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ENVIRONMENT & HEALTH

**Sent via E-Mail and Overnight Courier**

Ms. Nancy Ryan
Wisconsin Department of Natural Resources
2300 N. Martin Luther King Jr, Drive
Milwaukee, Wisconsin 23212

**REMEDIAL ACTION PLAN**
**FORMER EXPRESS CLEANERS SITE**
**3921-3941 N. MAIN STREET, RACINE, WISCONSIN**
**BRRTS #02-52-547631**

Dear Ms. Ryan:

October 14, 2016

Ramboll Environ
175 N. Corporate Drive
Brookfield, WI 53045
USA

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

Ref. 21-41301A

On behalf of the Ehrlich Family Limited Partnership, Ramboll Environ US Corporation (Ramboll Environ) submits the attached Remedial Action Plan (RAP) for the Former Express Cleaners Site in Racine, Wisconsin (the Site) in accordance with the requirements of Wisconsin Administrative Code (WAC) Chapter NR 724. The enclosed RAP presents details on the implementation of the enhanced reductive dechlorination remedy which utilizes a combined *in-situ* chemical and biological reduction approach through *in-situ* blending of zero-valent iron (ZVI) and carbon amendment followed by natural attenuation monitoring of groundwater for a period of 2 years.

In September 2016, Ramboll Environ performed limited pre-remedial site investigation activities at the Site to define the extent of source soil impacts that are in excess of the proposed site-specific soil clean-up goal of 1,500 ug/kg PCE in the proposed area of *in-situ* soil blending. In addition, one round of groundwater samples was collected from the site monitoring wells. Section 5 of the RAP presents the results from the pre-remedial site investigation. Based on the results, the key findings from the investigation are summarized below.

1) The concentration of PCE above the soil clean-up goal was detected at depths of 8 to 10 feet below ground surface (bgs) at soil boring B45 (110,000 to 157,000 ug/kg), which is the eastern most soil boring Ramboll Environ performed in the proposed soil blending area. A sample collected at 12 feet bgs at this same location had a concentration of 622 ug/kg indicating that soil treatment will need to extend to a depth of approximately 11 feet in the eastern portion of the soil blending area, which is 2 feet below the proposed treatment depth of 9 feet. This finding has resulted in an increase in the volume of soil targeted for treatment at the Site.

2) Based on the existing soil data surrounding soil boring B45, a data gap still exists to the east of this soil boring location. As a result, the eastern extent of the soil impacts requiring treatment remains undefined. To address this data gap, Ramboll Environ proposes to install up to four additional soil borings to the northeast, east, and southeast of B45 to determine the limits of soil blending in this area prior to implementing the site remedial activities. Two

samples will be collected from each proposed soil boring at depths of approximately 7 and 11 feet bgs. We have tentatively scheduled this additional soil sampling work to be performed on October 17, 2016, in order to avoid delay in the remediation schedule.

In addition, Ramboll Environ also recommends installing one additional soil boring in the abandoned sanitary sewer and water main utility corridor on the west side of the Express Cleaners property to determine the extent of soil blending in this area. Soil boring B-36 had a PCE concentration of 39,300 ug/kg at a depth of 7 feet bgs. Two samples will be collected from this additional soil boring location at depths of 6 and 9 feet bgs to define the extent of PCE impacts above 1,500 ug/kg.

3) Based on the pre-remedial groundwater sampling results collected in September 2016, the concentration of PCE in groundwater has generally remained consistent with the sample results previously collected at the Site. These results are encouraging for the long-term groundwater natural attenuation remedy proposed for the Site given that soil remediation has not yet been implemented. As such, the need for the additional off-site monitoring well to the east may not be necessary.

4) A sub-slab vapor sample collected at the former Pugh Oil building located to the north of the Site had a PCE concentration of 6,440 µg/$m^3$, which exceeds the sub-slab vapor risk screening level (VRSL) of 6,000 µg/$m^3$ for small commercial buildings. The site is currently occupied and operates as a dry cleaner in the western portion of the building and an auto repair garage operates out of the eastern portion of the building. The owner of the building was notified of the sample results on October 11, 2016. To further address this potential issue, Ramboll Environ proposes to collect 8-hour time-weighted averaged indoor air samples within the building to evaluate the concentration of PCE in indoor air and the results will be compared to the Occupational Safety and Health Administration (OSHA) permissible exposure level (PEL) for PCE. We have tentatively scheduled the indoor air samples to be collected on October 18, 2016.

Ramboll Environ is currently preparing cost estimates for submittal to the Wisconsin Department of Natural Resources (WDNR) to complete the additional sampling activities described above, including a revised estimate for soil blending to 11 feet bgs on the eastern most portion of the source soil area and any extended locations defined from the results of the additional sampling proposed herein. Following receipt of the laboratory analytical results from the additional sampling activities, we will provide the WDNR with a summary of the sample results along with the revised project cost estimate to complete the enhanced reductive dechlorination remedy at the Site. The soil blending activities are scheduled to begin the week of October 31, 2016.

Should you have any questions or comments regarding the RAP or the additional investigation activities proposed above, please do not hesitate to contact us.

Yours sincerely,

**Scott W. Tarmann, PE**
Senior Manager

D 262.901.0093
starmann@ramboll.com

**Jeanne M. Tarvin, PG, CPG**
Principal

D 262.901.0085
jtarvin@ramboll.com

cc: Mr. William Scott, Mallery & Zimmerman, S.C.

Attachments

Prepared for:
**Ehrlich Family Limited Partnership**
**c/o James Small**
**P.O. Box 081007**
**Racine, Wisconsin 53408-1007**

Date:
**October 2016**

Project Number:
**21-41301A**

# FORMER EXPRESS CLEANERS SITE
# RACINE, WISCONSIN

## BRRTS #02-52-547631
## FID #252010000

# REMEDIAL ACTION PLAN

RAMBOLL ENVIRON

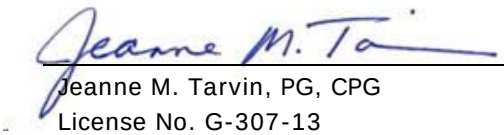
# CERTIFICATIONS

I, Scott W. Tarmann, hereby certify that I am a Professional Engineer as that term is defined in s. NR 712.03(2), Wis. Adm. Code, and that to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

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

October 14, 2016
Date

I, Jeanne Tarvin, hereby certify that I am a Hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and that to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.



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

October 14, 2016
Date

## CONTENTS



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

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

## TABLES



## FIGURES



## APPENDICES

# 1. INTRODUCTION

Ramboll Environ US Corporation (Ramboll Environ) has prepared the following Remedial Action Plan (RAP) for the Former Express Cleaners Site in Racine, Wisconsin (the "Site"), on behalf of the Ehrlich Family Limited Partnership. Parties currently involved with this project include the following:

| | |
|---|---|
| Responsible Party/Site Owner: | Ehrlich Family Limited Partnership<br>c/o James Small<br>P.O. Box 081007<br>Racine, Wisconsin 53408-1007 |
| Owner's Representative: | Mr. William P. Scott<br>Mallery & Zimmerman, S.C.<br>731 North Jackson Street, Suite 900<br>Milwaukee, Wisconsin 53202-4697 |
| Regulatory Agency/Project Manager: | Ms. Nancy Ryan<br>Wisconsin Department of Natural Resources<br>2300 North Dr. Martin Luther King, Jr. Drive<br>Milwaukee, Wisconsin 53212-3128 |
| Environmental Consultant: | Ms. Jeanne Tarvin and Mr. Scott Tarmann<br>Ramboll Environ US Corporation<br>175 N. Corporate Drive, Suite 160<br>Brookfield, Wisconsin 53045 |

## 1.1 Site Background

The Site is located at 3921-3941 N. Main Street in the northeast 1/4 of the northeast 1/4 of Section 33, Township 4 North, Range 23 East, City of Racine, Racine County, Wisconsin (Figure 1). The geographic position of the Site in WTM 91 (x, y) coordinates obtained from the Wisconsin Department of Natural Resources (WDNR) Remediation and Redevelopment (RR) interactive Site Map (http://dnrmaps.wi.gov) is 701507, 257580.

The Site is currently vacant and contains a concrete slab-on-grade that was once part of a one-story, 6,804 square foot strip mall (without a basement). The Site is located on Lot 1, Lot 2, and the north 25 feet of Lot 3 of Block 3, Plat of the Greater North Bay Addition No. 2. The Site is 0.77 acres in size and is located at 3921-3941 N. Main Street. An adjacent 0.45-acre vacant lot, formerly known as the Community Gardens located at 3936 North Bay Drive, Racine, Wisconsin 53402-3611 (Figure 2) was recently purchased by the Ehrlich Family Limited Partnership. The adjacent property is located on Lot 8 and the north 40 feet of Lot 7 of Block 3, Plat of the Greater North Bay Addition No. 2. The northern unit of the strip mall (3941 N. Main Street) was formerly the location of a dry cleaning operation from 1971 until approximately 2006. The Site has been contaminated by dry cleaning solvents; concentrations of tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2 DCE) and vinyl chloride (VC) in groundwater have all historically exceeded the enforcement standards. Impacted soils are present in some locations beneath the asphalt paved surfaces and building slab, and extend beneath the water table to a depth of up to approximately 11 feet. Impacted soils within 4 feet of the ground surface exceed the direct contact industrial RCLs for some contaminants. PCE has been detected in soil vapor beneath the foundation of the strip mall building during previous investigations conducted at the Site. An off-site monitoring well (MW-15) west of N. Main Street tested on April 7, 2011, did not contain dry-cleaning related contaminants above laboratory analytical detection limits.

The ground surface gently slopes toward the east and west from the former site building. Surface-water runoff on the Site flows to the east on the eastern half of the Site and to the west on the

western half. The properties in the area are served by the Racine municipal water supply that obtains potable water from Lake Michigan. The nearest surface water body is Lake Michigan, which is located approximately 0.4 mile to the east of the Site.

The Site and adjacent property to the east (3936 North Bay Drive) have been the subject of several subsurface investigations since 2006. The WDNR has assigned Bureau for Remediation and Redevelopment Tracking System (BRRTS) No. 02-52-547631 to the case file. Ramboll Environ understands that the Site may be redeveloped upon completion of active remedial site work.

### 1.2 Purpose of Remedial Action Plan

The purpose of this RAP is to document the detailed methods for implementing the selected soil treatment remedy to address chlorinated volatile organic compound (CVOCs) impacts at the Site. These impacts are dominated by PCE and its degradation products of TCE, cis-1,2 DCE, and VC. This RAP also documents the detailed methods for implementation of monitored natural attenuation of groundwater impacts near and down-gradient of the source area. Specific objectives include the following:

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

## 2. SUMMARY OF PREVIOUS SUBSURFACE INVESTIGATIONS

The following sections present a summary of the subsurface investigation results that were previously completed at the Site (prior to 2011), and a list of previous subsurface investigation documents that were submitted to the WDNR. Additional delineation of the source area for remediation purposes was conducted in September 2016, and is summarized in Section 5.

### 2.1 Geologic and Hydrogeologic Setting

Up to 4 feet of gravelly sand to sand fill underlie the site building and other portions of the Site. Native sediments consisting of silty sand underlie the fill or are present at the surface in areas where no fill is present, and extend to depths of approximately 6 to 8 feet bgs. The silty sand is underlain by silty clay that extends to the maximum depth investigated of approximately 16 feet bgs. The silty clay was identified by the previous consultants as part of the Oak Creek Formation. Reportedly Silurian-age dolomite bedrock is present in the vicinity of the Site at depths ranging from 50 to 150 feet bgs (Trotta and Cotter, 1973).

Slug testing of site wells indicates the silty sand has a hydraulic conductivity measured at $2.1 \times 10^{-4}$ centimeters per sec (cm/sec). The water table is reported to be present at approximately 2.75 to 4.75 feet bgs with a shallow groundwater divide present beneath the existing building in which groundwater flows to the east at locations east of the building and to the west/southwest west of the building.

## 2.2 Previous Subsurface Investigations

Several investigation reports have been submitted to the WDNR by previous consultants that contain additional background information regarding this Site. The following key documents were utilized to evaluate site conditions and the investigative history for the subject property:

1. Site Investigation Dry Cleaner Solvent Release, Express Cleaners, Inc., 3941 N. Main Street, Racine, Wisconsin, BRRTS No. 02-52-547631, prepared by Northern Environmental Technologies, Incorporated, May 14, 2008.
2. Additional Information, Express Cleaners, 3941 N. Main Street, Racine, Wisconsin, BRRTS No. 02-52-547631, prepared by Northern Environmental Technologies, Incorporated, January 14, 2009.
3. Additional Investigation Activities, Express Cleaners, 3941 N. Main Street, Racine, Wisconsin, BRRTS No. 02-52-547631, prepared by Bonestroo/Northern Environmental, June 9, 2009.
4. Additional Investigation Activities, Express Cleaners, 3941 N. Main Street, Racine, Wisconsin, BRRTS No. 02-52-547631, prepared by Bonestroo, May 2, 2011.

Based on this information, from April 2006 through April 2011, a total of 43 Geoprobe® borings were sampled on the Site and at adjacent properties (B1 through B34 and BA1 through BA9), two of which were converted to temporary groundwater monitoring wells (B5/TW1 and B7/TW2). Fifteen monitoring wells (MW1 through MW15) and one piezometer (PZ1) were also installed; with *in-situ* hydraulic conductivity testing conducted at monitoring well MW3 and piezometer PZ1. Additionally, three sub-slab vapor probes were installed and sampled (VP4 through VP6). The most recent groundwater sampling was conducted during April 2011.

## 2.3 Previous CVOC Mass Estimates

Based on the available site information presented in the *Proposal for Remedial Action Services, Former Express Cleaners Site, Racine, Wisconsin* (Ramboll Environ, 2016a), previous estimates of the CVOC contaminant mass present in site soil and groundwater was presented on Figure 2 in the *Proposal for Remedial Action Services,* which included analytical data for 1,2-cis-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), tetrachloroethene (PCE), and trichloroethene (TCE)[1]. As part of this evaluation the area of impacted soil and groundwater was divided into the 12 areas shown on Figure 2 in the *Proposal for Remedial Action Services*, on which average soil and groundwater concentrations and vertical layer thickness were assigned. Vertical layers[2] evaluated included:

1. Soil (vadose) – ranging 2.75 to 4.25 feet thick[3] in the areas evaluated;
2. Soil (coarse, saturated) – ranging 4.5 to 5 feet thick at the source area (Source Areas 1 and 2);
3. Soil (clay, saturated) – 1.5 feet thick at the source area (Area 1);
4. Groundwater (coarse saturated) – ranging 1 to 4.5 feet thick in the areas evaluated; and
5. Groundwater (clay saturated) – ranging 0 to 9 feet thick in the areas evaluated.

The contaminant mass estimate indicates that approximately 287 pounds of CVOC is present in the areas evaluated, and the primary CVOC site contaminant in soil and groundwater is PCE (97.3% of total CVOC mass present), with smaller amounts of breakdown products (TCE, cis-1,2-DCE, and trans-1,2-DCE). A summary tabulation of the results of this previous evaluation is presented on

[1] Based on the data available, vinyl chloride was only historically detected in groundwater one time at one location (MW3) and was not observed to be present in follow-up groundwater sampling events. Therefore, vinyl chloride was not included in this evaluation.

[2] Note that Ramboll Environ has interpreted the data to indicate that CVOCs are adhered to soil in the upper saturated zone in Source Area 1 and 2, and as such may be a continuing source of CVOCs to groundwater.

[3] Average thickness values used for each area evaluated.

Table 1 in the *Proposal for Remedial Action Services* (Ramboll Environ, 2016a). As discussed below, this evaluation indicates that 99.0% of the CVOC is present in soil; with 1.0% present in groundwater.

Ramboll Environ performed pre-remedial soil sampling in September 2016 to further delineate the extent of PCE impacted soil for remediation purposes. The results from the pre-remedial soil samples were used to define the boundaries/volume of soil targeted for remediation and to refine the impacted soil volume/mass estimates. The updated CVOC mass estimates calculated for the Site are presented in Section 0 of this Remedial Action Plan.

### 2.3.1 Soil

The largest amount of CVOCs present in site soil are within Areas 1 and 2 (Source Areas 1 and 2; 2,179 $ft^2$), containing approximately 94.7% of the total CVOC contaminant mass present at the Site (approximately 0 to 8 feet bgs). Approximately one-half (50.6%) of the total mass is contained in the vadose zone (0 to 3 feet bgs), with another 37.5% estimated to be present in coarse-grained saturated soil (3 to 8 feet bgs) in Areas 1 and 2, and the remaining 6.6 % present in the upper portion of the saturated clay (8 to 9.5 feet bgs) in Area 1.

The CVOC impacts at Area 5 are apparently due to a separate surface release at that location, and that CVOCs have migrated downgradient from Source Areas 1 and 2 through the subsurface utility corridor in Area 4. Even though elevated maximum CVOC concentrations were detected in these areas, the calculated contaminant mass in vadose soil is low, only 0.4% of the total mass present at the Site.

The remainder of the CVOC mass present in vadose zone soil at the Site is distributed at lower concentrations throughout the remainder of the Site (9,029 $ft^2$) and accounts for approximately 3.8% of the total CVOC mass present.

Toxicity characteristic leaching procedure (TCLP) soil testing results are not available for site soil. The concentration of PCE in vadose soil in Source Areas 1 and 2 (maximum detected concentration of 270 mg/kg at 2 to 4 feet at boring B4) suggests that the soils, if excavated, would likely be above both the 153 mg/kg contained-out concentration and above the 0.7 mg/L TCLP limit for PCE, and would need to be treated/disposed as a RCRA characteristically hazardous waste.

### 2.3.2 Groundwater Quality

Only 1.0% of the total contaminant mass is estimated to be present in site groundwater (Table 1, *Proposal for Remedial Action Services* (Ramboll Environ, 2016a)). The highest CVOC concentrations in groundwater have been identified at monitoring well MW-3 and temporary wells TW-1 and TW-2 (Source Areas 1 and 2) beneath the northern portion of the former dry cleaning building where PCE was historically released to the subsurface. Detected concentrations of PCE in groundwater at Source Areas 1 and 2 have ranged from 770 to 6,000 µg/L.

Based on the concentrations of PCE, TCE, and cis-1,2-DCE detected in the groundwater, impacted groundwater with CVOC concentrations greater than ES values extends east from the source area near wells MW3, TW1, and TW2 (and just north of the source area at PZ1, MW1, and MW2) to monitoring well MW6 located at the eastern boundary of the 3936 North Bay Drive property, and to the west/southwest to Well MW8 on the western site boundary. Historically, CVOCs have not been detected in groundwater, or were detected at low concentrations below the ES, at monitoring wells located north of the plume (MW-7 MW-9, MW-10), south of the plume (MW4, MW5, MW11, and MW13), and west/southwest of the plume (MW14 and MW15).

### 2.4 Potential Receptors

#### 2.4.1 Soil

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

#### 2.4.2 Groundwater

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

#### 2.4.3 Surface Water

Local surface waters consist of Lake Michigan, which is located 0.4 mile to the east of the Site. As such, the surface water pathway is not complete on site.

#### 2.4.4 Utility Corridors

Potential concerns for sites with chlorinated-solvent contamination include migration of contaminants along utility corridors. The depth to the water table at the Site ranges between approximately 2.75 to 4.25 feet bgs. Based on their invert elevations relative to the water table, the sanitary sewer and water service utility corridor to the former strip mall may receive impacted groundwater from the Site (see Figure 2).

#### 2.4.5 Vapor Intrusion

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

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

Based on these criteria, the occupied building located on the former Pugh Oil property approximately 40 feet directly north of the Site is close enough to the soil and groundwater CVOC plume to warrant investigation of the vapor intrusion pathway. No information was available concerning the building on the former Pugh Oil property north of the Site, so the vapor intrusion pathway at this building was evaluated as part of the remedial action activities and the results are summarized in Section 5.3.

## 3. REMEDIAL GOALS AND OBJECTIVES

This section presents the proposed remedial action goals and objectives for the impacted soil and groundwater at the Site. The overall goal of the remedial action is to remediate soil impacts that threaten human health and the environment, reduce source soil concentrations and mass to

minimize leaching of VOCs through the vadose zone to groundwater, and decrease the persistent groundwater contaminant concentrations at the source and down gradient of the source area consistent with WAC NR 700. This goal can be realized by effectively remediating source soil and groundwater concentrations on site to levels that will ultimately result in stable and/or receding groundwater contaminant concentrations down gradient of the source area as well as reducing the potential for vapor intrusion or need to implement vapor mitigation actions in nearby buildings. The remedial actions proposed for achieving this goal will also result in increased value to, and redevelopment potential of the Site. The following sections discuss the rationale and selected method for establishment of the soil clean-up goals for soil and the remedial objective for achieving a no-further action for residual groundwater impacts at the Site.

