl chloride	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	75-01-4	W
m&p-Xylene	<500	ug/kg	1200	500	10	01/18/18 08:00	01/19/18 12:17	179601-23-1	W
o-Xylene	<250	ug/kg	600	250	10	01/18/18 08:00	01/19/18 12:17	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	139	%	68-130		10	01/18/18 08:00	01/19/18 12:17	1868-53-7	S1
Toluene-d8 (S)	96	%	68-149		10	01/18/18 08:00	01/19/18 12:17	2037-26-5	
4-Bromofluorobenzene (S)	81	%	58-141		10	01/18/18 08:00	01/19/18 12:17	460-00-4	
<b>8260 MSV TCLP</b> Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 01/18/18 11:50									
Benzene	<0.0050	mg/L	0.010	0.0050	10		01/22/18 09:15	71-43-2	
2-Butanone (MEK)	<0.030	mg/L	0.20	0.030	10		01/22/18 09:15	78-93-3	
Carbon tetrachloride	<0.0050	mg/L	0.010	0.0050	10		01/22/18 09:15	56-23-5	
Chlorobenzene	<0.0050	mg/L	0.010	0.0050	10		01/22/18 09:15	108-90-7	
Chloroform	<0.025	mg/L	0.050	0.025	10		01/22/18 09:15	67-66-3	
1,2-Dichloroethane	<0.0017	mg/L	0.010	0.0017	10		01/22/18 09:15	107-06-2	
1,1-Dichloroethene	<0.0041	mg/L	0.010	0.0041	10		01/22/18 09:15	75-35-4	
Tetrachloroethene	1.1	mg/L	0.010	0.0050	10		01/22/18 09:15	127-18-4	
Trichloroethene	<0.0033	mg/L	0.010	0.0033	10		01/22/18 09:15	79-01-6	
Vinyl chloride	<0.0018	mg/L	0.010	0.0018	10		01/22/18 09:15	75-01-4	
<b>Surrogates</b>									
Toluene-d8 (S)	93	%	70-130		10		01/22/18 09:15	2037-26-5	
4-Bromofluorobenzene (S)	79	%	61-130		10		01/22/18 09:15	460-00-4	
Dibromofluoromethane (S)	109	%	67-130		10		01/22/18 09:15	1868-53-7	
<b>Percent Moisture</b> Analytical Method: ASTM D2974-87									
Percent Moisture	14.2	%	0.10	0.10	1		01/22/18 11:15		

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: C 0-0.5' Lab ID: 40163585007 Collected: 01/15/18 10:40 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	71-43-2	W
Bromobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	108-86-1	W
Bromochloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	74-97-5	W
Bromodichloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	75-27-4	W
Bromoform	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	75-25-2	W
Bromomethane	<69.9	ug/kg	250	69.9	1	01/18/18 08:00	01/18/18 15:11	74-83-9	W
n-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	104-51-8	W
sec-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	135-98-8	W
tert-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	98-06-6	W
Carbon tetrachloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	56-23-5	W
Chlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	108-90-7	W
Chloroethane	<67.0	ug/kg	250	67.0	1	01/18/18 08:00	01/18/18 15:11	75-00-3	W
Chloroform	<46.4	ug/kg	250	46.4	1	01/18/18 08:00	01/18/18 15:11	67-66-3	W
Chloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	74-87-3	W
2-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	95-49-8	W
4-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	106-43-4	W
1,2-Dibromo-3-chloropropane	<91.2	ug/kg	250	91.2	1	01/18/18 08:00	01/18/18 15:11	96-12-8	W
Dibromochloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	124-48-1	W
1,2-Dibromoethane (EDB)	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	106-93-4	W
Dibromomethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	74-95-3	W
1,2-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	95-50-1	W
1,3-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	541-73-1	W
1,4-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	106-46-7	W
Dichlorodifluoromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	75-71-8	W
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	75-34-3	W
1,2-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	107-06-2	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	75-35-4	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	156-59-2	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	156-60-5	W
1,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	78-87-5	W
1,3-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	142-28-9	W
2,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	594-20-7	W
1,1-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	563-58-6	W
cis-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	10061-01-5	W
trans-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	10061-02-6	W
Diisopropyl ether	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	108-20-3	W
Ethylbenzene	46.4J	ug/kg	60.7	25.3	1	01/18/18 08:00	01/18/18 15:11	100-41-4	
Hexachloro-1,3-butadiene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	87-68-3	W
Isopropylbenzene (Cumene)	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	98-82-8	W
p-Isopropyltoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	99-87-6	W
Methylene Chloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	75-09-2	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	01/18/18 08:00	01/18/18 15:11	91-20-3	W
n-Propylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	103-65-1	W
Styrene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	100-42-5	W

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS  
Pace Project No.: 40163585

Sample: C 0-0.5' Lab ID: 40163585007 Collected: 01/15/18 10:40 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
1,1,1,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	630-20-6	W
1,1,2,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	79-34-5	W
Tetrachloroethene	517	ug/kg	60.7	25.3	1	01/18/18 08:00	01/18/18 15:11	127-18-4	
Toluene	390	ug/kg	60.7	25.3	1	01/18/18 08:00	01/18/18 15:11	108-88-3	
1,2,3-Trichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	87-61-6	W
1,2,4-Trichlorobenzene	<47.6	ug/kg	250	47.6	1	01/18/18 08:00	01/18/18 15:11	120-82-1	L2,W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	79-00-5	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	79-01-6	W
Trichlorofluoromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	75-69-4	W
1,2,3-Trichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	96-18-4	W
1,2,4-Trimethylbenzene	50.2J	ug/kg	60.7	25.3	1	01/18/18 08:00	01/18/18 15:11	95-63-6	
1,3,5-Trimethylbenzene	26.0J	ug/kg	60.7	25.3	1	01/18/18 08:00	01/18/18 15:11	108-67-8	
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/18/18 15:11	75-01-4	W
m&p-Xylene	229	ug/kg	121	50.6	1	01/18/18 08:00	01/18/18 15:11	179601-23-1	
o-Xylene	90.4	ug/kg	60.7	25.3	1	01/18/18 08:00	01/18/18 15:11	95-47-6	
<b>Surrogates</b>									
Dibromofluoromethane (S)	124	%	68-130		1	01/18/18 08:00	01/18/18 15:11	1868-53-7	
Toluene-d8 (S)	117	%	68-149		1	01/18/18 08:00	01/18/18 15:11	2037-26-5	
4-Bromofluorobenzene (S)	104	%	58-141		1	01/18/18 08:00	01/18/18 15:11	460-00-4	
<b>8260 MSV TCLP</b>									
Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 01/18/18 11:50									
Benzene	<0.0050	mg/L	0.010	0.0050	10		01/19/18 12:32	71-43-2	
2-Butanone (MEK)	<0.030	mg/L	0.20	0.030	10		01/19/18 12:32	78-93-3	
Carbon tetrachloride	<0.0050	mg/L	0.010	0.0050	10		01/19/18 12:32	56-23-5	
Chlorobenzene	<0.0050	mg/L	0.010	0.0050	10		01/19/18 12:32	108-90-7	
Chloroform	<0.025	mg/L	0.050	0.025	10		01/19/18 12:32	67-66-3	
1,2-Dichloroethane	<0.0017	mg/L	0.010	0.0017	10		01/19/18 12:32	107-06-2	
1,1-Dichloroethene	<0.0041	mg/L	0.010	0.0041	10		01/19/18 12:32	75-35-4	
Tetrachloroethene	0.0059J	mg/L	0.010	0.0050	10		01/19/18 12:32	127-18-4	
Trichloroethene	<0.0033	mg/L	0.010	0.0033	10		01/19/18 12:32	79-01-6	
Vinyl chloride	<0.0018	mg/L	0.010	0.0018	10		01/19/18 12:32	75-01-4	
<b>Surrogates</b>									
Toluene-d8 (S)	96	%	70-130		10		01/19/18 12:32	2037-26-5	
4-Bromofluorobenzene (S)	82	%	61-130		10		01/19/18 12:32	460-00-4	
Dibromofluoromethane (S)	112	%	67-130		10		01/19/18 12:32	1868-53-7	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	1.2	%	0.10	0.10	1		01/22/18 11:15		