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

### 3.1 Proposed Remedial Action Goals for Soil

As the generic WDNR soil to groundwater pathway RCLs for the chemicals of interest (PCE [4.5 ug/kg], TCE [3.6 ug/kg], cis-DCE [41.2 ug/kg], and VC [0.1 ug/kg]) using a dilution-attenuation factor of 2 are more stringent than the corresponding non-industrial direct contact RCLs (PCE [30,700 ug/kg], TCE [1,260 ug/kg], cis-DCE [156,000 ug/kg], and VC [67 ug/kg]), remediation of the site soil to meet groundwater pathway RCLs would require over a 99.99% reduction in the maximum soil concentration and a 99.97% reduction in contaminant mass to achieve the soil to groundwater RCL goals. Contaminant concentration and mass reduction of this magnitude is beyond the capabilities of ordinary soil remedial methods and technologies, and therefore, may not be technically or economically feasible. Furthermore, the soil clean-up concentrations for PCE, TCE, and VC at this level are well below the method detection limits that analytical laboratories can achieve using the most current SW846 methods. As such, a performance-based remedial action goal for the protection of groundwater is recommended instead of the WDNR groundwater pathway RCLs and for the following additional reasons:

- Remediation of the soil source area to the groundwater protection RCLs would likely create an area of clean subsurface soil that may become re-contaminated by potential off-site shallow groundwater impacts in the area;
- Rebound to higher concentration levels following remediation activities could exceed the soil to groundwater RCL concentrations for PCE, TCE, and VC. From this perspective, any added benefit to achieving a soil mass removal to meet the low level soil to groundwater RCL concentrations may prove to be ineffective in the long term; and
- Remediation of soil to these concentrations would be cost prohibitive.

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

Ramboll Environ proposes to establish a clean-up goal for impacted soil based on the direct contact exposure pathway. The default non-industrial direct contact RCL's for PCE, TCE, cis-DCE, and VC will be used as the soil clean-up goals for the Site and are summarized below:

- PCE – 30,700 ug/kg*
- TCE – 1,260 ug/kg
- cis 1,2-DCE – 156,000 ug/kg
- VC – 67 ug/kg

* In addition to achieving the direct contact RCLs, the remedial objective includes removal of sufficient CVOC mass to allow for stable and/or receding groundwater concentrations. To achieve this objective, this residual PCE concentration may result in non-stable groundwater conditions. Therefore, the recommended approach is to address the PCE concentration in soil to at least an order of magnitude less than the non-industrial direct contact RCL for this compound. Based on experience at other similar sites in Wisconsin and because the sorbed phase CVOC mass represents an estimated 99% of the total CVOC mass at the Site, an internal goal of 1,500 ug/kg for PCE is proposed.

These remedial action goals will allow the impacted soil boundaries to be defined and to establish a performance level in which various remedial alternatives can be reasonably compared and evaluated. As direct contact with soil is a potential exposure pathway at the Site, two potential receptors of the residually impacted soil have been identified: 1) current and future on-site workers; and 2) future construction workers. The current and future on-site worker is assumed to not be exposed to soil deeper than 4 feet bgs. However, a future construction worker may be exposed to the chemical of interest (COI) in surface and subsurface soils (0 to 9 feet bgs) via incidental ingestion, dermal contact, and inhalation of volatiles and dust. Therefore, the default non-industrial direct contact RCLs are considered applicable for the subsurface soil throughout the 0 to 9 foot depth to address the construction worker receptor scenario.

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

Remediation of the site soil to the above RCLs will result in a greater than 93% reduction in the maximum documented soil concentration and a greater than 95% overall contaminant mass reduction in source soil. Remediation of soil to these soil performance standards also requires a demonstration that natural degradation processes are functioning to remediate any residual contaminants to levels that are protective of groundwater and which will result in stable and/or decreasing groundwater contaminant concentrations. This remedial strategy achieves the goal of the soil clean-up standard (reducing the threat to the environment) by containing and remediating environmental contaminants. Provided that the conditions required by the performance standard are maintained, no further action regarding the contaminated soil would be required once the soil performance standard has been successfully documented.

### 3.2 Proposed Remedial Action Goals for Groundwater

The closure pathway objective for groundwater at the Site is to obtain a "no further action" status under WAC NR 726 following successful documentation that remedial actions conducted at the source results in reduced mass loading of contaminants to groundwater so that the residual groundwater contaminant plume is stabilized and/or has receding COI concentrations. To document attainment of this goal, a groundwater monitoring program will be implemented to evaluate plume conditions and document that no adverse impact on human health, safety or welfare, and to the environment exists

or develops in the future. This closure pathway for the residual groundwater impacts is anticipated to incorporate a closure approach that relies upon the WDNR's GIS registry for recording closed sites that have residual contamination that exceeds the ES in groundwater.

# 4. EVALUATION OF REMEDIAL ACTION OPTIONS

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

## 4.1 Remedial Action Options Evaluation Considerations

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

- The Site is located in a populated urban area, with high visibility. A remediation strategy should be selected that minimizes short-term exposure and impacts to receptors during construction and long-term exposure based on the final remedy.
- The site owner desires that the Site be available for redevelopment after remediation is complete. Ramboll Environ assumes the redevelopment will include construction of a new site building and other site improvements. Therefore, remedial methods that can accomplish significant soil and groundwater mass removal in the short term are preferred.
- The most heavily impacted soil and groundwater is present within the northern third of the property, and extends from the ground surface to approximate depths of 9 feet bgs.
- Although the presence of dense non-aqueous phase liquid (DNAPL) has not been observed in groundwater samples obtained from the Site, historical data suggests that concentrations of PCE are sufficiently high that DNAPL could be present as DNAPL droplets or ganglia within the porous media near former temporary wells TW-1 and TW-2.
- Removal of all contamination in soil and groundwater to below generic soil and groundwater cleanup standards is not practicable given the magnitude and extent of impacted soil and groundwater at the Site. Therefore, utilization of WAC NR 720 performance standards for soil and groundwater that rely on contaminant mass removal and groundwater CVOC plume stability as the primary remediation objective is proposed.
- Removal of the majority of the residual soil and groundwater CVOC mass in the former source area is essential to reduce the probability for indoor air vapor action level exceedances to occur within any new site building.
- While the mass of soil and groundwater impacts that extend onto the adjacent properties to the north and east of the former Express Cleaners site are relatively small compared to the mass on the former Express Cleaners property, the likelihood for these off-site impacts to cause an indoor air vapor action level exceedance within an off-site building may be relatively low. However, any new building that may be constructed on-site should incorporate a vapor migration barrier.
- After contaminant mass removal, groundwater remediation via natural attenuation will be an essential component to achieving site closure. Enhancing degradation via reductive dechlorination technologies consistent with the existing natural processes at the Site will likely be more successful for long-term groundwater natural attenuation.
- Ramboll Environ does not recommend active soil and groundwater remediation within the eastern portion of the site near monitoring wells MW-6 and MW-13. Groundwater samples collected to date from monitoring well MW-13 have not contained detectable concentrations of VOCs, and

only one groundwater sample obtained from MW-6 revealed a slight exceedance (6.5 ug/L) of the WAC NR 140 ES for PCE (5 ug/L). Monitoring well MW-6 will, however, be included as part of the recommended quarterly groundwater monitoring program for evaluation of MNA.

## 4.2 Technical Feasibility

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

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

## 4.3 Economic Feasibility

The economic feasibility of each appropriate remedial action option was evaluated using the following criteria: capital costs, annual operation and maintenance costs, total present worth of the costs, costs associated with potential future liability, and disruption to businesses on or adjacent to the Site. The economic feasibility of a remedial action option is determined by comparing the costs to what is expected to be technically achieved by that option, taking into account long-term effectiveness, short-term effectiveness, implementability, and the time until restoration is achieved for each option.

## 4.4 Identified Remedial Action Options

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

Based on review of laboratory results of previously-collected soil and groundwater samples, the recommended soil and groundwater treatment area includes the location approximately bounded by monitoring wells MW-1, MW-2, MW-4 and MW-8, as shown on Figure 3 in the *Proposal for Remedial Action Services* (Ramboll Environ, 2016a). This recommended soil and groundwater treatment area covers approximately 5,700 square feet. The vertical extent of the impacted soil and groundwater extends to an average of 9 feet bgs, with impacted soil to 11 feet bgs in the area east of soil boring B9. Based on these dimensions, the target treatment volume includes approximately 1,900 cubic yards, which is equivalent to approximately 2,850 tons. To reduce the potential for off-site migration of impacted groundwater, the recommended target treatment volume includes the east-west trending utility corridor located between the site building and the western property boundary.

Based on the remedial objectives for soil and groundwater identified in Section 3.1 and 3.2, and the groundwater quality data available at the time of this remedial action options evaluation, Ramboll Environ does not recommend active soil and groundwater remediation within the eastern portion of the site near monitoring wells MW-6 and MW-13. Groundwater samples collected to date from monitoring well MW-13 have not contained detectable concentrations of VOCs, and only one groundwater sample obtained from MW-6 revealed a slight exceedance (6.5 ug/L) of the WAC NR 140 ES for PCE (5 ug/L). Monitoring well MW-6 will, however, be included as part of the recommended quarterly groundwater monitoring program for evaluation of MNA.

Approximately one-half of the estimated CVOC mass is present in the vadose zone, and one-half is present in the saturated zone at the Site. As such, CVOC mass above the water table can act as a long-term source of groundwater impact, such that the intended site remediation will include reducing contaminant mass flux to the water table from the vadose zone.

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

- no action;
- institutional/engineering controls;
- monitored natural attenuation;
- excavation and landfill disposal;
- soil vapor extraction;
- air sparging;
- groundwater extraction and treatment;
- *in-situ* electro-thermal remediation;
- *in-situ* chemical oxidation; and
- *in-situ* enhanced reductive dechlorination.

#### 4.4.1 No Action

The No Action response involves no treatment of contaminated soil, groundwater and vapor at the subject property. This response typically serves as a baseline against which the other remedial options and technologies can be compared. The No Action response may be used as the sole remedial action only in the event the prevailing site conditions lead to the determination that the Site poses no significant risk to human health or the environment. In that event, implementation of other types of action becomes unnecessary.

In terms of technical feasibility, the No Action alternative would eventually reduce the magnitude of the existing risk by natural attenuation processes. Because No Action is proposed under this alternative, the implementability is very high. From an administrative feasibility point of view, this alternative would likely not be accepted by the WDNR as the remedy for the Site because short-term remedial objectives would not be met.

This alternative was considered the lowest in terms of present worth cost and disruption to the subject property. It has no associated capital costs or operation and maintenance costs. As indicated above, this alternative would likely not be accepted by the WDNR and is not retained for further evaluation.

### 4.4.2 Institutional Controls

In Wisconsin, the GIS Registry of Closed Remediation Sites provides a means of public notice regarding properties with residual contamination. Sites closed with residual soil contamination exceeding WAC NR 720 RCL values for soil and/or WAC NR 140 ES values for groundwater are required to be listed in the GIS Registry. Sites closed with deed restrictions prior to June 2006 are also included in the GIS Registry. As of June 2006, the GIS Registry also became the database for listing sites closed with land use controls, which replaced deed restrictions.

If a land use control is required for a particular site, a maintenance plan may also be required. Maintenance plans may include requirements for cover inspections, fencing inspections, and/or routine groundwater monitoring. General information provided in the GIS Registry related to soil and/or impacts includes the site analytical data, site maps, as well as any special precautions that may be required for future potential redevelopment of a site.

With regard to technical feasibility, no additional treatment technology would be included with this option; therefore, this alternative can only offer gradual reduction in the toxicity, mobility or volume of the contaminants. As with the No Action alternative, this option would likely not be accepted by the WDNR as the sole remedy for the Site as short-term remedial objectives would not be met. This alternative is therefore not retained for further evaluation as a sole remedy; it is, however, retained for further evaluation in conjunction with closure activities using active remediation.

### 4.4.3 Monitored Natural Attenuation

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

Biodegradation of PCE has been well documented under reducing conditions, and the biochemical pathway and microorganisms responsible have been identified. In addition to these general considerations, cDCE and other daughter products of TCE and PCE are commonly detected in groundwater at the Site. The presence of daughter products such as cDCE is generally understood to result from the biodegradation of TCE, consistent with the well-known biodegradation pathway:

PCE→TCE→cDCE/tDCE→vinyl chloride→ethene

Therefore, the detected presence of cDCE and other daughter compounds at the Site is consistent with biodegradation of TCE and PCE.

MNA has limited effectiveness for contaminant plumes that have migrated to receptors or are present in an area where future groundwater use is likely. The ideal goal of MNA is to demonstrate that active remediation is unnecessary because groundwater plumes will not reach potential receptors or other points of compliance before being remediated by organisms that occur naturally in groundwater.

Groundwater monitoring is used as a tool to provide information regarding changes in subsurface conditions over time. This action is a component of remedial action options for groundwater. In the

case of MNA, time-series data are collected from monitoring wells to evaluate plume stability and determine if natural attenuation is occurring. If MNA is selected as the preferred remedy at a site, time-series monitoring is used to confirm the effectiveness of natural processes in the degradation of contaminants. The WDNR endorses use of the Mann-Whitney U Test, which is equivalent to the Wilcoxon Rank Sum Test, for evaluating natural attenuation processes. Per current WDNR guidance, the Mann-Whitney U Test is conducted by assembling well data for the most recent eight consecutive quarterly or semi-annual sampling events for each contaminant that has exceeded the WAC NR 140 ES at one or more monitoring wells.

No active groundwater treatment process is proposed under this alternative; instead it would rely on the effectiveness of natural processes to reduce the toxicity, mobility and volume of the contaminants after vadose zone soil remediation. Because no major remedial action is proposed as part of this alternative, it would have minimal impact to the community, and on-site workers. No short-term environmental impacts are therefore expected from this alternative. Remedial objectives may be met by implementing this alternative; however, the time to achieve the remedial objectives would be longer than most of the other alternatives considered and would not occur within a reasonable timeframe.

From an administrative feasibility point of view, this option will require a demonstration of effectiveness (*i.e.,* stable or declining concentration trends) before the administrative agency can accept this alternative as the final remedy for the Site. Soluble hydrocarbon plumes containing CVOCs are amenable to natural attenuation processes. However, the presence of CVOCs as DNAPL has been detected in site groundwater. As such, it is not currently possible to estimate a timeframe for completion of MNA and attainment of regulatory case closure in the absence of active groundwater remediation. Moreover, as indicated in WAC NR 722.07, for CVOCs “that do not readily degrade in soil and groundwater, an active remedial action that will reduce the contaminant mass and concentration will typically be necessary.” Based on the foregoing, the MNA alternative alone is not retained for further evaluation, except in conjunction with active remediation.

### 4.4.4 Excavation and Landfill Disposal

Soil excavation and off-site treatment/disposal is a commonly-used approach to achieve remedial objectives for sites with contaminated soils within a short time-frame. Under this option, impacted soils would be excavated and transported off-site for appropriate landfill disposal.

In terms of the identified remedial alternatives to address the CVOC-impacted soil, soil disposal costs associated with the excavation and off-site landfill disposal alternative would be high, as a substantial portion of the impacted soils would likely represent RCRA characteristic hazardous waste based on detected PCE concentrations. Soil that contains greater than 60 mg/kg PCE represents a characteristic RCRA hazardous waste that exceeds land disposal restriction threshold concentrations as provided in 40 CFR 268.40, such that a substantial portion of the excavated soil might require chemical oxidation pre-treatment or incineration with a transportation and disposal cost alone of approximately $700 per ton. Moreover, the depth to the water table is approximately 3 feet bgs, such that substantial additional costs would likely be incurred for infiltrated groundwater disposal and possible excavation shoring during the course of excavation activities. Based on the initial target treatment volumes identified (1,900 cubic yards or 2,850 tons), the cost to implement the soil excavation and off-site treatment/disposal alternative is estimated to total approximately $2,900,000. Based on this evaluation of economic feasibility, the soil excavation and off-site treatment/disposal alternative is not retained for further evaluation.

### 4.4.5 Soil Vapor Extraction

Soil vapor extraction (SVE), also known as "soil venting" or "vacuum extraction," is an *in-situ* remedial technology that reduces concentrations of VOCs adsorbed to soils in the unsaturated

(vadose) zone. In this technology, a vacuum is applied through extraction wells near the source of contamination in the soil. Volatile constituents of the contaminant mass enter the vapor phase and the vapors are drawn toward the extraction wells. Extracted vapor is then treated as necessary (commonly with carbon adsorption) before being released to the atmosphere. SVE may be enhanced by the addition of air inlet wells (sometimes pressurized) within the vacuum radius of influence (ROI), pulsing the air flow in the soil, or switching flow by reversing inlet and extraction wells.

SVE is most effective in removing VOCs at sites with homogeneous, relatively coarse grained soils where the water table is sufficiently deep such that upwelling of groundwater into SVE wells does not occur. SVE typically has limited effectiveness in low permeability and/or wet silts and clays. Based on the shallow depth to the water table at the Site (approximately 3 feet), the SVE remedial alternative is not retained for further evaluation based on technical implementability.

#### 4.4.6 Air Sparging

Air sparging is an *in-situ* remedial technology that reduces concentrations of VOCs in petroleum products that are adsorbed to coarse-grained soils and dissolved in groundwater. This technology, which is also known as "*in-situ* air stripping" and "*in-situ* volatilization," involves the injection of contaminant-free air into the subsurface saturated zone, enabling a phase transfer of hydrocarbons from a dissolved state to a vapor phase. The air is then vented through the unsaturated zone. Air sparging is often used together with SVE, but it can also be used with other remedial technologies. When air sparging is combined with SVE, the SVE system creates a negative pressure in the unsaturated zone through a series of extraction wells to control the vapor plume migration.

When used appropriately, air sparging has been found to be effective in reducing concentrations of VOCs found in petroleum products. However, air sparging is generally more applicable to the lighter gasoline constituents (*i.e.*, benzene, ethylbenzene, toluene, and xylene [BTEX]), because they readily transfer from the dissolved to the gaseous phase. Oxygen added to contaminated groundwater as part of air sparging can also enhance biodegradation of BTEX and other VOCs that are amenable to aerobic bioremediation. PCE is not amenable to aerobic bioremediation. Air sparging processes can also mobilize DNAPLs. Based on comparison of detected PCE concentrations in groundwater with the aqueous solubility of PCE, PCE as DNAPL may be present in the subsurface at the Site. As such, the air sparging remedial alternative is not retained for further evaluation based on technical implementability.

#### 4.4.7 Groundwater Extraction

This alternative consists of groundwater collection coupled with vadose zone source remediation as the selected remedial action option to treat affected groundwater at the subject property. Collection of groundwater is conducted as part of pump-and-treat systems. Groundwater is extracted from the subsurface for the purpose of aboveground treatment prior to re-injection, reuse, or discharge. Collection techniques include use of vertical or horizontal extraction wells or interceptor trenches.

It is widely established that contaminated aquifers typically cannot be restored through simple groundwater extraction and treatment (Keely, 1990; Travis and Doty, 1990; and McKay and Cherry, 1989). As such, groundwater extraction is often used as a hydraulic containment technology, as opposed to an aquifer restoration technology. The limitations associated with pump-and-treat methodology include the following:

- Organic contaminants generally have low solubility in groundwater. Therefore, only a small fraction of the total contaminant mass is accessible to the pump-and-treat process.
- Contaminants sorb onto sediments, further restricting their removal by the pump-and-treat process.

- Many pumping systems create stagnation zones or lead to contamination of previously uncontaminated areas.

The limitations associated with pump-and-treat methodology listed above are exacerbated by the possible presence of DNAPL at the Site, which would result in extended remedial timeframes. Based on the foregoing, the groundwater collection alternative is not retained for further evaluation associated with the Site.

#### 4.4.8 *In-Situ* Electro-Thermal Remediation

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

The continuous heating also lowers the viscosity of water, and causes pressure-driven micro-fracturing in low permeability soils to increase the effective permeability of the soil; these two processes increase the mobility of the identified CVOCs. The increased contaminant mobility allows for the removal of the CVOCs using soil vapor extraction to a degree that would not be possible in the current condition of the soil. Under some *in-situ* electrical resistance thermal remediation approaches, tap water is injected into the electrodes and drawn to soil vapor extraction wells during the operation, to sustain the presence of beneficial steam.

ERH is an aggressive and relatively costly remediation technology that is best suited for treatment of low permeability sites, as opposed to the moderately-high permeability media associated with the impacted silty sand soil at the Site. Moreover, based on the high infrastructure costs alone associated with this technology (often in excess of $1,000,000), this remedial action option is not retained for further evaluation for the Site.

#### 4.4.9 *In-Situ* Chemical Oxidation

Remediation of soil and groundwater impacted with contaminants of interest using *in-situ* chemical oxidation (ISCO) involves injecting or mixing oxidants and potentially co-amendments directly into the impacted media. With chemical oxidation, the substrate loses electrons and is oxidized, while the oxidant gains electrons and is reduced:

$$Cl2C{=}CHCl + H_2O + 3O_3 \rightarrow 2CO_2 + 3Cl^- + 3H^+ + 3O_2$$

Oxidation of Substrate: $Cl2C{=}CHCl + 4H_2O \rightarrow 2CO_2 + 3Cl^- + 9H^+ + 6e^-$

Reduction of oxidant: $O_3 + 2H^+ + 2e^- \rightarrow O_2 + H_2O$

The oxidant chemicals react with the contaminants, producing innocuous substances such as carbon dioxide, water, and, in the case of chlorinated compounds, inorganic chloride. Chlorinated solvents (ethene and ethanes) are amenable to treatment by ISCO.

Four commonly-used oxidants for soil and groundwater remediation are permanganate, persulfate, peroxide, and ozone. Permanganate oxidants are typically selected for their longer persistence in the subsurface to address relatively low permeability soils, fractures, and sometimes to achieve longer transport periods.

For treatment of contaminated soil and groundwater, oxidants in concentrated solution or solid form can be delivered using hydraulic injection, *in-situ* soil blending, or hydraulic fracturing techniques. The chemical oxidant can be injected as a liquid or slurry into the capillary fringe and water bearing zone.

The two most critical success factors in all ISCO projects are the effective distribution of the reagents in the treatment zone and the reactivity of a particular oxidant with the contamination present. Failure to account for subsurface heterogeneities or preferential flow paths can cause an uneven distribution of the oxidant, resulting in pockets of untreated contaminants. The applied reagents also consume natural organic matter in the soil, some of which has sorbed contamination. As the natural organic matter is consumed, the sorbed contamination will be released. Therefore, when applying liquid oxidants in the both the saturated and vadose zone, there is a potential to release contamination to the groundwater. This phenomenon is highly dependent on the transport properties of the soil. The more permeable the soil, the greater chance for release to groundwater because the oxidant has less time for reacting with the contaminants. Desorption of contamination can be considered a benefit for remediation purposes because reactions typically occur in the aqueous phase and more contamination is available for reaction. The remedial design must account for both the sorbed and dissolved-phase contamination for effective site cleanup. An important advantage of ISCO is its relatively high rate of reaction. However, because of the reactivity of the oxidants, there is potential to cause a significant change in both the concentration and distribution of contamination, potentially resulting in large changes in a site's established equilibrium of contaminants between the vapor, liquid, and sorbed phases.

The overall effectiveness of ISCO is primarily dependent on contact with the contaminants. Factors that affect the efficiency, implementability, and costs include injection spacing, hydraulic conductivity, and the ability to inject by direct-push rather than by conventional well drilling techniques. Advantages of using ISCO include *in-situ* treatment (i.e., no treatment equipment to operate and maintain), relatively fast treatment, and potential enhancements to the post-oxidation aerobic microbial environment. Some disadvantages of ISCO are that the natural oxidant demand may be high in some areas and multiple applications may be required. Proper design of a field-scale implementation of ISCO involves evaluation of contaminant concentrations as well as quantitative estimates of other oxidant sinks. In addition to the target contaminants, other possible oxidant sinks include reduced minerals and naturally occurring organic matter. Not all naturally occurring organic matter will be amenable to oxidation, and the level of oxidation of naturally occurring organic matter depends upon the oxidant selected. If all of the oxidant sinks are not properly taken into account, the amount of oxidant that needs to be applied will be underestimated, and it is likely that the ISCO effort will fail.

DNAPL pools, in themselves, cannot be oxidized by chemical oxidants. Chemical oxidation (as well as biodegradation) must occur in the aqueous phase with the process working solely on the "halo" of dissolved constituents surrounding the immiscible-phase contaminants.

Experimental data have shown that if the oxidant can contact the dissolved VOC in the aqueous phase, the VOC will be rapidly destroyed. Similar experiments have shown that small DNAPL droplets in the aqueous phase can also be effectively remediated as the soluble phase is oxidized, driving the equilibrium conditions to solubilize more of the VOC from the DNAPL droplet which is subsequently quickly oxidized (Fam and Kidd, 2005).

Other experimental data indicate that generation of manganese dioxide and carbon dioxide (reaction by-products) presents plugging issues for ISCO application in DNAPL source areas, which can limit treatment efficiencies in terms of total mass destroyed. Localized plugging over time may be sufficient to prevent the efficient delivery of oxidant to the source areas that the oxidant was intended to treat. This entombment of contaminants is due to the generation of manganese dioxide

encrustation at the location of reaction. Because source areas contain the most contaminant, these plugging by-products tend to be co-located at the VOC source areas. In such instances, the resultant oxidant flow regime will no longer contact the most contaminated areas and may lead to flow regimes following paths of least resistance.

As indicated above, oxidants can be delivered using hydraulic injection or *in-situ* soil blending. Injection of oxidants in liquid form through vertical hydraulic probes into shallow heterogeneous vadose zone soils can readily result in preferential transport of oxidant through relatively high permeability zones and short-circuiting of injected oxidant to the ground surface. Both of these outcomes would result in poor oxidant delivery and ineffective soil remediation. Oxidants are often delivered into contaminated soil using *in-situ* soil blending, which serves to increase contact between the oxidant and impacted soil. This approach is most applicable to shallow contamination within the vadose zone (ITRC, 2005).

Hydraulic injection approaches are not effective in delivering oxidant to locations just below ground surface as indicated above. Based on the high detected CVOC concentrations in surficial soil samples previously obtained at the Site, and the high costs associated with soil disposal as discussed in Section 4.4.4, ISCO application using *in-situ* soil blending is retained for further evaluation.

Potassium permanganate would represent an appropriate oxidant for the Site based on its demonstrated effectiveness in treating soil and groundwater impacted with CVOCs. Based on the possible presence of DNAPL at the Site, the total average soil oxidant demand is assumed to range on the order of 10 grams of oxidant per kilogram of soil (g/kg). The actual soil oxidant demand to be applied at the Site would be based on the results of permanganate natural oxidant demand (PNOD) testing.

To achieve a 10 g/kg loading rate, the target treatment zone would need to be dosed with approximately 55,000 pounds of oxidant. Using this quantity of oxidant, costs associated with implementation of the ISCO alternative using *in-situ* soil blending are estimated to total approximately $495,000.

### 4.4.10 *In-Situ* Enhanced Reductive Dechlorination

A variety of *in-situ* reductive chemical and biological reactions can be induced in a contaminated aquifer to remove CVOCs through enhanced solubilization and desorption. Chemical reduction by amendments such as zero valent iron (ZVI) have the advantage of being able to treat high concentrations of CVOCs while producing limited amounts of intermediates, such as VC. Biological reduction by amendments such as emulsified vegetable oil (EVO) or lactates have the advantage of being able to treat low concentrations of CVOCs. The state of the soil and groundwater remediation practice is evolving, in recognition that combining chemical and biological reduction can function synergistically by creating a reducing environment that thermodynamically promotes biological reductive dechlorination. This combined approach is intended to promote rapid abiotic degradation within the zone of influence, and to also enhance long-term biological dechlorination. Summaries of *in-situ* chemical and biological reduction processes are provided below.

#### *In-Situ* Chemical Reduction

*In-situ* chemical reduction (ISCR) is essentially a mirrored technology of ISCO. Both processes involve the transfer of electrons. With chemical reduction, electrons are transferred from the reductant to the substrate. The substrate gains electrons and is reduced, while the reductant loses electrons and is oxidized (Brown, 2008):

$$Cl_2C{=}CHCl + Fe^0 \rightarrow HC{\equiv}CCl + 2Cl^- + Fe^{+2}$$

Reduction of Substrate: $Cl_2C{=}CHCl + 2e^- \rightarrow HC{\equiv}CCl + 2Cl^-$

Oxidation of reductant: $Fe0 \rightarrow Fe^{+2} + 2e^{-}$

How susceptible a chlorinated solvent is to oxidation or reduction is determined by its chemical structure. In general, solvents with carbon atoms that are electron rich are more susceptible to oxidation; carbon atoms that are electron deficient are more susceptible to reduction. The more chlorines added to a solvent molecule the more oxidized it is and the more resistant it is to further oxidation but the more susceptible to reduction.

ZVI has been employed successfully in low pH environments as a stand-alone remedy to support abiotic VOC degradation. Chemical reduction of the VOCs can occur on the ZVI particle surface, and hydrogen produced during iron corrosion can serve as an electron donor for biological dechlorination. In addition, hydroxyl ions produced from corrosion of ZVI increase pH within the treatment area to levels favorable for dechlorination. This abiotic process is suited to aquifers that have relatively high accumulation of daughter products. β-*elimination* mechanisms promoted by ZVI would typically not accumulate daughter products, as the degradation pathways bypass the production of cDCE and VC.

*In-Situ* Biological Reduction

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

The anaerobic microbes use CVOCs during dehalorespiration via reductive dechlorination. There are a variety of bacteria that dehalorespire only on PCE or TCE, producing toxic cDCE in the process. In contrast, the dechlorinating microorganisms *Dehalococcoides* (*Dhc*) are the only known microorganisms capable of further dechlorination to non-toxic ethene. Although *Dhc* microorganisms are widely distributed in the environment, research indicates that they are not ubiquitous. If *Dhc* is absent from a site, incomplete dechlorination and accumulation of cDCE is anticipated to occur, or extended acclimation periods will be required to allow low concentrations or poorly distributed *Dhc* populations to achieve functional cell densities. If the results of groundwater monitoring during the course of anaerobic bioremediation indicate insufficient *Dhc* bacterial populations, then the biostimulation is often combined with bioaugmentation using commercially-available microbes.

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

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

- Select the optimal chemical additives.
- Properly distribute the chemical and biological additives to stimulate the dechlorination process within the contaminated area.
- Bioaugment (if necessary) the site with dechlorinating microbes.

- Maintain the enhanced subsurface conditions for sufficient time to fully dechlorinate the dissolved and adsorbed CVOCs.

Combined *In-Situ* Chemical and Biological Reduction

Biologically mediated ZVI technology has focused on systems that combine abiotic and biotic reduction. For example, NASA developed emulsified zero valent iron (EZVI) to address DNAPL TCE found at the Cape Canaveral Launch Complex 34, Florida facility (Reinhart et al., 2003). The emulsion of oil, surfactants, water, and either microscale (1 to 10 microns) or nanoscale (<1.0 micron) ZVI is injected into the subsurface in the vicinity of the DNAPL. The DNAPL constituents partition into the oil phase and react with the ZVI, yielding less chlorinated VOCs and the innocuous end-products acetylene, ethene and ethane. The oil coating is designed to protect the ZVI from oxidation, which extends the timeframe that the ZVI remains active. The oil and surfactants are fermented to hydrogen, and the corrosion of the iron with the water also leads to hydrogen formation that can then support biological reductive dechlorination of CVOCs. Several reports have demonstrated the effectiveness of EZVI to destroy DNAPL (Lee, M.D., 2008).

Commercially-available products other than EZVI that cost-effectively combine slow-release carbon amendment with ZVI would be applicable to the Site. Such products would represent appropriate reductants based on their demonstrated effectiveness in treating soil and groundwater impacted with high concentrations of CVOCs.

As with ISCO as discussed in Section 4.4.9, reductants can be delivered using hydraulic injection or *in-situ* soil blending. Hydraulic injection approaches are not effective in delivering reagent to locations just below ground surface as indicated above. Based on the high detected CVOC concentrations in surficial soil samples previously obtained at the Site, and the high costs associated with soil disposal as discussed in Section 4.4.4, application of enhanced reductive dechlorination using *in-situ* soil blending is retained for further evaluation.

The application of approximately 38,000 pounds of ZVI and carbon amendment would be recommended to treat the target CVOC-impacted soil and groundwater. The ZVI content would be equivalent to approximately 0.5% of the weight of the target treatment volume. Using this quantity of reductant, costs associated with implementation of the enhanced reductive dechlorination alternative using *in-situ* soil blending are estimated to total approximately $358,300.

## 4.5 Selected Remedial Action

The overall objective for implementing a remedial strategy at the Site is to eliminate soil impacts that threaten human health and the environment and to achieve case closure under NR 726. This can be effectively realized by eliminating the direct contact exposure pathway from accessible surface soil and by addressing persistent subsurface soil contamination to mitigate the soil-to-groundwater exposure pathway. Accordingly, the remedial action selected will accomplish this objective and will result in increased Site value and redevelopment potential.

Based on the evaluation of the various remedial alternatives presented, the selected remedial action determined to be most appropriate for the Site is enhanced reductive dechlorination of unsaturated and saturated soil using a combined in-situ chemical and biological reduction approach (ZVI and carbon amendment such as ABC+) that is applied with in-situ soil blending methods. This alternative will also be coupled with the natural attenuation monitoring alternative for groundwater to document attainment of the remedial action goals for impacted soil, groundwater, and soil vapor.

Source soil exceeding the remedial action goal of 1,500 ug/kg PCE will be treated to a depth of an average of 9 feet throughout the treatment area, and the treatment depth will be extended to a depth of 11 feet in the area east of soil boring location B9. Source soil treatment will eliminate the

direct contact risk and also aid in improving groundwater quality in the immediate area of treatment. This source soil remediation alternative has a relatively short implementation schedule (approximately seven to fourteen days). This highly aggressive and technically feasible treatment option for the source soil makes this the most economically attractive alternative of those evaluated for treating the source soil and groundwater at the Site.

# 5. PRE-REMEDIAL SAMPLING RESULTS

This section summarizes the results of pre-remedial soil and groundwater sampling conducted at the Site in September 2016. A vapor assessment for the Former Pugh Oil Building was also completed in September 2016 and is discussed in the following subsections. The pre-remediation sampling activities were completed in accordance with Ramboll Environ's *Health and Safety Plan* (Ramboll Environ, 2016b).

## 5.1 Pre-Remedial Soil Sampling

Ramboll Environ performed pre-remedial soil sampling to further delineate the extent of PCE impacted soil. The results from the pre-remedial soil samples were used to define the boundaries/volume of soil targeted for remediation and to determine if the volume estimates achieve the remedial objectives based on current data. Ramboll Environ collected the pre-remedial soil samples using a Geoprobe™ at 16 soil boring locations (twelve on the Former Express Cleaners property and four on the adjacent Former Community Gardens site). The locations of the Geoprobe soil borings are illustrated on the attached Figure 3 (shown as B35 through B50). The Geoprobe™ borings were advanced to an average depth of 12 feet bgs at each location, with the exception of soil boring B35 which was completed to 15 feet bgs.

Soil samples for laboratory analysis were collected from pre-determined locations and depth intervals based on the previous soil sampling results and from field screening using a photoionization detector (PID) to obtain the data needed to refine the extent of impacts. Two soil samples from each Geoprobe™ boring were submitted for laboratory analysis for VOCs using United States Environmental Protection Agency (USEPA) method SW-846 8260B. Prior to advancing any borings, all utilities at the Site were marked by a private utility locator and the locations of the Geoprobe™ borings were surveyed. The survey of the boring locations was tied in with the existing soil sample location basemap.

The soil encountered during the pre-remedial soil sampling included sand, sand and gravel, and clay and gravel soil fill to a maximum of 7 feet below ground surface. Silty sand or brown to grey clay was encountered at approximately 6 to 11 feet below ground surface. The soil boring logs are included in Appendix B, Pre-Remediation Soil Boring Logs.

The lateral and vertical extents of PCE impacted soils were delineated based on the pre-remedial soil sampling. The extent of PCE impacted soils is shown on Figure 3. The highest concentrations of PCE were generally detected in the vicinity of the source area surrounding MW-3 and beneath the existing concrete slab, with a maximum detected concentration of 157,000 ug/kg at B-45 (9-10'). In the area downgradient of the source area, three soil samples were collected at soil boring B45 to define CVOC concentrations with depth, and PCE was measured at 110,000 ug/kg (6-8'); 157,000 ug/kg (9-10'); and 622 ug/kg (11-12'). Another area of higher PCE concentrations was identified to the east of monitoring well MW-8, where PCE concentrations of 39,300 ug/kg and 68,000 ug/kg were measured at soil boring B36 (5-7') and B13 (6-8'), respectively.

The pre-remedial soil analytical results were also compared to the site-specific remedial action goals, which were discussed in Section 3.1. The soil analytical results are presented in Table 1. Eight exceedances of the remedial action goal for PCE (1,500 ug/kg) were measured based on the pre-

remedial soil samples. These exceedances were measured in the following samples: B-35 (6-7'); B-36 (6-7'); B-39 (3-5'); B-40 (2-4'); B-40 (9-10'); B-41 (5-7'); B-45 (6-8'); and B-45 (9-10'). The extent of soil PCE impacts are shown on Figure 3. The laboratory analytical data for pre-remediation sampling activities is included Appendix D. These soil analytical results were used to refine the extent of the soil PCE impacts and volume of soil to be remediated, as discussed further in Section 5.4.

### 5.2 Pre-Remedial Groundwater Sampling

In addition to the collection of pre-remedial soil samples, a round of baseline groundwater monitoring was completed in September 2016. It was critical to conduct a baseline groundwater monitoring event since the existing wells had not been sampled since 2011. As part of this task, all 15 monitoring wells and 1 piezometer were sampled for VOCs (Method 8260). In addition, a YSI multi-parameter meter was used to measure geochemical parameters, including pH, dissolved oxygen, and oxidation-reduction potential. In accordance with the WDNR April 2003 guidance document "Understanding Chlorinated Hydrocarbon Behavior in Groundwater" (WDNR Publication RR-669), monitoring wells MW-3 and MW-8 (near the treatment area) were also sampled for the following natural attenuation parameters: ethene/ethane/methane (Method 8015), dissolved iron (Method 8146), total organic carbon (Method 5310), nitrate+nitrite (Method 353.2), and sulfate (Method 300). Two quality assurance/quality control (QA/QC) duplicate groundwater sample and one QA/QC laboratory trip blank sample were submitted for laboratory analysis of VOCs as part of the baseline groundwater monitoring event.

Based on the pre-remedial groundwater sampling results, the concentration of PCE in groundwater ranged from non-detect to 920 µg/kg. The maximum PCE concentration was detected at monitoring well MW-8. The extent of PCE in groundwater is shown on Figure 4. The groundwater analytical results were compared to the WAC NR 140 Enforcement Standards (ES). For PCE, measured concentrations exceeded the NR140 ES (5 ug/L) at seven monitoring wells (MW-1, MW-2, MW-3, MW-6, MW-8, MW-12, and PZ-1). Exceedances of the WAC NR 140 ES for cDCE (70 ug/L) and TCE (5 ug/L) were also measured in groundwater at the following monitoring wells:

- cDCE: MW-1, MW-3, MW-8, and MW-12; and
- TCE: MW-1, MW-2, MW-3, and MW-8.

The groundwater analytical results are presented in Table 2, and the laboratory analytical data is included in Appendix D.

### 5.3 Vapor Assessment of Former Pugh Oil Building

A vapor assessment of the former Pugh Oil building located adjacent to the northern property boundary of the N Main Street portion of the Site was also conducted in September 2016. The vapor assessment consisted of the installation of two soil vapor pins in the building floor followed by the collection of two sub-slab soil vapor samples, SS-VP-1 and SS-VP-2. The soil vapor samples were collected using 6-liter Summa canisters and were submitted for laboratory analysis using USEPA Method TO-15.

The vapor analytical results were compared to the Wisconsin sub-slab vapor risk screening levels (VRSLs) for small commercial buildings. TCE was detected in both sub-slab vapor samples below the VRSL of 290 µg/$m^3$, and cDCE was detected at SS-VP-1 at a concentration of 3 ug/$m^3$. PCE was measured at a concentration of 298 µg/$m^3$ at SS-VP-1 and 6,440 µg/$m^3$ at SS-VP-2. The detected concentration of PCE at SS-VP-2 exceeds the sub-slab VRSL of 6,000 µg/$m^3$ for small commercial buildings. The vapor analytical results are presented in Table 3, and the laboratory analytical results are included in Appendix D.

### 5.4 Updated CVOC Mass Estimates

The results from the pre-remedial soil samples were used to define the boundaries/volume of soil targeted for remediation and to refine the impacted soil volume/mass estimates. The updated CVOC mass estimates calculated for the Site are presented in Table 4. Based on the available site information obtained during the pre-remedial soil sampling activities, previous estimates of the CVOC contaminant mass present in site soil and groundwater were updated based on analytical data for 1,2-cis-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), tetrachloroethene (PCE), and trichloroethene (TCE)[4]. As part of this evaluation the area of impacted soil and groundwater were divided into the 12 areas shown on Figure 2 in the *Proposal for Remedial Action Services*, and the average soil and groundwater concentrations and vertical layer thickness were updated from the previous mass estimate. Vertical layers[5] evaluated included:

1. Soil (vadose) – ranging 2.75 to 5 feet thick[6] in the areas evaluated;
2. Soil (coarse, saturated) – ranging 4.5 to 5 feet thick at the source area (Source Areas 1 and 2);
3. Soil (clay, saturated) – 1.5 feet thick at the source area (Area 1);
4. Groundwater (coarse saturated) – ranging 1 to 6 feet thick in the areas evaluated; and
5. Groundwater (clay saturated) – ranging 0 to 8.5 feet thick in the areas evaluated.

The updated contaminant mass estimate indicates that approximately 439 pounds of CVOC are present in the areas evaluated, and the primary CVOC site contaminant in soil and groundwater is PCE (98% of total CVOC mass present), with smaller amounts of breakdown products (TCE, cis-1,2-DCE, and trans-1,2-DCE). This evaluation indicates that 99% of the CVOC is present in soil; with 1% present in groundwater, which is consistent with the initial mass estimate.