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### ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

**Sample: C 8-9'** Lab ID: 40163585009 Collected: 01/15/18 11:10 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	71-43-2	W
Bromobenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	108-86-1	W
Bromochloromethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	74-97-5	W
Bromodichloromethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	75-27-4	W
Bromoform	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	75-25-2	W
Bromomethane	<559	ug/kg	2000	559	8	01/18/18 08:00	01/18/18 17:26	74-83-9	W
n-Butylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	104-51-8	W
sec-Butylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	135-98-8	W
tert-Butylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	98-06-6	W
Carbon tetrachloride	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	56-23-5	W
Chlorobenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	108-90-7	W
Chloroethane	<536	ug/kg	2000	536	8	01/18/18 08:00	01/18/18 17:26	75-00-3	W
Chloroform	<372	ug/kg	2000	372	8	01/18/18 08:00	01/18/18 17:26	67-66-3	W
Chloromethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	74-87-3	W
2-Chlorotoluene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	95-49-8	W
4-Chlorotoluene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	106-43-4	W
1,2-Dibromo-3-chloropropane	<730	ug/kg	2000	730	8	01/18/18 08:00	01/18/18 17:26	96-12-8	W
Dibromochloromethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	124-48-1	W
1,2-Dibromoethane (EDB)	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	106-93-4	W
Dibromomethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	74-95-3	W
1,2-Dichlorobenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	95-50-1	W
1,3-Dichlorobenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	541-73-1	W
1,4-Dichlorobenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	106-46-7	W
Dichlorodifluoromethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	75-71-8	W
1,1-Dichloroethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	75-34-3	W
1,2-Dichloroethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	107-06-2	W
1,1-Dichloroethene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	75-35-4	W
cis-1,2-Dichloroethene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	156-59-2	W
trans-1,2-Dichloroethene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	156-60-5	W
1,2-Dichloropropane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	78-87-5	W
1,3-Dichloropropane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	142-28-9	W
2,2-Dichloropropane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	594-20-7	W
1,1-Dichloropropene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	563-58-6	W
cis-1,3-Dichloropropene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	10061-01-5	W
trans-1,3-Dichloropropene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	10061-02-6	W
Diisopropyl ether	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	108-20-3	W
Ethylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	100-41-4	W
Hexachloro-1,3-butadiene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	87-68-3	W
Isopropylbenzene (Cumene)	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	98-82-8	W
p-Isopropyltoluene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	99-87-6	W
Methylene Chloride	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	75-09-2	W
Methyl-tert-butyl ether	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	1634-04-4	W
Naphthalene	<320	ug/kg	2000	320	8	01/18/18 08:00	01/18/18 17:26	91-20-3	W
n-Propylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	103-65-1	W
Styrene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	100-42-5	W