## 6. REMEDIAL ACTION DESIGN AND IMPLEMENTATION PLAN

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

### 6.1 Description of Current Site Conditions

The Site located at 3921-3941 N. Main Street occupies approximately 0.77 acres of land within the City of Racine. An adjacent property located to the east of the Site, and also owned by the Ehrlich Family Limited Partnership occupies approximately 0.45 acres of vacant, grass-covered land. The property at 3921-3941 N. Main Street is currently zoned B-2 (Business District - Community Shopping) in the City of Racine. The surrounding area contains a mixture of both residential and commercial/business properties. In 2015, the strip mall building that occupied the Site was razed and the concrete foundation, which is a 6-inch slab-on-grade with strip footings, was left in-place along with the asphalt parking lot and subsurface utilities that serviced the facility (water, sanitary sewer, telephone, natural gas and electric). All subgrade utilities at the Site have been disconnected from their main service lines and are abandoned in-place. Removal of the abandoned utilities,

[4] Based on the data available, vinyl chloride was only historically detected in groundwater one time at one location (MW3) and was not observed to be present in follow-up groundwater sampling events. Therefore, vinyl chloride was not included in this evaluation.

[5] Note that Ramboll Environ has interpreted the data to indicate that CVOCs are adhered to soil in the upper saturated zone in Source Area 1 and 2, and as such may be a continuing source of CVOCs to groundwater.

[6] Average thickness values used for each area evaluated.

building slab, and asphalt parking areas will occur as part of the implementation of the Site remedial activities.

## 6.2 Pre-Soil Blending Activities

The following sections describe the site administrative and pre-soil blending activities that will be performed in advance of implementing the selected soil and groundwater remedy at the Site. Ramboll Environ has developed a project-specific Health and Safety Plan for the remediation activities to be completed at the Site (Ramboll Environ, 2016c). The plans and specifications for these pre-soil blending activities are included in Appendix A.

### 6.2.1 Permitting and Waste Profile Approvals

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

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

In accordance with the Wisconsin Pollutant Discharge Elimination System (WPDES) general permit requirements, a temporary exemption for injection in accordance with NR 140.28(5), Wis. Adm. Code and approval to inject remedial materials under s. NR 812.05, will be requested. These permit exemption applications were submitted to the WDNR for review (Ramboll Environ, 2016d).

*Waste Profile for Contaminated Material Disposal*

A waste profile form will be completed for disposal of non-hazardous contaminated remediation waste (concrete) and excess soil generated during site remediation/soil blending and submitted to Waste Management – Metro Recycling and Disposal Facility, located in Franklin, Wisconsin, for review and approval.

### 6.2.2 Removal of Existing Building Foundations and Abandoned Utilities

The Former Express Cleaners Site currently contains the concrete footings and a 6-inch concrete slab on-grade for the former one-story building that once consisted of a 6,804 square foot strip mall (without a basement). The building was demolished in 2015 and the immediate area surrounding the strip mall consists of paved parking lots and access drives (Figure 2). In addition, abandoned subsurface utilities that once serviced the strip mall (water, sanitary sewer, natural gas and electric) currently remain in-place in the area designated for remediation and must be removed. The abandoned utilities are presently capped at the property boundary.

In order to implement the selected remedial option, the existing strip mall building foundation, concrete slab and abandoned utilities will be removed prior to conducting the soil remediation activities. Previous investigations conducted at the site indicate that the concrete slab where the dry cleaning processes occurred is contaminated and must be properly managed and disposed. Based on test results from concrete cores collected by a previous consultant, the concrete slab material has concentrations of PCE ranging from 0.033 mg/kg to 0.084 mg/kg. As these concentrations are below the WDNR contained-out concentration of 153 mg/kg and do not exceed the land disposal restriction of 6.0 mg/kg for PCE, it can be concluded that the concrete slab material no longer contains a hazardous waste and can be disposed of as a non-hazardous remediation waste (concrete rubble) at an approved solid waste recycling and disposal facility. The contaminated concrete is currently being permitted for disposal at Waste Management's Metro Recycling and Solid Waste Disposal Facility in Franklin, Wisconsin. The extent of the contaminated remediation waste (concrete slab) identified for disposal at Waste Management's Metro Recycling and Solid Waste Disposal Facility is shown in Figure 5. Because the extent of the concrete strip footings that may be contaminated in the area where the dry cleaning processes occurred has not been verified, Ramboll Environ will sample the concrete footings prior to demolition activities. Three concrete samples will be collected from the

footings and analyzed for VOC and TCLP-VOC. The analytical results will be reviewed and any impacted footing materials found will be managed accordingly.

Removal of the abandoned utilities and the asphalt parking area within the proposed area of remediation will be completed following the removal of the concrete slab and footings and before the implementation of the selected remedy. Details of the locations and the demolition sequencing are provided in Appendix A, Plan Drawings and Specifications.

#### 6.2.3 Soil Erosion and Sediment Control Measures

Prior to implementing the site work, soil erosion and sediment controls measures will be undertaken to prevent runoff, tracking, or loss of soil materials by water or mechanical action from disturbed portions of the Site. The soil erosion and sediment controls will consist of placing silt fence along the perimeter of the Site where drainage of water from high areas toward low areas is expected to occur. In addition, filter fabric or straw bale barriers may be installed at affected non-curbside and curbside catch basins. The remediation contractor will establish and maintain the erosion control features until all earthwork and soil blending is completed and final surface materials have been placed onto work area. Details of the locations and material to be used are provided in Appendix A, Plan Drawings and Specifications.

#### 6.2.4 Security of Work Area

For purposes of securing the work area from bystanders and/or pedestrians walking along North Main Street, a temporary chain link fence will be installed along the Site property boundary to enclose the work area. The location of the temporary chain link fence is detailed in Appendix A, Plan Drawings and Specifications. The temporary chain link fence will be approximately 6 feet high and will contain two gates, one located on the north entrance and on the south entrance to the Former Express Cleaners property. The gates will be locked during non-working hours of the day. The fence will be secured in-place using sand bags that are placed on each of the pole bases. No privacy screening will be included on the temporary fencing. The temporary chain link fence will remain in-place throughout the duration of active soil and groundwater treatment activities. Once the soil blending activities are complete and the site is restored, the remediation contractor will remove the chain link fence.

#### 6.2.5 Monitoring Well Abandonment

Prior to commencement of soil blending activities, existing monitoring wells MW-2 and MW-3 located within the target treatment zone will be abandoned. These monitoring well will be removed using excavating equipment during the removal of the abandoned utilities.

### 6.3 Implementation of *In-Situ* Enhanced Reductive Dechlorination

#### 6.3.1 Treatment Area Layout and Soil Blending Procedure

The extent of the treatment area and layout for soil blending is shown on Figure 6 and Sheet 5 in Appendix A (Plan Drawings and Specifications). The designated soil blending treatment area will be gridded into 20-foot by 20-foot treatment cells and uploaded into an electronic mapping system, with alphabetical columns and numerical rows which will be based on the surveyed site coordinate system.

*In-situ* soil blending involves using an *in-situ* blender to effectively distribute chemical amendments throughout the soil medium to treat the contaminants of concern. The *in-situ* blender is a proprietary system that is mounted on a large excavator with a modified diesel engine and hydraulic system. The *in-situ* blender utilizes a 28-inch diameter mixing drum with specially designed “teeth” which rotates at speeds up to 120 revolutions per minute (rpm) with torque in excess of 20,000 foot-pounds. This allows the mixing drum to penetrate all soil types, even backfill materials such as bricks, rebar, and small rocks.

An excavator will work in tandem with the in situ blending equipment. The excavator will be used to excavate soils as needed and to "loosen" the soils prior to blending and ensure that there are no buried items such as boulders, debris, etc., that may damage the blending head. The excavator will also help to manage soil and movement of the chemical amendments as needed.

The in situ blending process will be performed systematically in treatment cells that are approximately 20-feet by 20-feet across the treatment area. The treatment volume for each cell will be further subdivided into two lifts, from 0 to 4.5 feet and from 4.5 to 9 feet bgs. The depth will be verified visually by placing a visible mark on the boom of the excavator and the soil blender. When the target depth has been reached, this mark will be level with ground surface and will allow all field personnel to verify that the required treatment depths have been reached.

When soil blending within a treatment cell, the upper 4.5 feet of soil will be excavated and placed on the adjacent cell within the treatment area. Once the lower lift has been blended with the predetermined quantity of amendment (ABC+), the upper lift will be backfilled and the process repeated with additional ABC+. The purpose of performing the soil blending in lifts is to ensure that the amendments are properly distributed throughout the soil column and to thoroughly mix and homogenize the entire cell. Each cell will be blended independently. Only after a targeted cell/lift has been fully completed will the equipment move to the next cell/lift. The strategy proposed is intended as a guide and is subject to change if field conditions require. This will be left up to the discretion of the operator and field lead. Details of the locations and methods and materials to be used are included in Appendix A, Plan Drawings and Specifications.

### 6.3.2 Chemical Amendment Mixing and Delivery

The chemical amendment loading rates for each cell and lift will be predetermined. ABC+ will be delivered to the site in two separate components. The liquid portion (ABC+) will be delivered in 330-gallon totes while the ZVI will be delivered in 2,000-pound supersacks. The implementation plan will attempt to design cell dimensions/sizes so that full supersacks of ZVI will be utilized (i.e., Redox Tech will attempt to minimize using partial sacks at cells). This will increase efficiency and ensure proper loading rates are maintained. It is estimated that approximately 38,000 pounds of ZVI and ABC+ will be used to treat the target CVOC-impacted soil and groundwater. The ZVI content will be equivalent to approximately 0.5% of the weight of the target treatment volume.

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

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

### 6.3.3 Potable Water Use

During blending, additional water will be added to the treatment cell to assist in the blending process. Water will be obtained from the City of Racine fire hydrant located approximately 100 feet to the west of the blending area (in N. Main Street right-of-way). The remediation contractor will attempt to use as little water as possible (less than 500 gallons per cell) to avoid producing extremely wet conditions. Blending will continue until a homogeneous consistency is attained. The amount of water that is used will be monitored using a meter that will be connected to the piping connected to the hydrant. The City of Racine Water Utility will install a back-flow preventer, meter, and sweeper valve, with chain for safety purposes. The remediation contractor will lock the appurtenances to prevent theft and/or misuse and will insulate the appurtenances to prevent damage caused by freezing at times of non-use during cold weather.

### 6.3.4 Management of Excess Soil during Soil Blending

The soil blending process, combined with the addition of amendments and water often results in an expansion of soil volume resulting in mounding or soil swell. If this occurs, the excess soils will be moved towards the center of the blending/treatment area by the excavator and tapered towards the edges of the target area. Segregated soil material that is accumulated will be temporarily stored within the “area of contamination” in accordance with all applicable federal and state laws and regulations. Potentially contaminated waste materials will be handled in the same manner as materials that are known to be contaminated.

In the event the amount of swell needs to be further managed or reduced, the excess treated soil material will be placed into lined roll-offs to provide on-site storage prior to receipt of laboratory analytical results needed for disposal off-site at a pre-approved solid waste disposal facility. Prior to disposal, samples will be collected from each roll-off and submitted for laboratory analysis of TCLP-VOC. In addition, the excess blended soil material to be removed from the treatment area may be further amended with a superabsorbent polymer to reduce the water content to acceptable levels to meet the requirements of the landfill prior to off-site disposal. Superabsorbent polymers such as Waste Lock® or CETCO QUIK-SOLID® superabsorbent media would be blended with the excavated soil material as it is loaded into the lined roll-offs. Soil materials derived from the designated impacted areas will be managed in accordance with all applicable federal and state laws and regulations.

### 6.3.5 Materials Storage Area

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

### 6.3.6 Equipment Decontamination

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

### 6.3.7 Ambient Air Monitoring

During implementation of the *in situ* soil blending activities, air quality around the Site must be monitored to ensure that safe conditions are maintained and on-Site workers and the surrounding

community is protected. Therefore, an ambient air monitoring program will be conducted during the soil remediation activities Air monitoring is also useful in determining the necessary level of worker respiratory protection. Air monitoring can also provide first indication that emissions are elevated, and it gives workers and Site managers an early warning that elevated emissions are present before air quality at the perimeter zone is affected.

6.3.7.1 Air Action Levels

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

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

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

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

Additional information on the work zone action level is provided in the project-specific *Health and Safety Plan* (Ramboll Environ, 2016c).

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

- PCE: 2.1 $mg/m^3$ (0.31 $ppm_v$)
- TCE: 0.10 $mg/m^3$ (0.019 $ppm_v$)

To monitor the concentrations in air during the soil remediation activities, an air monitoring technician will operate a calibrated portable Gasmet DX4040 gas analyzer instrument that utilizes Fourier Transformed Infrared Spectroscopy [FTIR] to measure the concentration of tetrachloroethene and trichloroethene in ambient air. The Gasmet DX4040 can detect concentrations of PCE and TCE as low as 0.030 $mg/m^3$. This instrument can accurately and simultaneously identify and quantify organic compounds present in ambient air in a matter of seconds. Instantaneous readings of specific chemicals are recorded and the FTIR communicates with a handheld PDA that can provide the real-time air concentration on a continuous basis. The data is also stored for later download for reporting purposes if required. During routine operations, an air monitoring technician will monitor the work zone and Site perimeter air quality throughout the soil blending operations.

Perimeter air monitoring will be conducted on the perimeter of the Site (i.e., property boundary) based on receptor location and the most probable wind direction at the time of conducting the

remediation. If the action level at a perimeter location is exceeded or if operations in the work zone require an increase in respiratory protection, actions will be immediately implemented to reduce air emissions and continuous monitoring at a downwind perimeter location will continue until monitoring levels are below the action level. The primary response for reducing air emissions is likely to be the use of vapor suppressant foam that can be applied immediately to the soil blending area by the remediation contractor, as discussed in Section 6.3.8.

#### 6.3.7.2 Protocols and Quality Control Procedures

***Work Zone Monitoring:*** The purpose of monitoring air quality within the work zone is to ensure worker safety and provide an early warning (before air quality at the perimeter zone is affected) that elevated emissions are present. A portable instrument (Gasmet DX4040) will be used to measure the levels of VOCs in the areas where workers are located - generally on the edge of the immediate work zone, around stockpiled material, near mixing operations, etc. The instrument will be operated by trained air monitoring technicians, who will move around the work zone. Additional information on the air monitoring in the work zone is provided in the project-specific *Health and Safety Plan* (Ramboll Environ, 2016c). These monitors will provide the most immediate alert if emissions are becoming elevated.

The air monitoring equipment will be calibrated using manufacturers' guidelines and protocols at the beginning of each work day and the results of each calibration documented in a bound project field log book. All air monitoring measurements will be recorded electronically by the Gasmet DX4040 and will be relayed to the Site Safety Officer and/or Site Operations Manager verbally. At the end of the workday, data from the monitoring instrument will be downloaded into the project database.

During operations, if it is determined that a contaminant-specific action level has been exceeded in the work zone, work will be stopped, the level of personal protective equipment (PPE) for on-Site workers will be upgraded as necessary, and actions will be initiated to reduce volatile air emissions. Continuous perimeter monitoring in a downwind location will be initiated. The *Health and Safety Plan* (Ramboll Environ, 2016c) provides additional information on the required levels of PPE.

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

All measurements will be recorded electronically in the handheld PDA and will be relayed to the Site Safety Officer and/or Site Operations Manager verbally. At the end of the workday, data from the instrument will be downloaded into the project database.

If the air action level at a perimeter location is exceeded or if operations in the work zone require an increase in respiratory protection, actions will be immediately implemented to reduce air emissions and continuous monitoring at a downwind perimeter location will be initiated and continued until air quality is below the established action level.

### 6.3.8 Vapor Emissions Control Systems

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

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

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

### 6.3.9 Soil Remediation Verification Sampling

Verification of soil remediation will be conducted through confirmation soil sampling and analysis. To evaluate post-remediation soil conditions, eight hydraulic probes will be installed approximately three months after completion of the *in-situ* enhanced reductive dechlorination remedial action. The hydraulic probes will be installed to depths of an average of 9 feet bgs. The location of the proposed post-remediation verification soil borings are presented on Figure 7.

Two soil samples will be collected from each of the probes, one between 0 to 4 feet bgs and one between 4 and 9 feet bgs, for a total of 16 post-remediation soil samples to be submitted for laboratory analysis of VOCs using USEPA Method 8260. Following soil sample collection, each sample container will be labeled with the sample location identification, date of sample collection and intended analysis. The sample containers will then be packed in an iced, insulated container. A chain-of-custody form will be filled out upon completion and will accompany the container of soil samples to the laboratory. The samples will be transported from the Site to the laboratory via same-day or overnight courier. Laboratory results of soil samples collected prior to commencement of *in-situ* chemical reduction that revealed detectable concentrations of these CVOCs will be compared to the results of soil samples collected after completion of *in-situ* chemical reduction.

The goal of the soil remediation is to reduce the overall soil concentrations to below the remedial action goal of 1,500 ug/kg PCE. This would correlate to a 93% reduction in the maximum documented soil concentration and a 95% overall contaminant mass reduction in source soil. The soil concentration for PCE within the treatment area will be used to evaluate the effectiveness of the remediation and attainment of the remedial action goal. Soil remediation will be considered complete when the concentration of PCE from each of the 16 verification soil samples within the treatment area is below the established soil remedial action goal.

### 6.3.10 Site Restoration

The primary objective of site restoration will be to re-establish the Site surface to a condition that is acceptable for redevelopment or sale of the property. However, because the soil blending process inherently loosens and reduces the structural stability of the soil, the blended soil may require stabilization and/or specialized foundation design to facilitate site redevelopment on top of the blended area. Fly ash, quicklime, or Portland cement can be added after blending as a stabilizer to sufficiently strengthen the soil to allow for redevelopment. Post-blending soil stabilization of the treated soils is not included in this remedial action plan because of the absence of future building construction plans, location, layout, and foundation requirements needed to specify a soil stabilization method. Therefore, it is assumed that alternate foundation considerations will need to be considered such as piles, floating slabs, piers, etc. for any portions of a new building that would be constructed over the blended soil area. After completion of soil blending and/or removal of excess soil from the treatment area, all uneven surfaces around the treatment area will be prepared

for final restoration. As the soil blending is limited to an average depth of 9 feet below grade, the soil treatment area will be stabilized at the surface by first placing a Geotextile Geonet Geocomposite (TENAX TN 450 or equivalent laminated geonet with geotextile) over the treatment area (approximately 5,658 square feet). Eight inches of No. 2 stone (1½" to 2½"), based on AASHTO Standard Sizes of Processed Aggregate will be placed on the geocomposite, followed with four inches of No. 56 stone (1" to 3/8"). The finished surface of the treatment area will be uniform with the surrounding property elevation and graded to create positive runoff of surface water and prevent erosion of final stone aggregate surface. Additional details on the area of site restoration are included in Appendix A, Plan Drawings and Specifications.

## 6.4 Implementation of Groundwater Monitoring Program

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

### 6.4.1 Installation of Additional Monitoring Wells

After completion of the soil blending activities and before implementation of the MNA groundwater monitoring program, the installation of replacement wells at the locations of MW-2 and MW-3 in the soil blending area will be conducted. These wells will serve as replacement wells (MW-2R and MW-3R) and will be constructed with screened intervals similar to those of the existing monitoring wells MW-2 and MW-3. The new monitoring wells will be installed after the soil has had sufficient time to stabilize and support a drill rig. The installation may be initiated approximately four months following completion of the soil blending activities. Ramboll Environ will monitor the stability of the soil and schedule the installation of these monitoring wells at the earliest possible time after the soil remediation is completed.

In addition, one optional off-site groundwater monitoring well (MW-16) may be installed in the general location of the eastern margin of the groundwater plume affecting the North Bay Drive area of the Site at a location satisfactory to WDNR. The monitoring wells will be installed using hollow stem auger drilling methods and will be developed in accordance with WAC NR 141 requirements. A monitoring well construction form for replacement wells MW-2R and MW-3R and for MW-16 (if required) will be provided in the Soil Remediation Completion Report described in Section 7.1.

### 6.4.2 Monitoring Well Sampling Locations and Frequency

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

A total of eight quarterly groundwater monitoring events will be conducted. As part of this task, seven existing monitoring wells (MW-1, MW-2, MW-6, MW-8, MW-9, MW-12, and MW-15) and the

three new monitoring wells (MW-2R, MW-3R, and MW-16 [if required]) will be sampled for VOCs (Method 8260). Monitoring wells MW-4, MW-5, MW-10, MW-11, MW-13, MW-14, and PZ-1 have historically not revealed notable VOC concentrations, and therefore those seven monitoring wells will not be included as part of the subsequent quarterly monitoring program. However, all 17 wells will be sampled as part of the eighth (and assumed final) quarterly groundwater monitoring event prior to preparation of a Case Closure Request.

#### 6.4.3 Field Parameter Measurements

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

#### 6.4.4 Laboratory Analytical Parameters

Monitoring wells MW-3R and MW-8 (near the treatment area) will also be sampled at least once for the following natural attenuation parameters: ethene/ethane/methane (Method 8015), dissolved iron (Method 8146), total organic carbon (Method 5310), nitrate+nitrite (Method 353.2), and sulfate (Method 300). One QA/QC duplicate groundwater sample and one QA/QC laboratory trip blank sample will be submitted for laboratory analysis of VOCs as part of each groundwater monitoring event. All monitoring wells will be sampled for VOCs (Method 8260).