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: C 8-9' Lab ID: 40163585009 Collected: 01/15/18 11:10 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	630-20-6	W
1,1,2,2-Tetrachloroethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	79-34-5	W
Tetrachloroethene	46100	ug/kg	558	232	8	01/18/18 08:00	01/18/18 17:26	127-18-4	
Toluene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	108-88-3	W
1,2,3-Trichlorobenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	87-61-6	W
1,2,4-Trichlorobenzene	<380	ug/kg	2000	380	8	01/18/18 08:00	01/18/18 17:26	120-82-1	L2,W
1,1,1-Trichloroethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	71-55-6	W
1,1,2-Trichloroethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	79-00-5	W
Trichloroethene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	79-01-6	W
Trichlorofluoromethane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	75-69-4	W
1,2,3-Trichloropropane	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	96-18-4	W
1,2,4-Trimethylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	95-63-6	W
1,3,5-Trimethylbenzene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	108-67-8	W
Vinyl chloride	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	75-01-4	W
m&p-Xylene	<400	ug/kg	960	400	8	01/18/18 08:00	01/18/18 17:26	179601-23-1	W
o-Xylene	<200	ug/kg	480	200	8	01/18/18 08:00	01/18/18 17:26	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	122	%	68-130		8	01/18/18 08:00	01/18/18 17:26	1868-53-7	
Toluene-d8 (S)	80	%	68-149		8	01/18/18 08:00	01/18/18 17:26	2037-26-5	
4-Bromofluorobenzene (S)	67	%	58-141		8	01/18/18 08:00	01/18/18 17:26	460-00-4	
<b>8260 MSV TCLP</b>		Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 01/18/18 11:50							
Benzene	<0.0050	mg/L	0.010	0.0050	10		01/19/18 12:54	71-43-2	
2-Butanone (MEK)	<0.030	mg/L	0.20	0.030	10		01/19/18 12:54	78-93-3	
Carbon tetrachloride	<0.0050	mg/L	0.010	0.0050	10		01/19/18 12:54	56-23-5	
Chlorobenzene	<0.0050	mg/L	0.010	0.0050	10		01/19/18 12:54	108-90-7	
Chloroform	<0.025	mg/L	0.050	0.025	10		01/19/18 12:54	67-66-3	
1,2-Dichloroethane	<0.0017	mg/L	0.010	0.0017	10		01/19/18 12:54	107-06-2	
1,1-Dichloroethene	<0.0041	mg/L	0.010	0.0041	10		01/19/18 12:54	75-35-4	
Tetrachloroethene	0.14	mg/L	0.010	0.0050	10		01/19/18 12:54	127-18-4	
Trichloroethene	<0.0033	mg/L	0.010	0.0033	10		01/19/18 12:54	79-01-6	
Vinyl chloride	<0.0018	mg/L	0.010	0.0018	10		01/19/18 12:54	75-01-4	
<b>Surrogates</b>									
Toluene-d8 (S)	95	%	70-130		10		01/19/18 12:54	2037-26-5	
4-Bromofluorobenzene (S)	83	%	61-130		10		01/19/18 12:54	460-00-4	
Dibromofluoromethane (S)	110	%	67-130		10		01/19/18 12:54	1868-53-7	
<b>Percent Moisture</b>		Analytical Method: ASTM D2974-87							
Percent Moisture	13.9	%	0.10	0.10	1		01/22/18 11:15		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: E 0-0.5' Lab ID: 40163585012 Collected: 01/16/18 09:10 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	71-43-2	W
Bromobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	108-86-1	W
Bromochloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	74-97-5	W
Bromodichloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	75-27-4	W
Bromoform	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	75-25-2	W
Bromomethane	<69.9	ug/kg	250	69.9	1	01/18/18 08:00	01/19/18 10:47	74-83-9	W
n-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	104-51-8	W
sec-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	135-98-8	W
tert-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	98-06-6	W
Carbon tetrachloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	56-23-5	W
Chlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	108-90-7	W
Chloroethane	<67.0	ug/kg	250	67.0	1	01/18/18 08:00	01/19/18 10:47	75-00-3	W
Chloroform	<46.4	ug/kg	250	46.4	1	01/18/18 08:00	01/19/18 10:47	67-66-3	W
Chloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	74-87-3	W
2-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	95-49-8	W
4-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	106-43-4	W
1,2-Dibromo-3-chloropropane	<91.2	ug/kg	250	91.2	1	01/18/18 08:00	01/19/18 10:47	96-12-8	W
Dibromochloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	124-48-1	W
1,2-Dibromoethane (EDB)	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	106-93-4	W
Dibromomethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	74-95-3	W
1,2-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	95-50-1	W
1,3-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	541-73-1	W
1,4-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	106-46-7	W
Dichlorodifluoromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	75-71-8	W
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	75-34-3	W
1,2-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	107-06-2	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	75-35-4	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	156-59-2	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	156-60-5	W
1,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	78-87-5	W
1,3-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	142-28-9	W
2,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	594-20-7	W
1,1-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	563-58-6	W
cis-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	10061-01-5	W
trans-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	10061-02-6	W
Diisopropyl ether	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	108-20-3	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	100-41-4	W
Hexachloro-1,3-butadiene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	87-68-3	W
Isopropylbenzene (Cumene)	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	98-82-8	W
p-Isopropyltoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	99-87-6	W
Methylene Chloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	75-09-2	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	01/18/18 08:00	01/19/18 10:47	91-20-3	W
n-Propylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	103-65-1	W
Styrene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	100-42-5	W

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: E 0-0.5' Lab ID: 40163585012 Collected: 01/16/18 09:10 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	630-20-6	W
1,1,2,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	79-34-5	W
Tetrachloroethene	2120	ug/kg	60.7	25.3	1	01/18/18 08:00	01/19/18 10:47	127-18-4	
Toluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	108-88-3	W
1,2,3-Trichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	87-61-6	W
1,2,4-Trichlorobenzene	<47.6	ug/kg	250	47.6	1	01/18/18 08:00	01/19/18 10:47	120-82-1	L2,W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	79-00-5	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	79-01-6	W
Trichlorofluoromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	75-69-4	W
1,2,3-Trichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	96-18-4	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	95-63-6	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	108-67-8	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	75-01-4	W
m&p-Xylene	<50.0	ug/kg	120	50.0	1	01/18/18 08:00	01/19/18 10:47	179601-23-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 10:47	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	144	%	68-130		1	01/18/18 08:00	01/19/18 10:47	1868-53-7	S1
Toluene-d8 (S)	129	%	68-149		1	01/18/18 08:00	01/19/18 10:47	2037-26-5	
4-Bromofluorobenzene (S)	113	%	58-141		1	01/18/18 08:00	01/19/18 10:47	460-00-4	
<b>8260 MSV TCLP</b>		Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 01/18/18 11:50							
Benzene	<0.0050	mg/L	0.010	0.0050	10		01/19/18 13:17	71-43-2	
2-Butanone (MEK)	0.047J	mg/L	0.20	0.030	10		01/19/18 13:17	78-93-3	
Carbon tetrachloride	<0.0050	mg/L	0.010	0.0050	10		01/19/18 13:17	56-23-5	
Chlorobenzene	<0.0050	mg/L	0.010	0.0050	10		01/19/18 13:17	108-90-7	
Chloroform	<0.025	mg/L	0.050	0.025	10		01/19/18 13:17	67-66-3	
1,2-Dichloroethane	<0.0017	mg/L	0.010	0.0017	10		01/19/18 13:17	107-06-2	
1,1-Dichloroethene	<0.0041	mg/L	0.010	0.0041	10		01/19/18 13:17	75-35-4	
Tetrachloroethene	0.029	mg/L	0.010	0.0050	10		01/19/18 13:17	127-18-4	
Trichloroethene	<0.0033	mg/L	0.010	0.0033	10		01/19/18 13:17	79-01-6	
Vinyl chloride	<0.0018	mg/L	0.010	0.0018	10		01/19/18 13:17	75-01-4	
<b>Surrogates</b>									
Toluene-d8 (S)	93	%	70-130		10		01/19/18 13:17	2037-26-5	
4-Bromofluorobenzene (S)	82	%	61-130		10		01/19/18 13:17	460-00-4	
Dibromofluoromethane (S)	110	%	67-130		10		01/19/18 13:17	1868-53-7	
<b>Percent Moisture</b>		Analytical Method: ASTM D2974-87							
Percent Moisture	1.1	%	0.10	0.10	1		01/22/18 10:32		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: H 8-9' Lab ID: 40163585018 Collected: 01/16/18 12:30 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	71-43-2	W
Bromobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	108-86-1	W
Bromochloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	74-97-5	W
Bromodichloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	75-27-4	W
Bromoform	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	75-25-2	W
Bromomethane	<69.9	ug/kg	250	69.9	1	01/18/18 08:00	01/19/18 11:55	74-83-9	W
n-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	104-51-8	W
sec-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	135-98-8	W
tert-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	98-06-6	W
Carbon tetrachloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	56-23-5	W
Chlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	108-90-7	W
Chloroethane	<67.0	ug/kg	250	67.0	1	01/18/18 08:00	01/19/18 11:55	75-00-3	W
Chloroform	<46.4	ug/kg	250	46.4	1	01/18/18 08:00	01/19/18 11:55	67-66-3	W
Chloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	74-87-3	W
2-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	95-49-8	W
4-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	106-43-4	W
1,2-Dibromo-3-chloropropane	<91.2	ug/kg	250	91.2	1	01/18/18 08:00	01/19/18 11:55	96-12-8	W
Dibromochloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	124-48-1	W
1,2-Dibromoethane (EDB)	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	106-93-4	W
Dibromomethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	74-95-3	W
1,2-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	95-50-1	W
1,3-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	541-73-1	W
1,4-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	106-46-7	W
Dichlorodifluoromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	75-71-8	W
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	75-34-3	W
1,2-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	107-06-2	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	75-35-4	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	156-59-2	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	156-60-5	W
1,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	78-87-5	W
1,3-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	142-28-9	W
2,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	594-20-7	W
1,1-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	563-58-6	W
cis-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	10061-01-5	W
trans-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	10061-02-6	W
Diisopropyl ether	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	108-20-3	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	100-41-4	W
Hexachloro-1,3-butadiene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	87-68-3	W
Isopropylbenzene (Cumene)	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	98-82-8	W
p-Isopropyltoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	99-87-6	W
Methylene Chloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	75-09-2	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	01/18/18 08:00	01/19/18 11:55	91-20-3	W
n-Propylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	103-65-1	W
Styrene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	100-42-5	W

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: H 8-9' Lab ID: 40163585018 Collected: 01/16/18 12:30 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
1,1,1,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	630-20-6	W
1,1,2,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	79-34-5	W
Tetrachloroethene	5160	ug/kg	70.3	29.3	1	01/18/18 08:00	01/19/18 11:55	127-18-4	
Toluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	108-88-3	W
1,2,3-Trichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	87-61-6	W
1,2,4-Trichlorobenzene	<47.6	ug/kg	250	47.6	1	01/18/18 08:00	01/19/18 11:55	120-82-1	L2,W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	79-00-5	W
Trichloroethene	129	ug/kg	70.3	29.3	1	01/18/18 08:00	01/19/18 11:55	79-01-6	
Trichlorofluoromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	75-69-4	W
1,2,3-Trichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	96-18-4	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	95-63-6	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	108-67-8	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	75-01-4	W
m&p-Xylene	<50.0	ug/kg	120	50.0	1	01/18/18 08:00	01/19/18 11:55	179601-23-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:00	01/19/18 11:55	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	123	%	68-130		1	01/18/18 08:00	01/19/18 11:55	1868-53-7	
Toluene-d8 (S)	96	%	68-149		1	01/18/18 08:00	01/19/18 11:55	2037-26-5	
4-Bromofluorobenzene (S)	83	%	58-141		1	01/18/18 08:00	01/19/18 11:55	460-00-4	
<b>8260 MSV TCLP</b>									
Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 01/18/18 11:50									
Benzene	<0.0050	mg/L	0.010	0.0050	10		01/19/18 13:40	71-43-2	
2-Butanone (MEK)	<0.030	mg/L	0.20	0.030	10		01/19/18 13:40	78-93-3	
Carbon tetrachloride	<0.0050	mg/L	0.010	0.0050	10		01/19/18 13:40	56-23-5	
Chlorobenzene	<0.0050	mg/L	0.010	0.0050	10		01/19/18 13:40	108-90-7	
Chloroform	<0.025	mg/L	0.050	0.025	10		01/19/18 13:40	67-66-3	
1,2-Dichloroethane	<0.0017	mg/L	0.010	0.0017	10		01/19/18 13:40	107-06-2	
1,1-Dichloroethene	<0.0041	mg/L	0.010	0.0041	10		01/19/18 13:40	75-35-4	
Tetrachloroethene	0.039	mg/L	0.010	0.0050	10		01/19/18 13:40	127-18-4	
Trichloroethene	0.0036J	mg/L	0.010	0.0033	10		01/19/18 13:40	79-01-6	
Vinyl chloride	<0.0018	mg/L	0.010	0.0018	10		01/19/18 13:40	75-01-4	
<b>Surrogates</b>									
Toluene-d8 (S)	95	%	70-130		10		01/19/18 13:40	2037-26-5	
4-Bromofluorobenzene (S)	81	%	61-130		10		01/19/18 13:40	460-00-4	
Dibromofluoromethane (S)	109	%	67-130		10		01/19/18 13:40	1868-53-7	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	14.6	%	0.10	0.10	1		01/22/18 11:16		

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

**Sample: J 7'** Lab ID: **40163585025** Collected: 01/15/18 13:55 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	71-43-2	W
Bromobenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	108-86-1	W
Bromochloromethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	74-97-5	W
Bromodichloromethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	75-27-4	W
Bromoform	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	75-25-2	W
Bromomethane	<368	ug/kg	1320	368	5	01/18/18 08:15	01/18/18 13:09	74-83-9	W
n-Butylbenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	104-51-8	W
sec-Butylbenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	135-98-8	W
tert-Butylbenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	98-06-6	W
Carbon tetrachloride	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	56-23-5	W
Chlorobenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	108-90-7	W
Chloroethane	<353	ug/kg	1320	353	5	01/18/18 08:15	01/18/18 13:09	75-00-3	W
Chloroform	<244	ug/kg	1320	244	5	01/18/18 08:15	01/18/18 13:09	67-66-3	W
Chloromethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	74-87-3	W
2-Chlorotoluene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	95-49-8	W
4-Chlorotoluene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	106-43-4	W
1,2-Dibromo-3-chloropropane	<480	ug/kg	1320	480	5	01/18/18 08:15	01/18/18 13:09	96-12-8	W
Dibromochloromethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	124-48-1	W
1,2-Dibromoethane (EDB)	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	106-93-4	W
Dibromomethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	74-95-3	W
1,2-Dichlorobenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	95-50-1	W
1,3-Dichlorobenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	541-73-1	W
1,4-Dichlorobenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	106-46-7	W
Dichlorodifluoromethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	75-71-8	W
1,1-Dichloroethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	75-34-3	W
1,2-Dichloroethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	107-06-2	W
1,1-Dichloroethene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	75-35-4	W
cis-1,2-Dichloroethene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	156-59-2	W
trans-1,2-Dichloroethene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	156-60-5	W
1,2-Dichloropropane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	78-87-5	W
1,3-Dichloropropane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	142-28-9	W
2,2-Dichloropropane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	594-20-7	W
1,1-Dichloropropene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	563-58-6	W
cis-1,3-Dichloropropene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	10061-01-5	W
trans-1,3-Dichloropropene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	10061-02-6	W
Diisopropyl ether	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	108-20-3	W
Ethylbenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	100-41-4	W
Hexachloro-1,3-butadiene	<132	ug/kg	316	132	5	01/18/18 08:15	01/19/18 13:41	87-68-3	W
Isopropylbenzene (Cumene)	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	98-82-8	W
p-Isopropyltoluene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	99-87-6	W
Methylene Chloride	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	75-09-2	W
Methyl-tert-butyl ether	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	1634-04-4	W
Naphthalene	<211	ug/kg	1320	211	5	01/18/18 08:15	01/18/18 13:09	91-20-3	W
n-Propylbenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	103-65-1	W
Styrene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	100-42-5	W