#### 6.4.5 Groundwater Elevation Monitoring

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

#### 6.4.6 Data Evaluation and Assessment

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

#### 6.4.7 Termination of Groundwater Monitoring Program

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

# 7. REPORTING

## 7.1 Preparation of a Soil Remedial Action Completion Report

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

## 7.2 Groundwater Monitoring Reports

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

## 7.3 Site Closure Report

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

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

# 8. IMPLEMENTATION SCHEDULE

A schedule that includes the major remedial activities, milestones, and phases for the project is presented in Figure 8. The quarterly groundwater monitoring program will begin approximately five months after source area remediation activities are completed. Groundwater monitoring results and annual report will submitted approximately one to two months following completion of the fourth quarterly groundwater monitoring event.

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# TABLES

**Table 1: Pre-Remediation Soil Analytical Results**
**Former Express Cleaners Site**
**Racine, Wisconsin**
**Ramboll Environ Project No. 21-41301A**

| Parameters | Soil RCLs | | | B-35 (6-7') | B-35 (9-10') | B-35 (12-13') | B-36 (6-7') | B-36 (9-10') | B-37 (2-4') | B-37 (6-8') | B-37 (9-10') | B-38 (2-4') | B-38 (6-8') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Non-Industrial Direct Contact | Industrial Direct Contact | Groundwater Pathway | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 |
| **VOCs (µg/kg)** | | | | | | | | | | | | | |
| cis-1,2-Dichloroethene[1] | 156,000 | 2,040,000 | 41.2 | 122 | 33.0 J | <25.5 | 166 J | <25.0 | <25.0 | 39.1 J | 101 | <25.0 | <25.0 |
| Styrene[2] | 867,000 | 867,000 | 220 | <25.5 | <25.0 | <25.5 | <125 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 |
| Tetrachloroethene[1] | 30,700 | 153,000 | 4.54 | **3,020** | <25.0 | <25.5 | **39,300** | <25.0 | 143 | 567 | <25.0 | 79.4 | <25.0 |
| Trichloroethene[1] | 1,260 | 8,810 | 3.6 | 842 | <25.0 | <25.5 | 344 J | <25.0 | <25.0 | 115 | <25.0 | <25.0 | <25.0 |

**Notes:**

VOCs = Volatile Organic Compounds

RCL = Residual Contaminant Level

µg/kg = micrograms per kilogram

Soil analytical results are displayed only for the detected VOCs.

[1] Soil analytical results for cis-1,2-Dichloroethene, tetrachloroethene and trichloroethene were compared to the following site-specific remedial goals:

Tetrachloroethene: 1,500 ug/kg

Trichloroethene: 1,260 ug/kg

cis-1,2-Dichloroethene: 156,000 ug/kg

Vinyl chloride: 67 ug/kg

[2] No site-specific remedial goals were established for styrene. Styrene was not detected at concentrations greater than the established soil RCLs.

**Bold value** indicates exceedance of site-specific remedial goal.

Soil RCLs established by the WDNR RR program using the EPA's RSL web-calculator with WAC NR 720 default parameters (WDNR PUB-RR-890, June 2014 - updated RCL spreadsheet dated June 2016).

**Table 1: Pre-Remediation Soil Analytical Results**
**Former Express Cleaners Site**
**Racine, Wisconsin**
**Ramboll Environ Project No. 21-41301A**

| Parameters | Soil RCLs | | | B-39 (3-5') | B-39 (9-10') | B-40 (2-4') | B-40 (6-8') | B-40 (9-10') | B-41 (5-7') | B-41 (9-10') | B-42 (2-4') | B-42 (6-8') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Non-Industrial Direct Contact | Industrial Direct Contact | Groundwater Pathway | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 |
| **VOCs (µg/kg)** | | | | | | | | | | | | |
| cis-1,2-Dichloroethene[1] | 156,000 | 2,040,000 | 41.2 | <25.0 | <25.0 | <25.3 | <217 | <25.0 | <25.5 | <26.0 | <25.0 | <25.0 |
| Styrene[2] | 867,000 | 867,000 | 220 | <25.0 | <25.0 | <25.3 | <217 | <25.0 | <25.5 | <26.0 | <25.0 | <25.0 |
| Tetrachloroethene[1] | 30,700 | 153,000 | 4.54 | **2,070** | <25.0 | **1,530** | **44,200** | 127 | **2,860** | <26.0 | 33.1 J | <25.0 |
| Trichloroethene[1] | 1,260 | 8,810 | 3.6 | <25.0 | <25.0 | <25.3 | 299 J | <25.0 | <25.5 | <26.0 | <25.0 | <25.0 |

**Notes:**

VOCs = Volatile Organic Compounds

RCL = Residual Contaminant Level

µg/kg = micrograms per kilogram

Soil analytical results are displayed only for the detected VOCs.

[1] Soil analytical results for cis-1,2-Dichloroethene, tetrachloroethene and trichloroethene were compared to the following site-specific remedial goals:

Tetrachloroethene: 1,500 ug/kg

Trichloroethene: 1,260 ug/kg

cis-1,2-Dichloroethene: 156,000 ug/kg

Vinyl chloride: 67 ug/kg

[2] No site-specific remedial goals were established for styrene. Styrene was not detected at concentrations greater than the established soil RCLs.

**Bold value** indicates exceedance of site-specific remedial goal.

Soil RCLs established by the WDNR RR program using the EPA's RSL web-calculator with WAC NR 720 default parameters (WDNR PUB-RR-890, June 2014 - updated RCL spreadsheet dated June 2016).

**Table 1: Pre-Remediation Soil Analytical Results**
**Former Express Cleaners Site**
**Racine, Wisconsin**
**Ramboll Environ Project No. 21-41301A**

| Parameters | Soil RCLs | | | B-43 (2-4') | B-43 (6-8') | B-43 (9-10') | B-44 (8-10') | B-45 (6-8') | B-45 (9-10') | B-45 (11-12') | B-46 (2-4') | B-46 (6-8') | B-46 (9-10') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Non-Industrial Direct Contact | Industrial Direct Contact | Groundwater Pathway | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 |
| **VOCs (µg/kg)** | | | | | | | | | | | | | |
| cis-1,2-Dichloroethene[1] | 156,000 | 2,040,000 | 41.2 | <25.0 | 187 J | <25.0 | <26.9 | <500 | <500 | <25.0 | <25.5 | <25.0 | <25.0 |
| Styrene[2] | 867,000 | 867,000 | 220 | <25.0 | <25.0 | <25.0 | <26.9 | <500 | <500 | <25.0 | <25.5 | <25.0 | <25.0 |
| Tetrachloroethene[1] | 30,700 | 153,000 | 4.54 | 800 | 161 J | <25.0 | <26.9 | **110,000** | **157,000** | 622 | 352 | <25.0 | <25.0 |
| Trichloroethene[1] | 1,260 | 8,810 | 3.6 | <25.0 | <25.0 | <25.0 | <26.9 | 871 J | <500 | <25.0 | <25.5 | <25.0 | <25.0 |
| | | | | | | | | | | | | | |

**Notes:**

VOCs = Volatile Organic Compounds

RCL = Residual Contaminant Level

µg/kg = micrograms per kilogram

Soil analytical results are displayed only for the detected VOCs.

[1] Soil analytical results for cis-1,2-Dichloroethene, tetrachloroethene and trichloroethene were compared to the following site-specific remedial goals:

Tetrachloroethene: 1,500 ug/kg

Trichloroethene: 1,260 ug/kg

cis-1,2-Dichloroethene: 156,000 ug/kg

Vinyl chloride: 67 ug/kg

[2] No site-specific remedial goals were established for styrene. Styrene was not detected at concentrations greater than the established soil RCLs.

**Bold value** indicates exceedance of site-specific remedial goal.

Soil RCLs established by the WDNR RR program using the EPA's RSL web-calculator with WAC NR 720 default parameters (WDNR PUB-RR-890, June 2014 - updated RCL spreadsheet dated June 2016).

**Table 1: Pre-Remediation Soil Analytical Results**
**Former Express Cleaners Site**
**Racine, Wisconsin**
**Ramboll Environ Project No. 21-41301A**

| Parameters | Soil RCLs | | | B-47 (1-2') | B-47 (5-7') | B-48 (1-2') | B-48 (5-7') | B-49 (1-2') | B-49 (5-7') | B-50 (1-2') | B-50 (5-7') |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Non-Industrial Direct Contact | Industrial Direct Contact | Groundwater Pathway | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 | 9/13/2016 |
| **VOCs (µg/kg)** | | | | | | | | | | | |
| cis-1,2-Dichloroethene[1] | 156,000 | 2,040,000 | 41.2 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 |
| Styrene[2] | 867,000 | 867,000 | 220 | <25.0 | <25.0 | <25.0 | 114 | <25.0 | <25.0 | <25.0 | <25.0 |
| Tetrachloroethene[1] | 30,700 | 153,000 | 4.54 | <25.0 | <25.0 | 174 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 |
| Trichloroethene[1] | 1,260 | 8,810 | 3.6 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 |
| | | | | | | | | | | | |

**Notes:**

VOCs = Volatile Organic Compounds

RCL = Residual Contaminant Level

µg/kg = micrograms per kilogram

Soil analytical results are displayed only for the detected VOCs.

[1] Soil analytical results for cis-1,2-Dichloroethene, tetrachloroethene and trichloroethene were compared to the following site-specific remedial goals:

Tetrachloroethene: 1,500 ug/kg

Trichloroethene: 1,260 ug/kg

cis-1,2-Dichloroethene: 156,000 ug/kg

Vinyl chloride: 67 ug/kg

[2] No site-specific remedial goals were established for styrene. Styrene was not detected at concentrations greater than the established soil RCLs.

**Bold value** indicates exceedance of site-specific remedial goal.

Soil RCLs established by the WDNR RR program using the EPA's RSL web-calculator with WAC NR 720 default parameters (WDNR PUB-RR-890, June 2014 - updated RCL spreadsheet dated June 2016).

**Table 2: Pre-Remediation Groundwater Analytical Results**
**Former Express Cleaners Site**
**Racine, Wisconsin**
**Ramboll Environ Project No. 21-41301A**

| Parameters | NR 140 Standards | | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 | MW-7 | MW-8 | MW-9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ES | *PAL* | 09/15/2016 | 09/14/2016 | 09/15/2016 | 09/14/2016 | 09/15/2016 | 09/15/2016 | 09/15/2016 | 09/15/2016 | 09/14/2016 |
| **VOCs (µg/L)** | | | | | | | | | | | |
| Chloromethane | **30** | *3* | <1.0 | 0.52 J | <5.0 | <0.50 | <0.50 | <0.50 | 1.0 | <5.0 | <0.50 |
| cis-1,2-Dichloroethene | **70** | *7* | **96.3** | 29.7 | **175** | <0.26 | <0.26 | 4.5 | <0.26 | **71.4** | <0.26 |
| trans-1,2-Dichloroethene | **100** | *20* | 5.1 | 1.6 | 9.4 J | <0.26 | <0.26 | 0.53 J | <0.26 | 4.9 J | <0.26 |
| Tetrachloroethene | **5** | *0.5* | **193** | **47.1** | **437** | <0.50 | <0.50 | **7.8** | <0.50 | **920** | 0.88 J |
| Trichloroethene | **5** | *0.5* | **15.5** | **14.0** | **34.5** | <0.33 | <0.33 | 2.9 | <0.33 | **39.9** | <0.33 |

**Notes:**

VOCs = Volatile Organic Compounds
µg/L = micrograms per Liter
ES = Enforcement Standard
PAL = Preventive Action Limit
Groundwater analytical results are shown only for detected VOCs.
**Bold value** indicates exceedance of NR 140 ES.
J = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

**Table 2: Pre-Remediation Groundwater Analytical Results**
**Former Express Cleaners Site**
**Racine, Wisconsin**
**Ramboll Environ Project No. 21-41301A**

| Parameters | NR 140 Standards | | MW-10 | MW-11 | MW-11 DUP | MW-12 | MW-13 | MW-14 | MW-14 DUP | MW-15 | PZ-1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ES | *PAL* | 09/15/2016 | 09/15/2016 | 09/15/2016 | 09/15/2016 | 09/15/2016 | 09/14/2016 | 09/14/2016 | 09/14/2016 | 09/15/2016 |
| **VOCs (µg/L)** | | | | | | | | | | | |
| Chloromethane | **30** | *3* | 0.79 J | 0.57 J | <0.50 | 0.58 J | 0.77 J | <0.50 | <0.50 | <0.50 | <0.50 |
| cis-1,2-Dichloroethene | **70** | *7* | <0.26 | <0.26 | <0.26 | **92.8** | 4.7 | <0.26 | <0.26 | <0.26 | <0.26 |
| trans-1,2-Dichloroethene | **100** | *20* | <0.26 | <0.26 | <0.26 | 5.0 | 0.56 J | <0.26 | <0.26 | <0.26 | <0.26 |
| Tetrachloroethene | **5** | *0.5* | <0.50 | <0.50 | <0.50 | **25.7** | <0.50 | <0.50 | <0.50 | <0.50 | **5.7** |
| Trichloroethene | **5** | *0.5* | <0.33 | <0.33 | <0.33 | 2.5 | <0.33 | <0.33 | <0.33 | <0.33 | <0.33 |

**Notes:**

VOCs = Volatile Organic Compounds
µg/L = micrograms per Liter
ES = Enforcement Standard
PAL = Preventive Action Limit
Groundwater analytical results are shown only for detected VOCs.
**Bold value** indicates exceedance of NR 140 ES.
J = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

# Table 3: Former Pugh Oil Building Sub-Slab Vapor Sample Results
# Former Express Cleaners Site
# Racine, Wisconsin
# Ramboll Environ Project No. 21-41301A

| VOCs (µg/m$^3$) | Wisconsin Sub-Slab Vapor Risk Screening Levels (µg/m$^3$)[1] | | | SS-VP-1 | SS-VP-2 | |
|---|---|---|---|---|---|---|
| | Residential (AF = 0.03) | Small Commercial (AF = 0.03) | Large Commercial/ Industrial (AF = 0.01) | | | |
| cis-1,2-Dichloroethene | -- | -- | -- | 3.0 | <0.40 | |
| trans-1,2-Dichloroethene | -- | -- | -- | <0.60 | <0.62 | |
| Tetrachloroethene | 1,400 | 6,000 | 18,000 | 298 | **6440** | **A, B** |
| Trichloroethene | 70 | 290 | 880 | 11.1 | 3.2 | |
| Vinyl chloride | 57 | 930 | 2800 | <0.30 | <0.31 | |

Notes:

µg/m$^3$ = Microgram per cubic meter

[1] Wisconsin Vapor Risk Screening Levels based on May 2016 USEPA Regional Screening Level Tables

-- No RSL established.

**Bold** = Exceeds Wisconsin Screening Level

**A** = Exceeds Wisconsin Residential Sub-Slab Vapor Risk Screening Level

**B** = Exceeds Wisconsin Small Commercial Sub-Slab Vapor Risk Screening Level

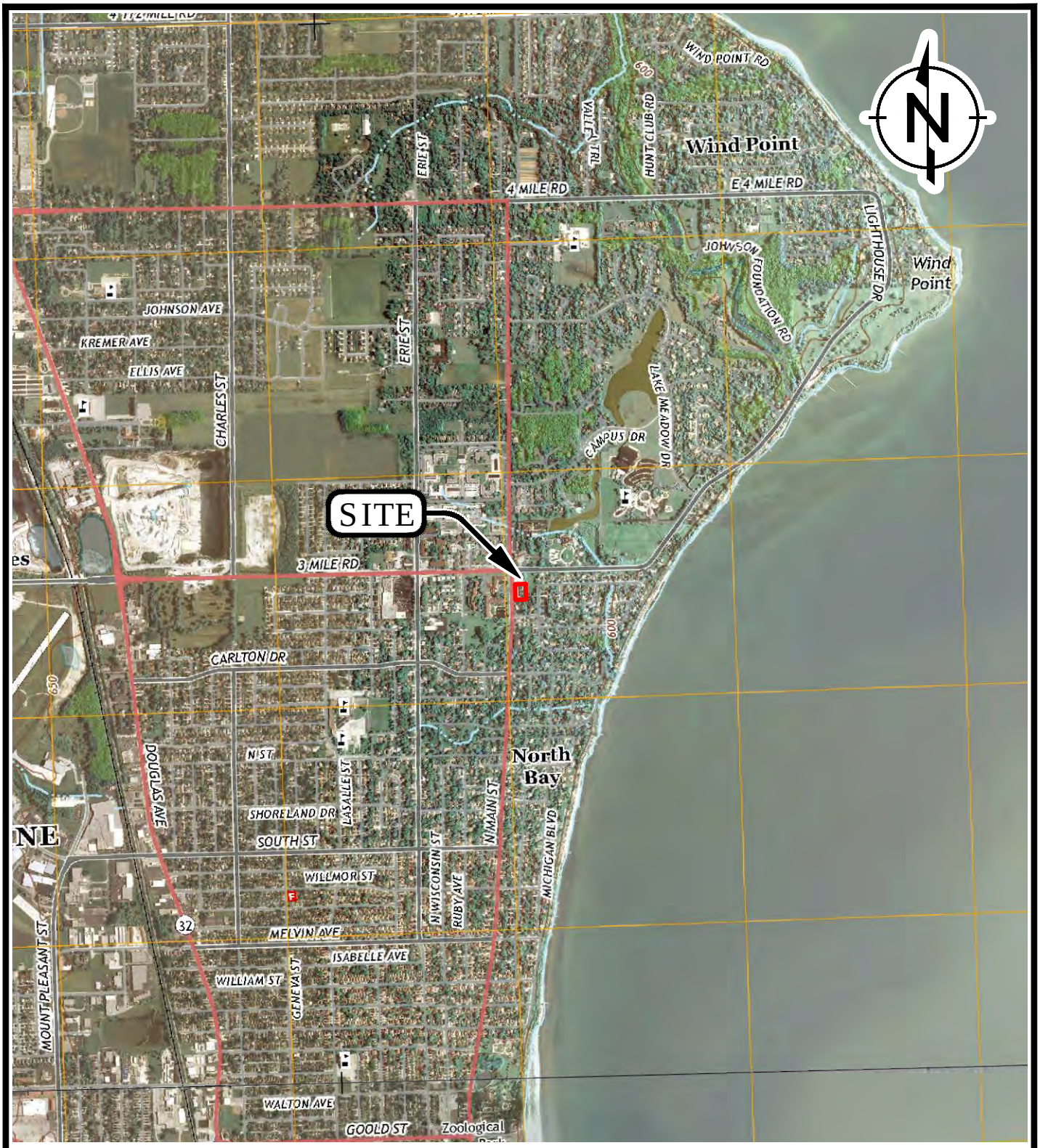
**C** = Exceeds Wisconsin Large Commercial/Industrial Sub-Slab Vapor Risk Screening Level

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

**Table 4: CVOC Mass Estimates**
**Former Express Cleaners Site**
**Racine, Wisconsin**
**Ramboll Environ Project No. 21-41301A**

| Zone | Area Designations | Area (sq ft) | Vertical Zone | cis 1,2 DCE (lbs) | trans 1,2 DCE (lbs) | PCE (lbs) | TCE (lbs) | Subtotal (lbs) | Percent of Total CVOC |
|---|---|---|---|---|---|---|---|---|---|
| Primary Source | 1, 2 | 2,179 | Soil - Vadose Zone | 2.735 | 0.745 | 139.789 | 2.012 | 145.28 | 33.1% |
| | | | Soil (Coarse, Saturated) | 0.174 | 0.003 | 107.035 | 0.496 | 107.71 | 24.5% |
| | | | Soil (Clay, Saturated) | 0.001 | 0.001 | 18.783 | 0.082 | 18.87 | 4.3% |
| | | | Groundwater (Coarse saturated) | 0.034 | 0.002 | 0.086 | 0.007 | 0.13 | 0.0% |
| | | | Groundwater (Clay saturated) | 0.070 | 0.004 | 0.174 | 0.014 | 0.26 | 0.1% |
| Downgradient of Source | 4, 5 | 4,801 | Soil - Vadose Zone | 0.027 | 0.027 | 1.245 | 0.027 | 1.33 | 0.3% |
| | | | Soil (Coarse, Saturated) | 0.017 | 0.017 | 41.499 | 0.535 | 42.07 | 9.6% |
| | | | Groundwater (Coarse saturated) | 0.017 | 0.001 | 0.210 | 0.009 | 0.24 | 0.1% |
| | | | Groundwater (Clay saturated) | 0.029 | 0.002 | 0.378 | 0.016 | 0.43 | 0.1% |
| Plume Adjacent to Source | 3 | 802 | Soil - Vadose Zone | 0.019 | 0.004 | 1.575 | 0.015 | 1.61 | 0.4% |
| | | | Groundwater (Coarse saturated) | 0.084 | 0.002 | 0.398 | 0.011 | 0.49 | 0.1% |
| | | | Groundwater (Clay saturated) | 0.135 | 0.003 | 0.637 | 0.017 | 0.79 | 0.2% |
| Migrated Plume | 6, 7, 8, 9, 10, 11, 12 | 8,227 | Soil - Vadose Zone | 0.122 | 0.122 | 9.019 | 0.130 | 9.39 | 2.1% |
| | | | Soil (Coarse, Saturated) | 0.210 | 0.210 | 109.225 | 0.459 | 110.10 | 25.1% |
| | | | Groundwater (Coarse saturated) | 0.033 | 0.002 | 0.022 | 0.002 | 0.06 | 0.01% |
| | | | Groundwater (Clay saturated) | 0.012 | 0.001 | 0.021 | 0.002 | 0.04 | 0.01% |
| Proposed Treatment Area | Portions of 1, 2, 3, 4, 6, 7, 8, 9 | 5,708 | Soil - Vadose Zone | 2.829 | 0.815 | 139.620 | 2.033 | 145.30 | 33.1% |
| | | | Soil (Coarse, Saturated) | 0.185 | 0.027 | 141.157 | 0.972 | 142.34 | 32.4% |
| | | | Soil (Clay, Saturated) | 0.001 | 0.001 | 17.672 | 0.077 | 17.75 | 4.0% |
| | | | Groundwater (Coarse saturated) | 0.116 | 0.005 | 0.740 | 0.029 | 0.89 | 0.2% |
| | | | Groundwater (Clay saturated) | 0.191 | 0.009 | 1.251 | 0.050 | 1.50 | 0.3% |
| Total Site | All Areas | 16,009 | Soil - Vadose Zone | 2.903 | 0.897 | 151.627 | 2.184 | 157.61 | 35.9% |
| | | | Soil (Coarse, Saturated) | 0.400 | 0.229 | 257.760 | 1.491 | 259.88 | 59.2% |
| | | | Soil (Clay, Saturated) | 0.001 | 0.001 | 18.783 | 0.082 | 18.87 | 4.3% |
| | | | Groundwater (Coarse saturated) | 0.168 | 0.006 | 0.716 | 0.029 | 0.92 | 0.2% |
| | | | Groundwater (Clay saturated) | 0.246 | 0.009 | 1.209 | 0.050 | 1.51 | 0.3% |
| | | | **Summary Total** | **3.72** | **1.14** | **430.10** | **3.83** | **438.8** | |

# FIGURES




CONTOUR INTERVAL 10 FEET

LEGEND:

PROPERTY BOUNDARY (APPROXIMATE)

0 1/2 1

SCALE IN MILES

2000 0 2000 4000

SCALE IN FEET


QUADRANGLE LOCATION

Source: USGS 7.5 minute series (topographic)
Quadrangle: Racine North, Wisconsin (2013), Racine South, Wisconsin (2013).