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: J 7' Lab ID: 40163585025 Collected: 01/15/18 13:55 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	630-20-6	W
1,1,2,2-Tetrachloroethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	79-34-5	W
Tetrachloroethene	27300	ug/kg	367	153	5	01/18/18 08:15	01/18/18 13:09	127-18-4	
Toluene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	108-88-3	W
1,2,3-Trichlorobenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	87-61-6	W
1,2,4-Trichlorobenzene	<250	ug/kg	1320	250	5	01/18/18 08:15	01/18/18 13:09	120-82-1	W
1,1,1-Trichloroethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	71-55-6	W
1,1,2-Trichloroethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	79-00-5	W
Trichloroethene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	79-01-6	W
Trichlorofluoromethane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	75-69-4	W
1,2,3-Trichloropropane	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	96-18-4	W
1,2,4-Trimethylbenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	95-63-6	W
1,3,5-Trimethylbenzene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	108-67-8	W
Vinyl chloride	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	75-01-4	W
m&p-Xylene	<263	ug/kg	632	263	5	01/18/18 08:15	01/18/18 13:09	179601-23-1	W
o-Xylene	<132	ug/kg	316	132	5	01/18/18 08:15	01/18/18 13:09	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	106	%	68-130		5	01/18/18 08:15	01/18/18 13:09	1868-53-7	
Toluene-d8 (S)	106	%	68-149		5	01/18/18 08:15	01/18/18 13:09	2037-26-5	
4-Bromofluorobenzene (S)	100	%	58-141		5	01/18/18 08:15	01/18/18 13:09	460-00-4	
<b>8260 MSV TCLP</b>		Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 01/22/18 12:03							
Benzene	<0.0050	mg/L	0.010	0.0050	10		01/23/18 15:22	71-43-2	
2-Butanone (MEK)	<0.030	mg/L	0.20	0.030	10		01/23/18 15:22	78-93-3	
Carbon tetrachloride	<0.0050	mg/L	0.010	0.0050	10		01/23/18 15:22	56-23-5	
Chlorobenzene	<0.0050	mg/L	0.010	0.0050	10		01/23/18 15:22	108-90-7	
Chloroform	<0.025	mg/L	0.050	0.025	10		01/23/18 15:22	67-66-3	
1,2-Dichloroethane	<0.0017	mg/L	0.010	0.0017	10		01/23/18 15:22	107-06-2	
1,1-Dichloroethene	<0.0041	mg/L	0.010	0.0041	10		01/23/18 15:22	75-35-4	
Tetrachloroethene	0.52	mg/L	0.010	0.0050	10		01/23/18 15:22	127-18-4	
Trichloroethene	<0.0033	mg/L	0.010	0.0033	10		01/23/18 15:22	79-01-6	
Vinyl chloride	<0.0018	mg/L	0.010	0.0018	10		01/23/18 15:22	75-01-4	
<b>Surrogates</b>									
Toluene-d8 (S)	93	%	70-130		10		01/23/18 15:22	2037-26-5	
4-Bromofluorobenzene (S)	83	%	61-130		10		01/23/18 15:22	460-00-4	
Dibromofluoromethane (S)	110	%	67-130		10		01/23/18 15:22	1868-53-7	
<b>Percent Moisture</b>		Analytical Method: ASTM D2974-87							
Percent Moisture	14.0	%	0.10	0.10	1		01/22/18 11:38		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: M 0-0.5' Lab ID: 40163585036 Collected: 01/15/18 12:40 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	71-43-2	W
Bromobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	108-86-1	W
Bromochloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	74-97-5	W
Bromodichloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	75-27-4	W
Bromoform	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	75-25-2	W
Bromomethane	<69.9	ug/kg	250	69.9	1	01/18/18 08:15	01/18/18 12:46	74-83-9	W
n-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	104-51-8	W
sec-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	135-98-8	W
tert-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	98-06-6	W
Carbon tetrachloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	56-23-5	W
Chlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	108-90-7	W
Chloroethane	<67.0	ug/kg	250	67.0	1	01/18/18 08:15	01/18/18 12:46	75-00-3	W
Chloroform	<46.4	ug/kg	250	46.4	1	01/18/18 08:15	01/18/18 12:46	67-66-3	W
Chloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	74-87-3	W
2-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	95-49-8	W
4-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	106-43-4	W
1,2-Dibromo-3-chloropropane	<91.2	ug/kg	250	91.2	1	01/18/18 08:15	01/18/18 12:46	96-12-8	W
Dibromochloromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	124-48-1	W
1,2-Dibromoethane (EDB)	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	106-93-4	W
Dibromomethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	74-95-3	W
1,2-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	95-50-1	W
1,3-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	541-73-1	W
1,4-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	106-46-7	W
Dichlorodifluoromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	75-71-8	W
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	75-34-3	W
1,2-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	107-06-2	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	75-35-4	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	156-59-2	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	156-60-5	W
1,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	78-87-5	W
1,3-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	142-28-9	W
2,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	594-20-7	W
1,1-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	563-58-6	W
cis-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	10061-01-5	W
trans-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	10061-02-6	W
Diisopropyl ether	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	108-20-3	W
Ethylbenzene	30.9J	ug/kg	61.0	25.4	1	01/18/18 08:15	01/18/18 12:46	100-41-4	
Hexachloro-1,3-butadiene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/19/18 14:04	87-68-3	W
Isopropylbenzene (Cumene)	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	98-82-8	W
p-Isopropyltoluene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	99-87-6	W
Methylene Chloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	75-09-2	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	01/18/18 08:15	01/18/18 12:46	91-20-3	W
n-Propylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	103-65-1	W
Styrene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	100-42-5	W

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: M 0-0.5' Lab ID: 40163585036 Collected: 01/15/18 12:40 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	630-20-6	W
1,1,2,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	79-34-5	W
Tetrachloroethene	402	ug/kg	61.0	25.4	1	01/18/18 08:15	01/18/18 12:46	127-18-4	
Toluene	220	ug/kg	61.0	25.4	1	01/18/18 08:15	01/18/18 12:46	108-88-3	
1,2,3-Trichlorobenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	87-61-6	W
1,2,4-Trichlorobenzene	<47.6	ug/kg	250	47.6	1	01/18/18 08:15	01/18/18 12:46	120-82-1	W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	79-00-5	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	79-01-6	W
Trichlorofluoromethane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	75-69-4	W
1,2,3-Trichloropropane	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	96-18-4	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	95-63-6	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	108-67-8	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	01/18/18 08:15	01/18/18 12:46	75-01-4	W
m&p-Xylene	146	ug/kg	122	50.9	1	01/18/18 08:15	01/18/18 12:46	179601-23-1	
o-Xylene	48.6J	ug/kg	61.0	25.4	1	01/18/18 08:15	01/18/18 12:46	95-47-6	
<b>Surrogates</b>									
Dibromofluoromethane (S)	106	%	68-130		1	01/18/18 08:15	01/18/18 12:46	1868-53-7	
Toluene-d8 (S)	114	%	68-149		1	01/18/18 08:15	01/18/18 12:46	2037-26-5	
4-Bromofluorobenzene (S)	110	%	58-141		1	01/18/18 08:15	01/18/18 12:46	460-00-4	
<b>8260 MSV TCLP</b>		Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 01/22/18 12:03							
Benzene	<0.0050	mg/L	0.010	0.0050	10		01/23/18 14:59	71-43-2	
2-Butanone (MEK)	<0.030	mg/L	0.20	0.030	10		01/23/18 14:59	78-93-3	
Carbon tetrachloride	<0.0050	mg/L	0.010	0.0050	10		01/23/18 14:59	56-23-5	
Chlorobenzene	<0.0050	mg/L	0.010	0.0050	10		01/23/18 14:59	108-90-7	
Chloroform	<0.025	mg/L	0.050	0.025	10		01/23/18 14:59	67-66-3	
1,2-Dichloroethane	<0.0017	mg/L	0.010	0.0017	10		01/23/18 14:59	107-06-2	
1,1-Dichloroethene	<0.0041	mg/L	0.010	0.0041	10		01/23/18 14:59	75-35-4	
Tetrachloroethene	<0.0050	mg/L	0.010	0.0050	10		01/23/18 14:59	127-18-4	
Trichloroethene	<0.0033	mg/L	0.010	0.0033	10		01/23/18 14:59	79-01-6	
Vinyl chloride	<0.0018	mg/L	0.010	0.0018	10		01/23/18 14:59	75-01-4	
<b>Surrogates</b>									
Toluene-d8 (S)	93	%	70-130		10		01/23/18 14:59	2037-26-5	
4-Bromofluorobenzene (S)	78	%	61-130		10		01/23/18 14:59	460-00-4	
Dibromofluoromethane (S)	105	%	67-130		10		01/23/18 14:59	1868-53-7	
<b>Percent Moisture</b>		Analytical Method: ASTM D2974-87							
Percent Moisture	1.7	%	0.10	0.10	1		01/25/18 16:53		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: M 2-3' Lab ID: 40163585037 Collected: 01/15/18 12:50 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	71-43-2	W
Bromobenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	108-86-1	W
Bromochloromethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	74-97-5	W
Bromodichloromethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	75-27-4	W
Bromoform	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	75-25-2	W
Bromomethane	<140	ug/kg	500	140	2	01/18/18 08:15	01/18/18 23:47	74-83-9	W
n-Butylbenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	104-51-8	W
sec-Butylbenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	135-98-8	W
tert-Butylbenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	98-06-6	W
Carbon tetrachloride	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	56-23-5	W
Chlorobenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	108-90-7	W
Chloroethane	<134	ug/kg	500	134	2	01/18/18 08:15	01/18/18 23:47	75-00-3	W
Chloroform	<92.9	ug/kg	500	92.9	2	01/18/18 08:15	01/18/18 23:47	67-66-3	W
Chloromethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	74-87-3	W
2-Chlorotoluene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	95-49-8	W
4-Chlorotoluene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	106-43-4	W
1,2-Dibromo-3-chloropropane	<182	ug/kg	500	182	2	01/18/18 08:15	01/18/18 23:47	96-12-8	W
Dibromochloromethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	124-48-1	W
1,2-Dibromoethane (EDB)	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	106-93-4	W
Dibromomethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	74-95-3	W
1,2-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	95-50-1	W
1,3-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	541-73-1	W
1,4-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	106-46-7	W
Dichlorodifluoromethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	75-71-8	W
1,1-Dichloroethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	75-34-3	W
1,2-Dichloroethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	107-06-2	W
1,1-Dichloroethene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	75-35-4	W
cis-1,2-Dichloroethene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	156-59-2	W
trans-1,2-Dichloroethene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	156-60-5	W
1,2-Dichloropropane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	78-87-5	W
1,3-Dichloropropane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	142-28-9	W
2,2-Dichloropropane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	594-20-7	W
1,1-Dichloropropene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	563-58-6	W
cis-1,3-Dichloropropene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	10061-01-5	W
trans-1,3-Dichloropropene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	10061-02-6	W
Diisopropyl ether	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	108-20-3	W
Ethylbenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	100-41-4	W
Hexachloro-1,3-butadiene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	87-68-3	W
Isopropylbenzene (Cumene)	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	98-82-8	W
p-Isopropyltoluene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	99-87-6	W
Methylene Chloride	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	75-09-2	W
Methyl-tert-butyl ether	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	1634-04-4	W
Naphthalene	<80.1	ug/kg	500	80.1	2	01/18/18 08:15	01/18/18 23:47	91-20-3	W
n-Propylbenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	103-65-1	W
Styrene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	100-42-5	W

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### ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