RAMBOLL ENVIRON

# SITE LOCATION MAP
EXPRESS CLEANERS, INC.
3941 NORTH MAIN STREET
RACINE, WISCONSIN

FIGURE 1

DRAFTED BY: CKL

DATE: 5/21/15

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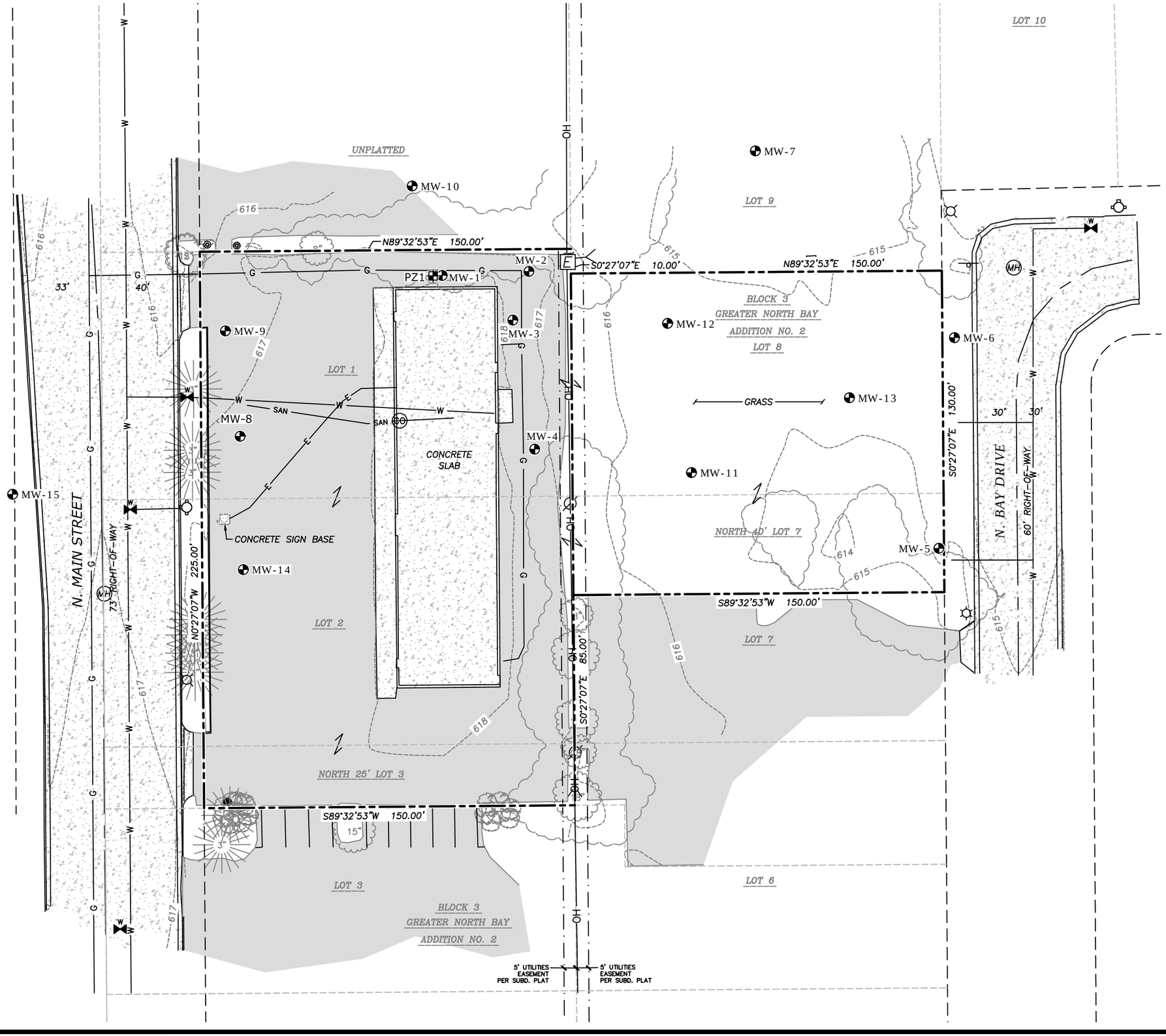


LEGEND

- PROPERTY BOUNDARY
- EXISTING MONITORING WELL
- PIEZOMETER
- HYDRANT
- WATER VALVE
- MANHOLE – UNVERIFIED TYPE
- ELECTRIC PEDESTAL
- LIGHT POLE
- POWER POLE W/GUY
- YARD LIGHT
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH
- PLATTED LOT LINE
- EASEMENT LINE
- CENTERLINE
- RIGHT–OF–WAY LINE
- G — NATURAL GAS
- W — WATER LINE
- OH — OVERHEAD LINE
- SAN — SANITARY SEWER
- BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT

LEGAL DESCRIPTION

ALL OF LOTS 1 AND 2, THE NORTH 25 FEET OF LOT 3, THE NORTH 40 FEET OF LOT 7, AND ALL OF LOT 8, GREATER NORTH BAY ADDITION NO. 2.

TAX KEY NOs: 276-00-00-04-690-001 AND 276-00-00-04-690-024.

40 20 0 40 FT

# SITE PLAN

FORMER EXPRESS CLEANERS
RACINE, WISCONSIN

RAMBOLL ENVIRON

FIGURE 2

DRAFTED BY: APR | DATE: 10/5/16 | 2141301A

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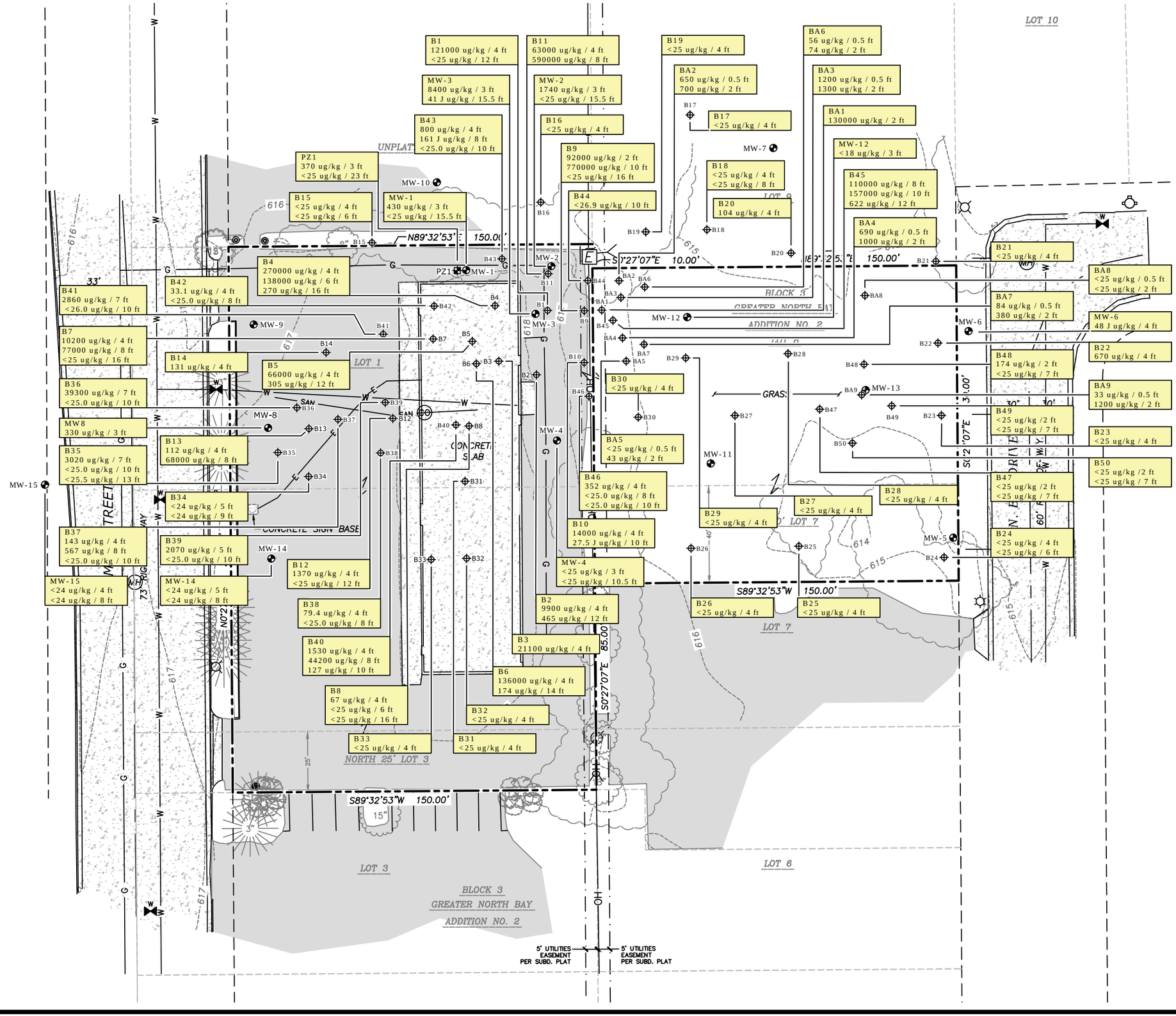


## LEGAL DESCRIPTION

*ALL OF LOTS 1 AND 2, THE NORTH 25 FEET OF LOT 3, THE NORTH 40 FEET OF LOT 7, AND ALL OF LOT 8, GREATER NORTH BAY ADDITION NO. 2.*

*TAX KEY NOs: 276-00-00-04-690-001 AND 276-00-00-04-690-024.*

# EXTENT OF SOIL PCE IMPACTS

FORMER EXPRESS CLEANERS
RACINE, WISCONSIN

RAMBOLL ENVIRON

FIGURE 3

| DRAFTED BY: APR | DATE: 10/7/16 | 2141301A |
|---|---|---|

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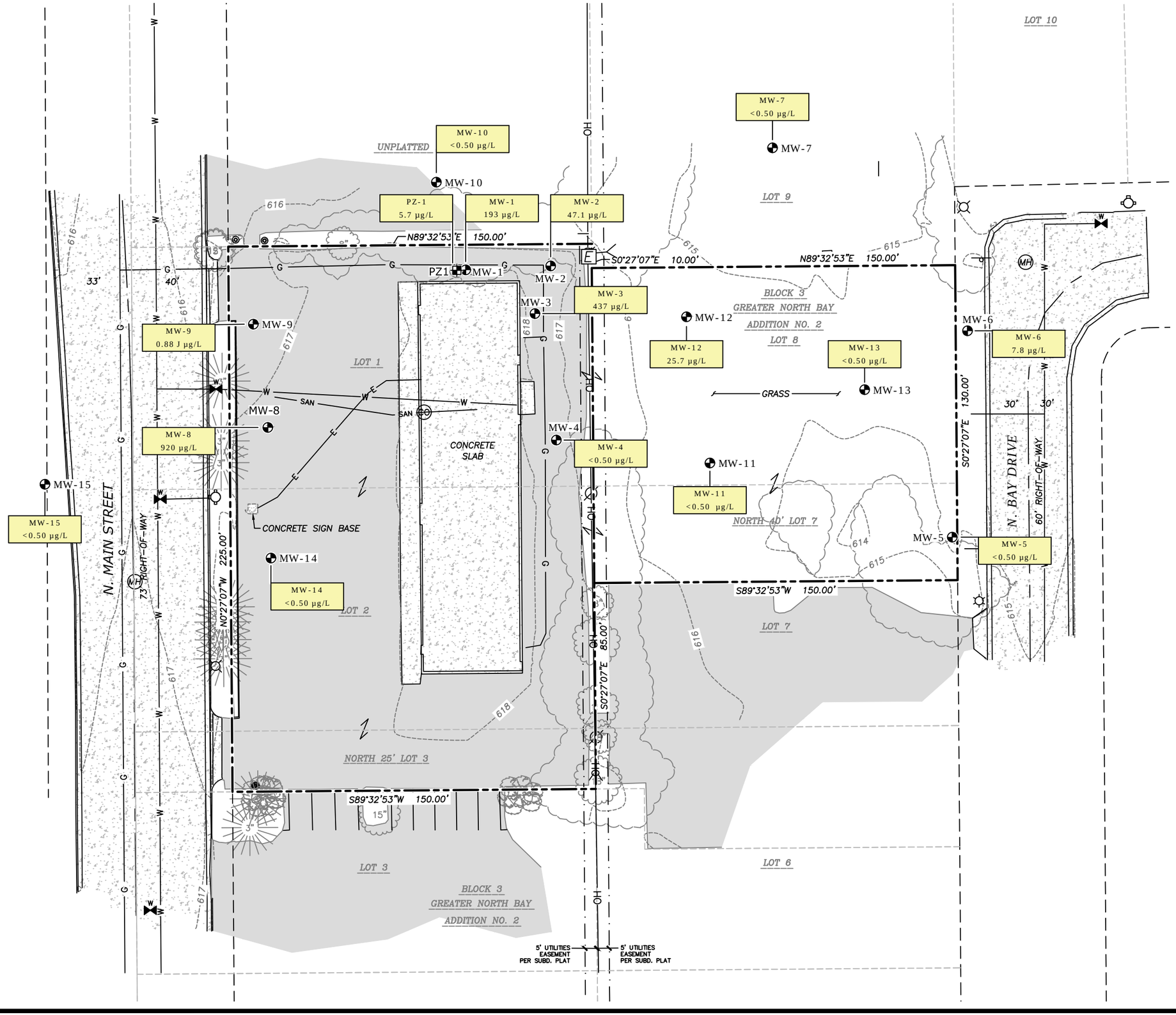


LEGEND

- PROPERTY BOUNDARY
- EXISTING MONITORING WELL
- PIEZOMETER
- HYDRANT
- WATER VALVE
- MANHOLE – UNVERIFIED TYPE
- ELECTRIC PEDESTAL
- LIGHT POLE
- POWER POLE W/GUY
- YARD LIGHT
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH
- PLATTED LOT LINE
- EASEMENT LINE
- CENTERLINE
- RIGHT–OF–WAY LINE
- G — NATURAL GAS
- W — WATER LINE
- OH — OVERHEAD LINE
- SAN — SANITARY SEWER
- BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT

LEGAL DESCRIPTION

ALL OF LOTS 1 AND 2, THE NORTH 25 FEET OF LOT 3, THE NORTH 40 FEET OF LOT 7, AND ALL OF LOT 8, GREATER NORTH BAY ADDITION NO. 2.

TAX KEY NOs: 276-00-00-04-690-001 AND 276-00-00-04-690-024.

40 20 0 40 FT

# EXTENT OF GROUNDWATER PCE IMPACTS (SEPTEMBER 2016)

FORMER EXPRESS CLEANERS
RACINE, WISCONSIN

RAMBOLL ENVIRON

FIGURE 4

DRAFTED BY: APR | DATE: 10/5/16 | 2141301A

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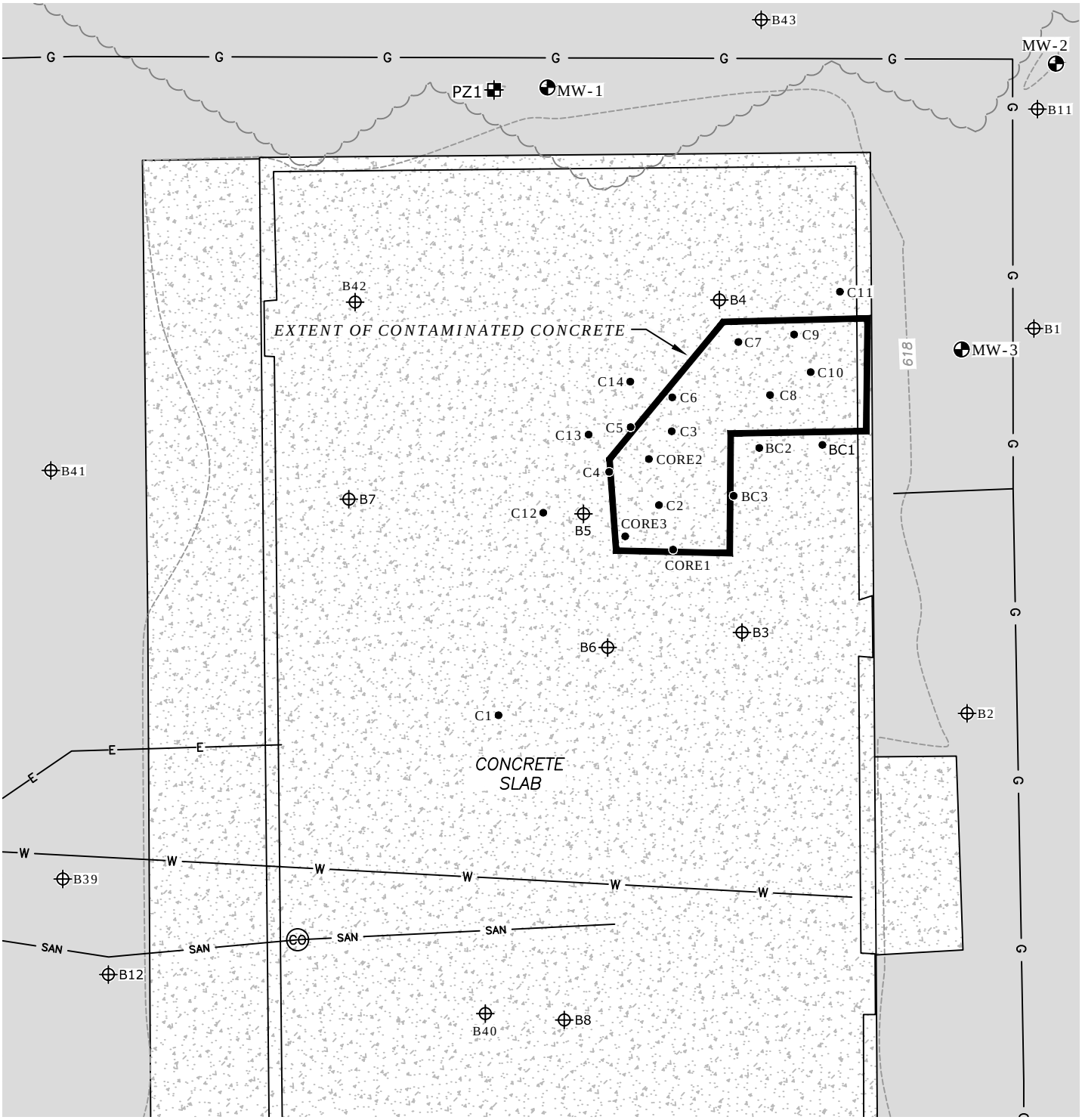


LEGEND

- PROPERTY BOUNDARY
- BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- EXISTING MONITORING WELL
- PIEZOMETER
- SOIL BORING
- CORE SAMPLE

N

0 10

SCALE IN FEET

RAMBOLL ENVIRON

# EXTENT OF PCE-IMPACTED CONCRETE

FORMER EXPRESS CLEANERS
RACINE, WISCONSIN

FIGURE 5

DRAFTED BY: APR | DATE: 10/7/16 | 0740892A

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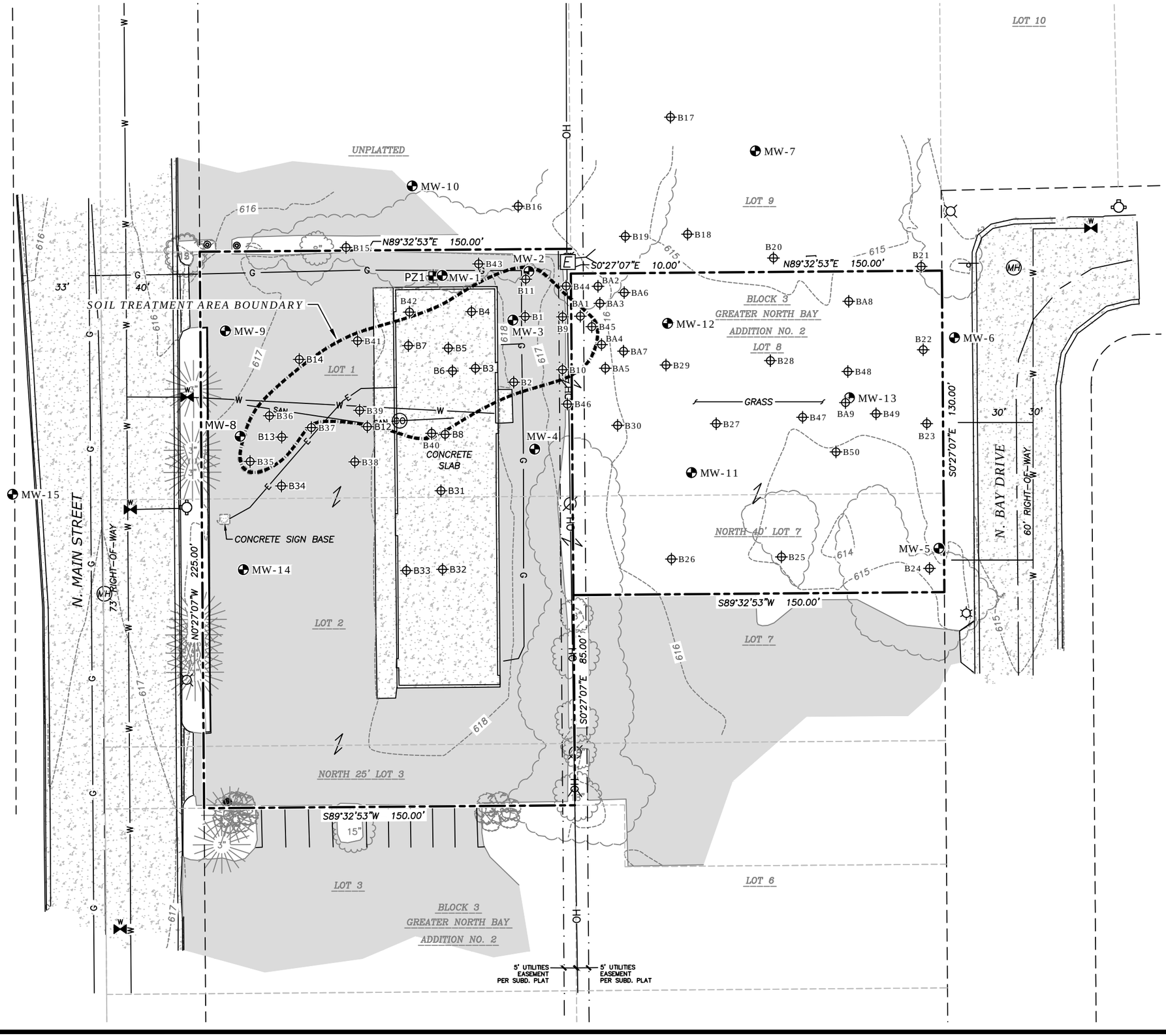


LEGEND

- PROPERTY BOUNDARY
- EXISTING MONITORING WELL
- PIEZOMETER
- SOIL BORING
- HYDRANT
- WATER VALVE
- MANHOLE – UNVERIFIED TYPE
- ELECTRIC PEDESTAL
- LIGHT POLE
- POWER POLE W/GUY
- YARD LIGHT
- DECIDUOUS TREE
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LEGAL DESCRIPTION

ALL OF LOTS 1 AND 2, THE NORTH 25 FEET OF LOT 3, THE NORTH 40 FEET OF LOT 7, AND ALL OF LOT 8, GREATER NORTH BAY ADDITION NO. 2.

TAX KEY NOs: 276-00-00-04-690-001 AND 276-00-00-04-690-024.

40 20 0 40 FT

# SOURCE SOIL AND GROUNDWATER TREATMENT AREA

FORMER EXPRESS CLEANERS
RACINE, WISCONSIN

RAMBOLL ENVIRON

FIGURE 6

DRAFTED BY: APR | DATE: 10/6/16 | 2141301A

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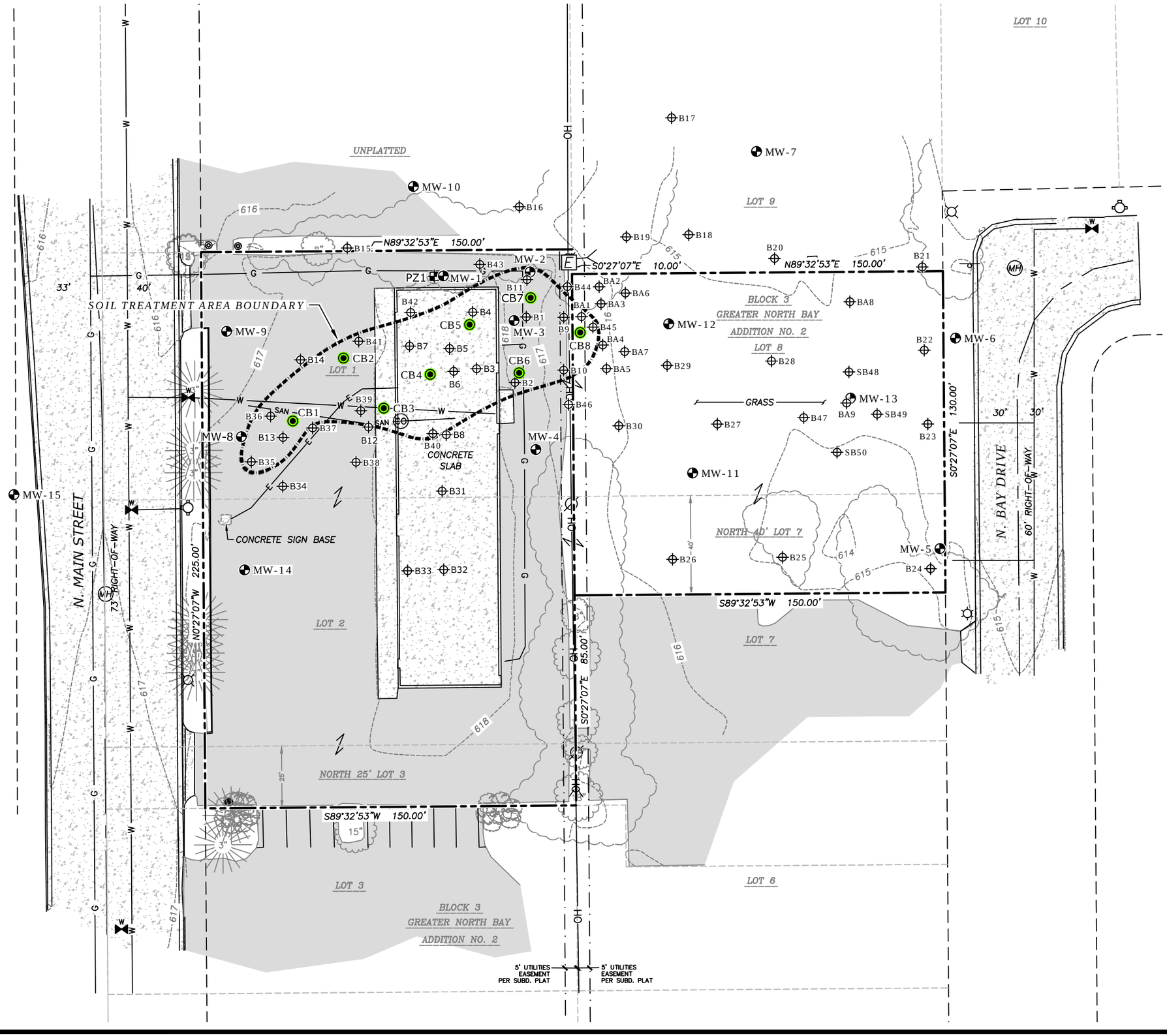


LEGEND

- PROPERTY BOUNDARY
- EXISTING MONITORING WELL
- PIEZOMETER
- SOIL BORING
- POST-REMEDIATION SOIL SAMPLING LOCATION
- HYDRANT
- WATER VALVE
- MANHOLE – UNVERIFIED TYPE
- ELECTRIC PEDESTAL
- LIGHT POLE
- POWER POLE W/GUY
- YARD LIGHT
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH
- PLATTED LOT LINE
- EASEMENT LINE
- CENTERLINE
- RIGHT-OF-WAY LINE
- NATURAL GAS
- WATER LINE
- OVERHEAD LINE
- SANITARY SEWER
- BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT

LEGAL DESCRIPTION

*ALL OF LOTS 1 AND 2, THE NORTH 25 FEET OF LOT 3, THE NORTH 40 FEET OF LOT 7, AND ALL OF LOT 8, GREATER NORTH BAY ADDITION NO. 2.*

*TAX KEY NOs: 276-00-00-04-690-001 AND 276-00-00-04-690-024.*

40 20 0 40 FT

# POST-REMEDIATION SOIL SAMPLING LOCATIONS

FORMER EXPRESS CLEANERS
RACINE, WISCONSIN

RAMBOLL ENVIRON

FIGURE 7

DRAFTED BY: APR | DATE: 10/6/16 | 2141301A

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**Figure 8. Remedial Implementation Schedule**
**Former Express Cleaners Site**
**Racine, WI**

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | Estimated Date of Contract Award | 1 day | Thu 9/1/16 | Thu 9/1/16 |
| 2 | Contract Execution and Project Set-up | 3 days | Fri 9/2/16 | Tue 9/6/16 |
| 3 | Pre-Remedial Soil and Groundwater Sampling | 4 days | Mon 9/12/16 | Thu 9/15/16 |
| 4 | Vapor Assessment at Former Pugh Oil Building | 1 day | Fri 9/16/16 | Fri 9/16/16 |
| 5 | Prepare NR 724 Remedial Action Work Plans | 20 days | Tue 9/6/16 | Mon 10/3/16 |
| 6 | Permitting | 34 days | Tue 9/6/16 | Fri 10/21/16 |
| 7 | Mobilization and Setup of Soil Erosion Controls and Temp Fencing | 1 day | Mon 10/24/16 | Mon 10/24/16 |
| 8 | Remove and Dispose of Concrete Slab and Abandoned Utilities | 4 days | Tue 10/25/16 | Fri 10/28/16 |
| 9 | In Situ Soil Blending | 7 days | Mon 10/31/16 | Tue 11/8/16 |
| 10 | Site Restoration and Demobilization | 3 days | Wed 11/9/16 | Fri 11/11/16 |
| 11 | Post Remediation Soil Confirmation Sampling | 3 days | Wed 2/22/17 | Fri 2/24/17 |
| 12 | Prepare NR 724 Soil Remedial Action Completion Report | 25 days | Mon 3/13/17 | Fri 4/14/17 |
| 13 | Install Additional/Replacement Monitoring Wells | 3 days | Tue 3/28/17 | Thu 3/30/17 |
| 14 | 1st Post Remediation Quarterly Groundwater Monitoring Round | 3 days | Wed 4/19/17 | Fri 4/21/17 |
| 15 | 2nd Post Remediation Quarterly Groundwater Monitoring Round | 3 days | Wed 7/19/17 | Fri 7/21/17 |
| 16 | 3rd Post Remediation Quarterly Groundwater Monitoring Round | 3 days | Wed 10/18/17 | Fri 10/20/17 |
| 17 | 4th Post Remediation Quarterly Groundwater Monitoring Round | 3 days | Wed 1/17/18 | Fri 1/19/18 |
| 18 | 5th Post Remediation Quarterly Groundwater Monitoring Round | 3 days | Wed 4/18/18 | Fri 4/20/18 |
| 19 | 6th Post Remediation Quarterly Groundwater Monitoring Round | 3 days | Wed 7/18/18 | Fri 7/20/18 |
| 20 | 7th Post Remediation Quarterly Groundwater Monitoring Round | 3 days | Wed 10/17/18 | Fri 10/19/18 |
| 21 | 8th Post Remediation Quarterly Groundwater Monitoring Round | 3 days | Wed 1/16/19 | Fri 1/18/19 |
| 22 | Prepare and Submit NR 726 Closure/GIS Documents | 30 days | Mon 2/4/19 | Fri 3/15/19 |
| 23 | WDNR Case Closure Review | 60 days | Mon 3/18/19 | Fri 6/7/19 |
| 24 | Estimated Case Closure by WDNR | 1 day | Tue 6/11/19 | Tue 6/11/19 |
| 25 | Well Abandonment | 2 days | Thu 6/20/19 | Fri 6/21/19 |

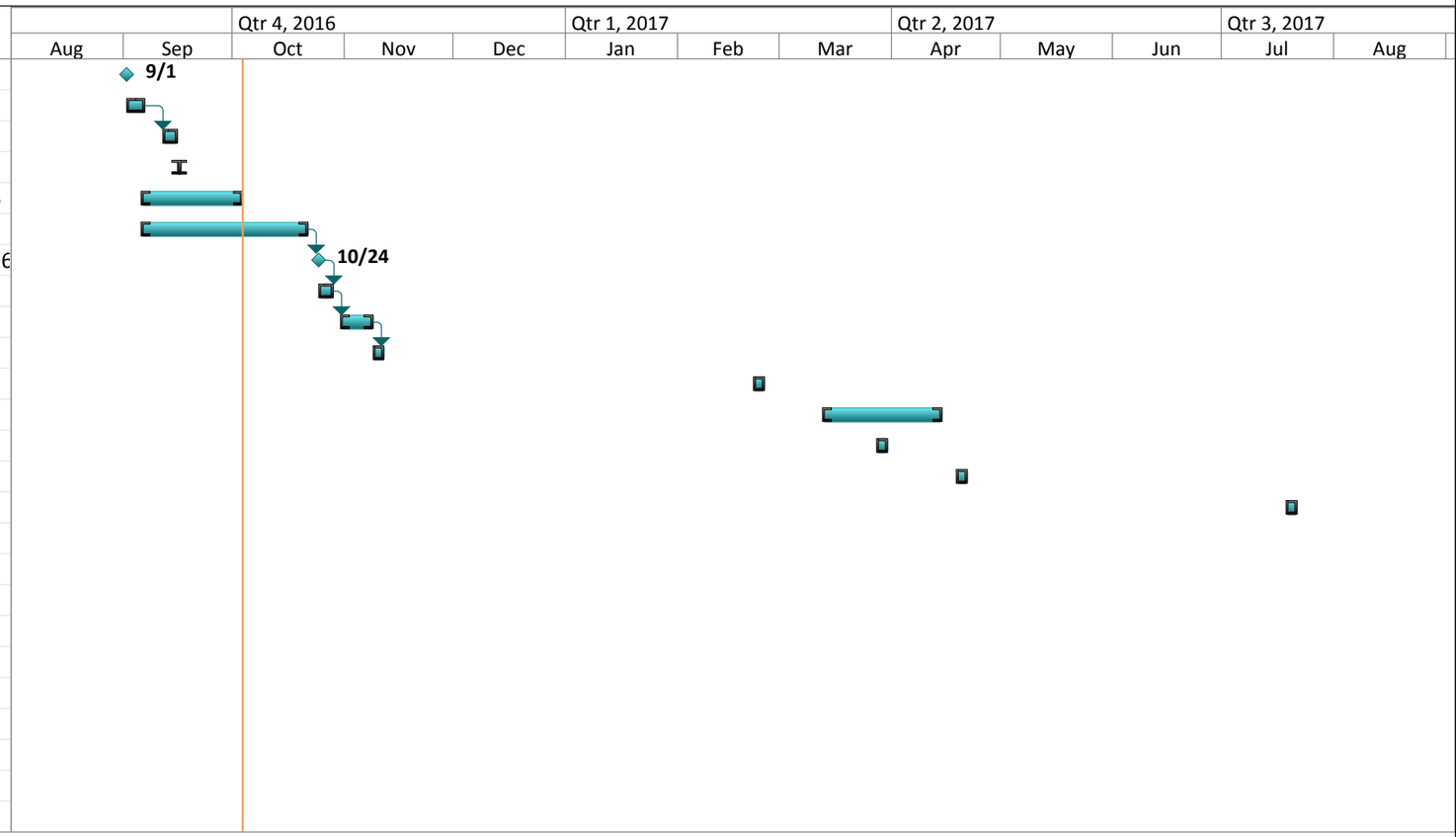
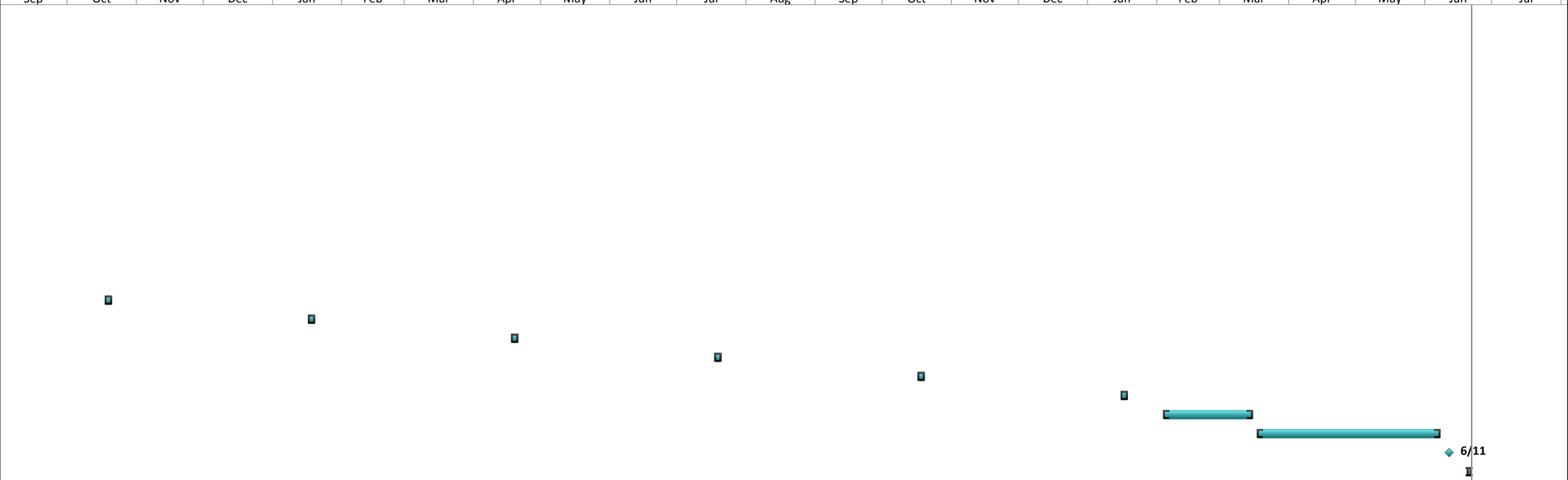


**Figure 8. Remedial Implementation Schedule**
**Former Express Cleaners Site**
**Racine, WI**

| | Qtr 4, 2017 | | | Qtr 1, 2018 | | | Qtr 2, 2018 | | | Qtr 3, 2018 | | | Qtr 4, 2018 | | | Qtr 1, 2019 | | | Qtr 2, 2019 | | | Qtr 3, 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul |



# APPENDIX A

## Plan Drawings and Specifications

# PLAN DRAWINGS AND SPECIFICATIONS

SOURCE AREA SOIL AND GROUNDWATER REMEDIATION
FORMER EXPRESS CLEANERS
3921-3941 N. MAIN STREET, RACINE, WISCONSIN
OCTOBER 2016


SOURCE: AERIAL IMAGERY: GOOGLE EARTH™, IMAGE DATED 06/18/2016.