**Sample: M 2-3'**      **Lab ID: 40163585037**      Collected: 01/15/18 12:50      Received: 01/17/18 13:00      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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260    Preparation Method: EPA 5035/5030B									
1,1,1,2-Tetrachloroethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	630-20-6	W
1,1,2,2-Tetrachloroethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	79-34-5	W
Tetrachloroethene	9190	ug/kg	140	58.5	2	01/18/18 08:15	01/18/18 23:47	127-18-4	
Toluene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	108-88-3	W
1,2,3-Trichlorobenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	87-61-6	W
1,2,4-Trichlorobenzene	<95.1	ug/kg	500	95.1	2	01/18/18 08:15	01/18/18 23:47	120-82-1	W
1,1,1-Trichloroethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	71-55-6	W
1,1,2-Trichloroethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	79-00-5	W
Trichloroethene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	79-01-6	W
Trichlorofluoromethane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	75-69-4	W
1,2,3-Trichloropropane	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	96-18-4	W
1,2,4-Trimethylbenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	95-63-6	W
1,3,5-Trimethylbenzene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	108-67-8	W
Vinyl chloride	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	75-01-4	W
m&p-Xylene	<100	ug/kg	240	100	2	01/18/18 08:15	01/18/18 23:47	179601-23-1	W
o-Xylene	<50.0	ug/kg	120	50.0	2	01/18/18 08:15	01/18/18 23:47	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	94	%	68-130		2	01/18/18 08:15	01/18/18 23:47	1868-53-7	
Toluene-d8 (S)	93	%	68-149		2	01/18/18 08:15	01/18/18 23:47	2037-26-5	
4-Bromofluorobenzene (S)	87	%	58-141		2	01/18/18 08:15	01/18/18 23:47	460-00-4	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	14.5	%	0.10	0.10	1		01/25/18 16:53		

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

**Sample: M 5-6'**      **Lab ID: 40163585038**      Collected: 01/15/18 13:00      Received: 01/17/18 13:00      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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	71-43-2	W
Bromobenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	108-86-1	W
Bromochloromethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	74-97-5	W
Bromodichloromethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	75-27-4	W
Bromoform	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	75-25-2	W
Bromomethane	<1400	ug/kg	5000	1400	20	01/18/18 08:15	01/19/18 00:10	74-83-9	W
n-Butylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	104-51-8	W
sec-Butylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	135-98-8	W
tert-Butylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	98-06-6	W
Carbon tetrachloride	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	56-23-5	W
Chlorobenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	108-90-7	W
Chloroethane	<1340	ug/kg	5000	1340	20	01/18/18 08:15	01/19/18 00:10	75-00-3	W
Chloroform	<929	ug/kg	5000	929	20	01/18/18 08:15	01/19/18 00:10	67-66-3	W
Chloromethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	74-87-3	W
2-Chlorotoluene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	95-49-8	W
4-Chlorotoluene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	106-43-4	W
1,2-Dibromo-3-chloropropane	<1820	ug/kg	5000	1820	20	01/18/18 08:15	01/19/18 00:10	96-12-8	W
Dibromochloromethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	124-48-1	W
1,2-Dibromoethane (EDB)	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	106-93-4	W
Dibromomethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	74-95-3	W
1,2-Dichlorobenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	95-50-1	W
1,3-Dichlorobenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	541-73-1	W
1,4-Dichlorobenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	106-46-7	W
Dichlorodifluoromethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	75-71-8	W
1,1-Dichloroethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	75-34-3	W
1,2-Dichloroethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	107-06-2	W
1,1-Dichloroethene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	75-35-4	W
cis-1,2-Dichloroethene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	156-59-2	W
trans-1,2-Dichloroethene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	156-60-5	W
1,2-Dichloropropane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	78-87-5	W
1,3-Dichloropropane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	142-28-9	W
2,2-Dichloropropane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	594-20-7	W
1,1-Dichloropropene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	563-58-6	W
cis-1,3-Dichloropropene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	10061-01-5	W
trans-1,3-Dichloropropene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	10061-02-6	W
Diisopropyl ether	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	108-20-3	W
Ethylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	100-41-4	W
Hexachloro-1,3-butadiene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	87-68-3	W
Isopropylbenzene (Cumene)	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	98-82-8	W
p-Isopropyltoluene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	99-87-6	W
Methylene Chloride	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	75-09-2	W
Methyl-tert-butyl ether	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	1634-04-4	W
Naphthalene	<801	ug/kg	5000	801	20	01/18/18 08:15	01/19/18 00:10	91-20-3	W
n-Propylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	103-65-1	W
Styrene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	100-42-5	W

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17-1124 SHOREWOOD CLEANERS

Pace Project No.: 40163585

Sample: M 5-6' Lab ID: 40163585038 Collected: 01/15/18 13:00 Received: 01/17/18 13:00 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
<b>8260 MSV Med Level Normal List</b>									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
1,1,1,2-Tetrachloroethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	630-20-6	W
1,1,2,2-Tetrachloroethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	79-34-5	W
Tetrachloroethene	81000	ug/kg	1370	570	20	01/18/18 08:15	01/19/18 00:10	127-18-4	
Toluene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	108-88-3	W
1,2,3-Trichlorobenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	87-61-6	W
1,2,4-Trichlorobenzene	<951	ug/kg	5000	951	20	01/18/18 08:15	01/19/18 00:10	120-82-1	W
1,1,1-Trichloroethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	71-55-6	W
1,1,2-Trichloroethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	79-00-5	W
Trichloroethene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	79-01-6	W
Trichlorofluoromethane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	75-69-4	W
1,2,3-Trichloropropane	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	96-18-4	W
1,2,4-Trimethylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	95-63-6	W
1,3,5-Trimethylbenzene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	108-67-8	W
Vinyl chloride	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	75-01-4	W
m&p-Xylene	<1000	ug/kg	2400	1000	20	01/18/18 08:15	01/19/18 00:10	179601-23-1	W
o-Xylene	<500	ug/kg	1200	500	20	01/18/18 08:15	01/19/18 00:10	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	0	%	68-130		20	01/18/18 08:15	01/19/18 00:10	1868-53-7	S4
Toluene-d8 (S)	0	%	68-149		20	01/18/18 08:15	01/19/18 00:10	2037-26-5	S4
4-Bromofluorobenzene (S)	0	%	58-141		20	01/18/18 08:15	01/19/18 00:10	460-00-4	S4
<b>8260 MSV TCLP</b>									
Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 01/22/18 12:03									
Benzene	<0.010	mg/L	0.020	0.010	20		01/23/18 16:07	71-43-2	
2-Butanone (MEK)	<0.060	mg/L	0.40	0.060	20		01/23/18 16:07	78-93-3	
Carbon tetrachloride	<0.010	mg/L	0.020	0.010	20		01/23/18 16:07	56-23-5	
Chlorobenzene	<0.010	mg/L	0.020	0.010	20		01/23/18 16:07	108-90-7	
Chloroform	<0.050	mg/L	0.10	0.050	20		01/23/18 16:07	67-66-3	
1,2-Dichloroethane	<0.0034	mg/L	0.020	0.0034	20		01/23/18 16:07	107-06-2	
1,1-Dichloroethene	<0.0082	mg/L	0.020	0.0082	20		01/23/18 16:07	75-35-4	
Tetrachloroethene	0.85	mg/L	0.020	0.010	20		01/23/18 16:07	127-18-4	
Trichloroethene	<0.0066	mg/L	0.020	0.0066	20		01/23/18 16:07	79-01-6	
Vinyl chloride	<0.0035	mg/L	0.020	0.0035	20		01/23/18 16:07	75-01-4	
<b>Surrogates</b>									
Toluene-d8 (S)	94	%	70-130		20		01/23/18 16:07	2037-26-5	
4-Bromofluorobenzene (S)	77	%	61-130		20		01/23/18 16:07	460-00-4	
Dibromofluoromethane (S)	110	%	67-130		20		01/23/18 16:07	1868-53-7	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	12.3	%	0.10	0.10	1		01/25/18 16:53		

## REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)



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

# CHAIN OF CUSTODY

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

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

V/I/N	Pick Letter	Analyses Requested
N	E	VOC
N	A	TCLP VOC

**Quote #:** 40163585

**Mail To Contact:** Ken Elbott

**Mail To Company:** Fehr Graham

**Mail To Address:** Elbott@fehr-graham.com

**Invoice To Contact:** AA

**Invoice To Company:** AA

**Invoice To Address:** AA

**Invoice To Phone:** ① Added per DP 1/08/18

**CLIENT COMMENTS:** 1-462PA 1-462LV 1-462AG

**LAB COMMENTS (Lab Use Only):**

PAGE LAB #	CLIENT FIELD ID	DATE	COLLECTION		MATRIX	Regulatory Program	Data Package Options (billable)	MSMSD (billable)	Matrix Codes	Analyses Requested	V/I/N	Pick Letter	Received By	Date/Time	Received By	Date/Time	PACE Project No.
			TIME	TIME													
001	A 0-0,5'	1-6-18	940		S		<input type="checkbox"/> EPA Level III <input type="checkbox"/> EPA Level IV	<input type="checkbox"/> On your sample (billable) <input type="checkbox"/> NOT needed on your sample	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								
002	A 2-3'		950														
003	A 15'		1005														
004	B 0-0,5'		1015														
005	B 2-3'		1020														
006	B 15'		1046														
007	C 0-0,5'	1-15-18	1040														
008	C 2-3'		1050														
009	C 8-4'		1116														
010	C 15'		1135														
011	C 20'		1200														
012	E 0-0,5'	1-16-18	910														
013	F 2-3'	1-15-18	925														

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

Relinquished By: DMPL  
 Date/Time: 1-17-18 700

Received By: Ken Elbott  
 Date/Time: 1/17/18 1300

PACE Project No.: 40163585  
 Receipt Temp = 201 °C

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

Relinquished By: Ken Elbott  
 Date/Time: 1/17/18 1300  
 Relinquished By: Ken Elbott  
 Date/Time:

Received By: Ken Elbott  
 Date/Time: 1/17/18 1300  
 Received By: Ken Elbott  
 Date/Time:

Cooler Custody Seal Present / Not Present  
 Intact / Not Intact

(Please Print Clearly)



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

Page 2 of 6

40163585

Page 205 of 211

# CHAIN OF CUSTODY

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

FILTERED?  
 (YES/NO)  
 PRESERVATION  
 (CODE)

Same  
 Page 2

Company Name: Fehr Graham  
 Branch/Location:  
 Project Contact:  
 Phone:  
 Project Number:  
 Project Name:  
 Project State:  
 Sampled By (Print):  
 Sampled By (Sign):  
 PO #:

**Data Package Options**  
 EPA Level III  
 EPA Level IV  
**M/S/MSD**  
 On your sample (billable)  
 NOT needed on your sample  
**Matrix Codes**  
 A = Air  
 B = Bids  
 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	COLLECTION		MATRIX
		DATE	TIME	
014	F 8-91	1-15-18	1005	S
015	F 151		1026	
016	F 161		1025	
017	H 2-31	1-16-18	1225	
018	H 8-41		1230	
019	H 151		1235	
020	I 2-31	1-15-18	1415	
021	I 71		1426	
022	I 121		1425	
023	I 151		1430	
024	J 2-31		1350	
025	J 71		1355	
026	J 121		1400	

### Analyses Requested

V/I/N	Pick Letter	Analysis
N	A	VOC
N	A	TCLP VOC

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: DM  
 Date/Time: 1-17-18 700  
 Relinquished By: Rocco  
 Date/Time: 1/17/18 1300  
 Relinquished By: Rocco  
 Date/Time: 1/17/18 1300

Received By: Rocco  
 Date/Time: 1/17/18 1125  
 Received By: Rocco  
 Date/Time: 1/17/18 1300  
 Received By: Rocco  
 Date/Time: 1/17/18 1300

Quote #: 40163585  
 Mail To Contact:  
 Mail To Company:  
 Mail To Address:  
 Invoice To Contact:  
 Invoice To Company:  
 Invoice To Address:  
 Invoice To Phone:  
 CLIENT COMMENTS: 1-4629A H40mlV  
 LAB COMMENTS (Lab Use Only):  
 Profile #

PAGE Project No. 40163585  
 Receipt Temp = 26.1 °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 #

WO#: 40163585



Client Name: Fehr Graham

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

Cooler Temperature Uncorr: Rett ICorr: \_\_\_\_\_ Biological Tissue is Frozen:  yes

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: 11/17/18  
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 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.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4. 1st page only DS 11/17/18
Samples Arrived within Hold Time: - VOA Samples frozen upon receipt	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Yes <input type="checkbox"/> No	5. 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. 10 mg/mvd DS 11/17/18
Correct Containers Used: - Pace Containers Used: - Pace IR Containers Used:	<input checked="" type="checkbox"/> Yes <input 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. client covered tare weights: 016, 051-053, 059 DS 11/17/18
Containers Intact:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	10. 030 poly rec'd cracked DS 11/17/18
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. See attached DS 11/17/18
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	
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present Pace Trip Blank Lot # (if purchased): <u>1230</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <u>DS 11/17/18</u>	

### Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
Comments/ Resolution: \_\_\_\_\_

### Project Manager Review:

OK

Date: 11/18/18