**SITE LOCATION**

## INDEX TO DRAWINGS



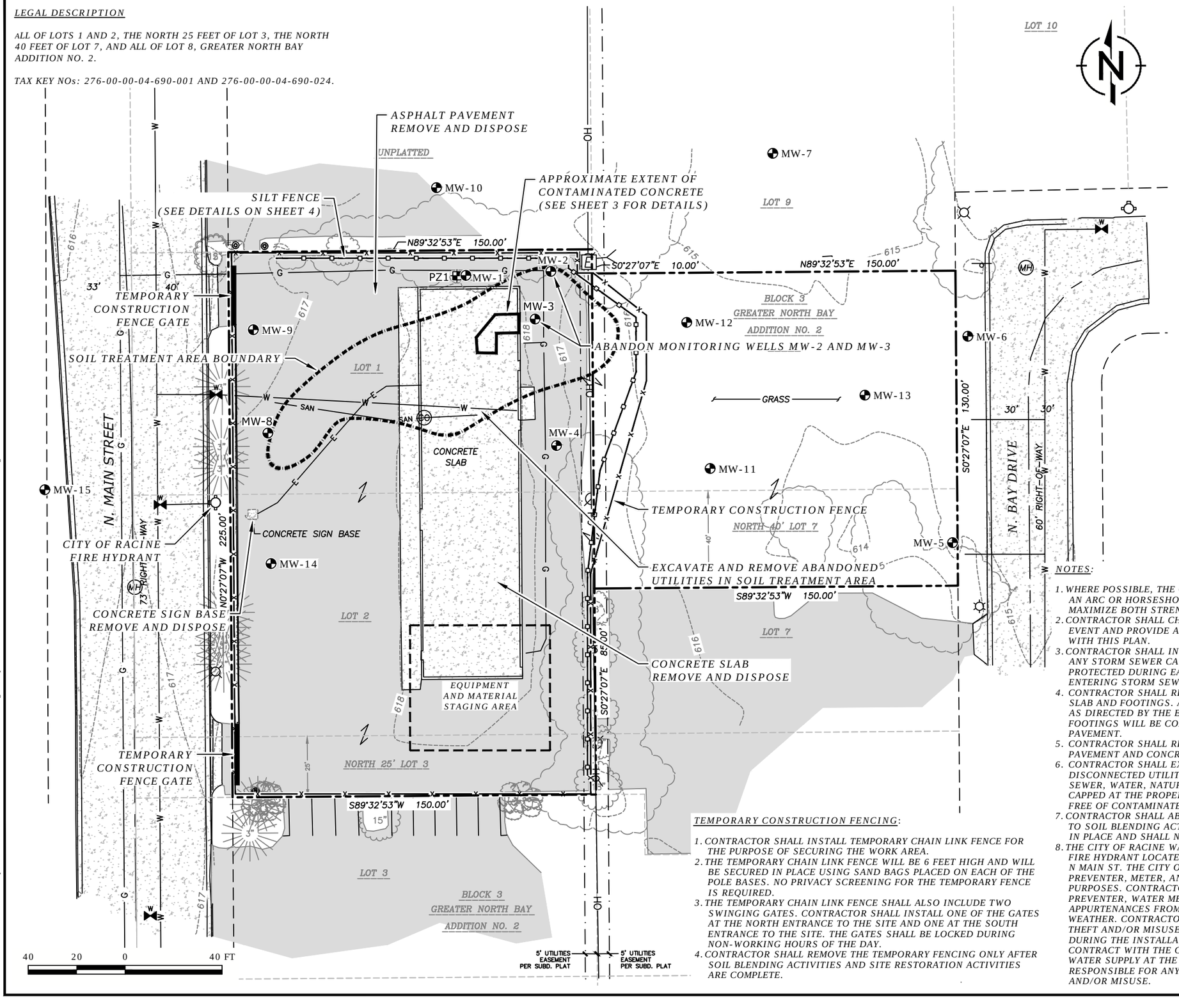
*PREPARED BY*
RAMBOLL ENVIRON

E:\00_CAD FILES\21\M&Z_Express Cleaners RA 2141301A\2016 RAP\Dwgs & Specs\01_Cover Sheet.dwg

*LEGAL DESCRIPTION*

*ALL OF LOTS 1 AND 2, THE NORTH 25 FEET OF LOT 3, THE NORTH 40 FEET OF LOT 7, AND ALL OF LOT 8, GREATER NORTH BAY ADDITION NO. 2.*

*TAX KEY NOs: 276-00-00-04-690-001 AND 276-00-00-04-690-024.*




*LEGEND*

- PROPERTY BOUNDARY
- EXISTING MONITORING WELL
- PIEZOMETER
- SOIL BORING
- HYDRANT
- WATER VALVE
- MANHOLE – UNVERIFIED TYPE
- ELECTRIC PEDESTAL
- LIGHT POLE
- POWER POLE W/GUY
- YARD LIGHT
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH
- PLATTED LOT LINE
- EASEMENT LINE
- CENTERLINE
- RIGHT–OF–WAY LINE
- NATURAL GAS
- WATER LINE
- OVERHEAD LINE
- SANITARY SEWER
- BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- SILT FENCE
- TEMPORARY CONSTRUCTION FENCE
- TREATMENT AREA BOUNDARY

*NOTES:*

1. *WHERE POSSIBLE, THE CONTRACTOR SHALL CONSTRUCT THE SILT FENCE IN AN ARC OR HORSESHOE SHAPE WITH ENDS POINTING UPSLOPE TO MAXIMIZE BOTH STRENGTH AND EFFECTIVENESS.*
2. *CONTRACTOR SHALL CHECK ALL SILT FENCE INSTALLATION AFTER A STORM EVENT AND PROVIDE ANY MAINTENANCE REQUIRED FOR CONFORMANCE WITH THIS PLAN.*
3. *CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROLS AROUND ANY STORM SEWER CATCH BASINS/GRATE INLETS. INLETS SHALL BE PROTECTED DURING EARTHWORK ACTIVITIES TO PREVENT SEDIMENT FROM ENTERING STORM SEWERS IN PUBLIC RIGHT-OF-WAY.*
4. *CONTRACTOR SHALL REMOVE AND DISPOSE OF THE EXISTING CONCRETE SLAB AND FOOTINGS. ANY CONTAMINATED CONCRETE SHALL BE MANAGED AS DIRECTED BY THE ENGINEER. THE REMOVAL OF THE CONCRETE SLAB AND FOOTINGS WILL BE COMPLETED PRIOR TO THE REMOVAL OF THE ASPHALT PAVEMENT.*
5. *CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING ASPHALT PAVEMENT AND CONCRETE SIGN BASE ON THE PROPERTY.*
6. *CONTRACTOR SHALL EXCAVATE, REMOVE, AND DISPOSE OF ALL DISCONNECTED UTILITIES IN THE SOIL TREATMENT AREA. ALL SANITARY SEWER, WATER, NATURAL GAS, AND ELECTRIC SERVICES ARE PRESENTLY CAPPED AT THE PROPERTY BOUNDARY. ALL EXCAVATED UTILITIES SHALL BE FREE OF CONTAMINATED SOIL PRIOR TO DISPOSAL.*
7. *CONTRACTOR SHALL ABANDON MONITORING WELLS MW-2 AND MW-3 PRIOR TO SOIL BLENDING ACTIVITIES. ALL OTHER MONITORING WELLS TO REMAIN IN PLACE AND SHALL NOT BE DAMAGED.*
8. *THE CITY OF RACINE WATER UTILITY WILL PROVIDE A CONNECTION TO THE FIRE HYDRANT LOCATED NEAR THE WESTERN PROPERTY BOUNDARY ALONG N MAIN ST. THE CITY OF RACINE WATER UTILITY WILL INSTALL A BACKFLOW PREVENTER, METER, AND SWEEPER VALVE, WITH CHAIN FOR SAFETY PURPOSES. CONTRACTOR SHALL INSTALL INSULATION FOR THE BACKFLOW PREVENTER, WATER METER, AND SWEEPER VALVE TO PROTECT THESE APPURTENANCES FROM FREEZING AT TIMES OF NON-USE DURING COLD WEATHER. CONTRACTOR SHALL LOCK THE APPURTENANCES TO PREVENT THEFT AND/OR MISUSE. CONTRACTOR SHALL BE PRESENT AT THE SITE DURING THE INSTALLATION OF THE APPURTENANCES AND SHALL SIGN THE CONTRACT WITH THE CITY OF RACINE FOR THE USE OF THE TEMPORARY WATER SUPPLY AT THE TIME OF CONNECTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE EQUIPMENT CAUSED BY FREEZING AND/OR MISUSE.*

*TEMPORARY CONSTRUCTION FENCING:*

1. *CONTRACTOR SHALL INSTALL TEMPORARY CHAIN LINK FENCE FOR THE PURPOSE OF SECURING THE WORK AREA.*
2. *THE TEMPORARY CHAIN LINK FENCE WILL BE 6 FEET HIGH AND WILL BE SECURED IN PLACE USING SAND BAGS PLACED ON EACH OF THE POLE BASES. NO PRIVACY SCREENING FOR THE TEMPORARY FENCE IS REQUIRED.*
3. *THE TEMPORARY CHAIN LINK FENCE SHALL ALSO INCLUDE TWO SWINGING GATES. CONTRACTOR SHALL INSTALL ONE OF THE GATES AT THE NORTH ENTRANCE TO THE SITE AND ONE AT THE SOUTH ENTRANCE TO THE SITE. THE GATES SHALL BE LOCKED DURING NON-WORKING HOURS OF THE DAY.*
4. *CONTRACTOR SHALL REMOVE THE TEMPORARY FENCING ONLY AFTER SOIL BLENDING ACTIVITIES AND SITE RESTORATION ACTIVITIES ARE COMPLETE.*

| ISSUED FOR | NO. | DATE | DESCRIPTION |
|---|---|---|---|
| | | | |

PROJECT MGR: ST
DRAFTED BY: APR
CHECKED BY: ST
SCALE: AS SHOWN
DATE: 10/6/16

**PRE-REMEDIATION SITE CONSTRUCTION PLAN**
FORMER EXPRESS CLEANERS
RACINE, WISCONSIN

RAMBOLL ENVIRON



SHEET 2

2141301A

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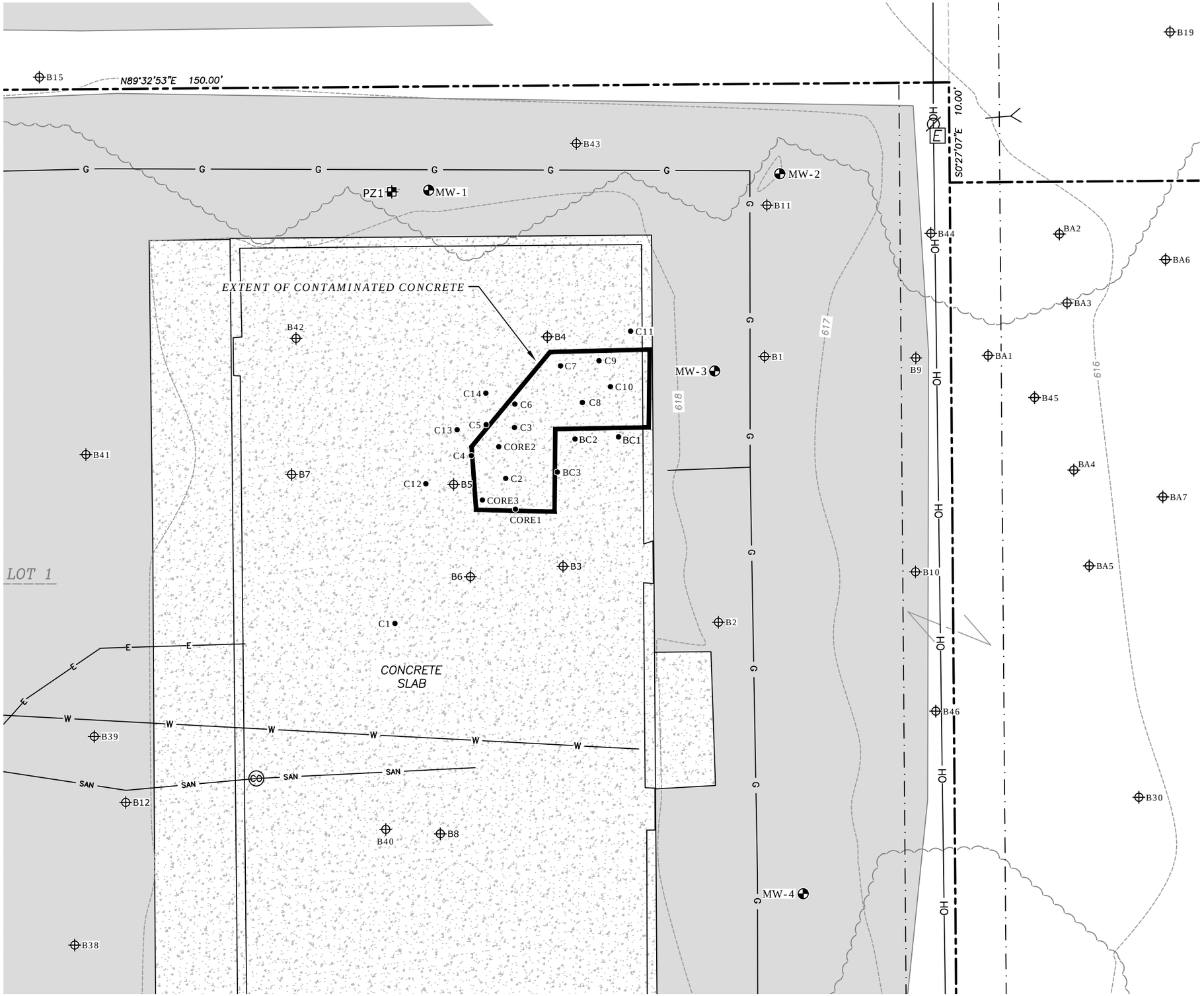


*LEGEND*

- PROPERTY BOUNDARY
- EXISTING MONITORING WELL
- PIEZOMETER
- SOIL BORING
- CORE SAMPLE
- ELECTRIC PEDESTAL
- POWER POLE W/GUY
- EASEMENT LINE
- G — NATURAL GAS
- W — WATER LINE
- OH — OVERHEAD LINE
- SAN — SANITARY SEWER
- BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT

*NOTES:*

1. *THE EXTENT OF IDENTIFIED CONTAMINATED CONCRETE, ALSO SHOWN ON SHEET 2, IS TO BE MANAGED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL REMOVE AND DISPOSE OF CONTAMINATED CONCRETE AND ANY CONTAMINATED CONCRETE FOOTINGS AS DIRECTED BY THE ENGINEER BASED ON ADDITIONAL CONCRETE TESTING (BY OTHERS).*
2. *THE CONTAMINATED CONCRETE SHALL BE DISPOSED AT WASTE MANAGEMENT'S METRO RECYCLING AND SOLID WASTE DISPOSAL FACILITY IN FRANKLIN, WISCONSIN.*

*LEGAL DESCRIPTION*

*ALL OF LOTS 1 AND 2, THE NORTH 25 FEET OF LOT 3, THE NORTH 40 FEET OF LOT 7, AND ALL OF LOT 8, GREATER NORTH BAY ADDITION NO. 2.*

*TAX KEY NOs: 276-00-00-04-690-001 AND 276-00-00-04-690-024.*

10 5 0 10 FT

ISSUED FOR

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

PROJECT MGR: ST
DRAFTED BY: APR
CHECKED BY: ST
SCALE: AS SHOWN
DATE: 10/7/16

# DETAILS FOR MANAGEMENT OF PCE-IMPACTED CONCRETE

FORMER EXPRESS CLEANERS
RACINE, WISCONSIN

ENVIRON
RAMBOLL



SHEET
3

2141301A

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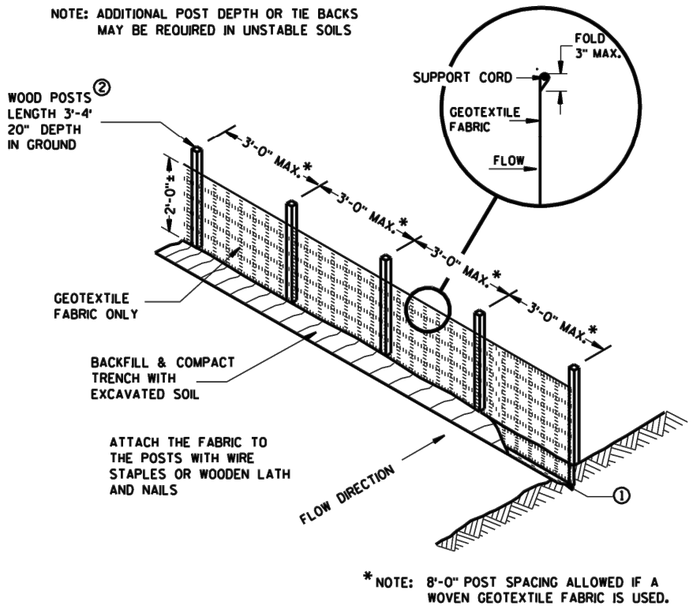
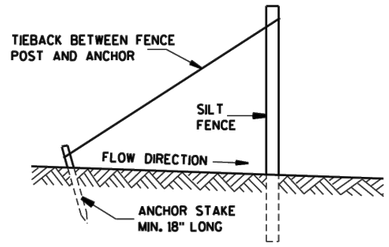
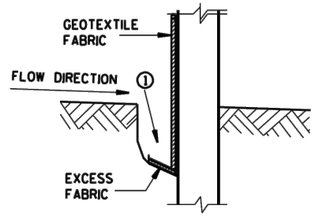


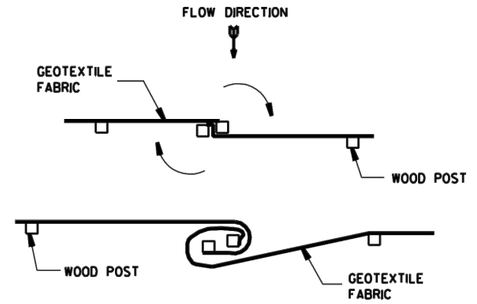

## SILT FENCE

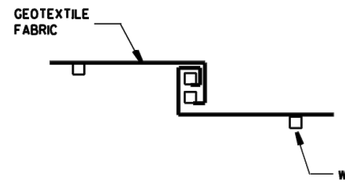



## SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)

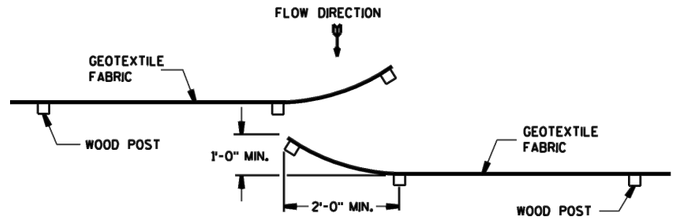



## TRENCH DETAIL




## TWIST METHOD




## HOOK METHOD
## JOINING TWO LENGTHS OF SILT FENCE ④

*SILT FENCE INSTALLATION GENERAL NOTES:*

1. *SILT FENCE SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARD NO. 1056.*
2. *TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. CONTRACTOR SHALL FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.*
3. *WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.*
4. *CONTRACTOR SHALL CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY, USE ONE OF THE FOLLOWING TWO METHODS:*
   a. *TWIST METHOD - OVERLAP THE ENDPOSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES.*
   b. *HOOK METHOD - HOOK THE END OF EACH SILT FENCE LENGTH.*
5. *CONTRACTOR SHALL ATTACH THE FABRIC TO THE POSTS WITH WIRE STAPLES OR WOODEN LATH AND NAILS.*

*EROSION CONTROL:*

1. *CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF THESE STANDARDS.*
2. *CONTRACTOR SHALL PROTECT ADJACENT PROPERTIES WITH SILT FENCING UNTIL CONSTRUCTION IS COMPLETED. CONTRACTOR SHALL REFER TO THE PRE-REMEDIATION SITE CONSTRUCTION PLAN FOR LOCATION OF SILT FENCING.*
3. *CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES PRIOR TO BEGINNING SOIL REMEDIATION. MODIFICATIONS TO SEDIMENT CONTROL DESIGN MAY BE CONDUCTED TO MEET UNFORESEEN FIELD CONDITIONS IF THE MODIFICATIONS CONFORM TO WDNR TECHNICAL STANDARDS FOR CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY MODIFICATIONS TO THE SEDIMENT CONTROL DESIGN.*
4. *CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES AFTER EACH RAINFALL EVENT OF 1/2" OR GREATER WITHIN A 24 HR PERIOD. CONTRACTOR SHALL REPAIR ANY DAMAGE OBSERVED DURING THE INSPECTION. WRITTEN DOCUMENTATION OF EACH INSPECTION SHALL BE MAINTAINED AT THE CONSTRUCTION SITE PER WISCONSIN ADMINISTRATIVE CODE NR 216.46.*
5. *CONTRACTOR SHALL INSPECT AND MAINTAIN ALL EROSION CONTROL MEASURES ROUTINELY (ONCE PER WEEK MINIMUM) TO ENSURE PROPER FUNCTION OF EROSION CONTROLS AT ALL TIMES. EROSION CONTROL MEASURES ARE TO BE IN WORKING ORDER AT THE END OF EACH WORK DAY.*
6. *CONTRACTOR SHALL REMOVE EROSION CONTROL MEASURES ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING A STONE AGGREGATE COVER.*
7. *SOIL EROSION CONTROL MAINTENANCE ITEMS ARE TO BE CONSIDERED INCIDENTAL TO THE COST OF THE CONTRACT.*

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 9-6.

ISSUED FOR

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

PROJECT MGR: ST
DRAFTED BY: APR
CHECKED BY: ST
SCALE: AS SHOWN
DATE: 10/5/16

# DETAILS ON EROSION CONTROLS
FORMER EXPRESS CLEANERS
RACINE, WISCONSIN

RAMBOLL ENVIRON



SHEET
4
2141301A

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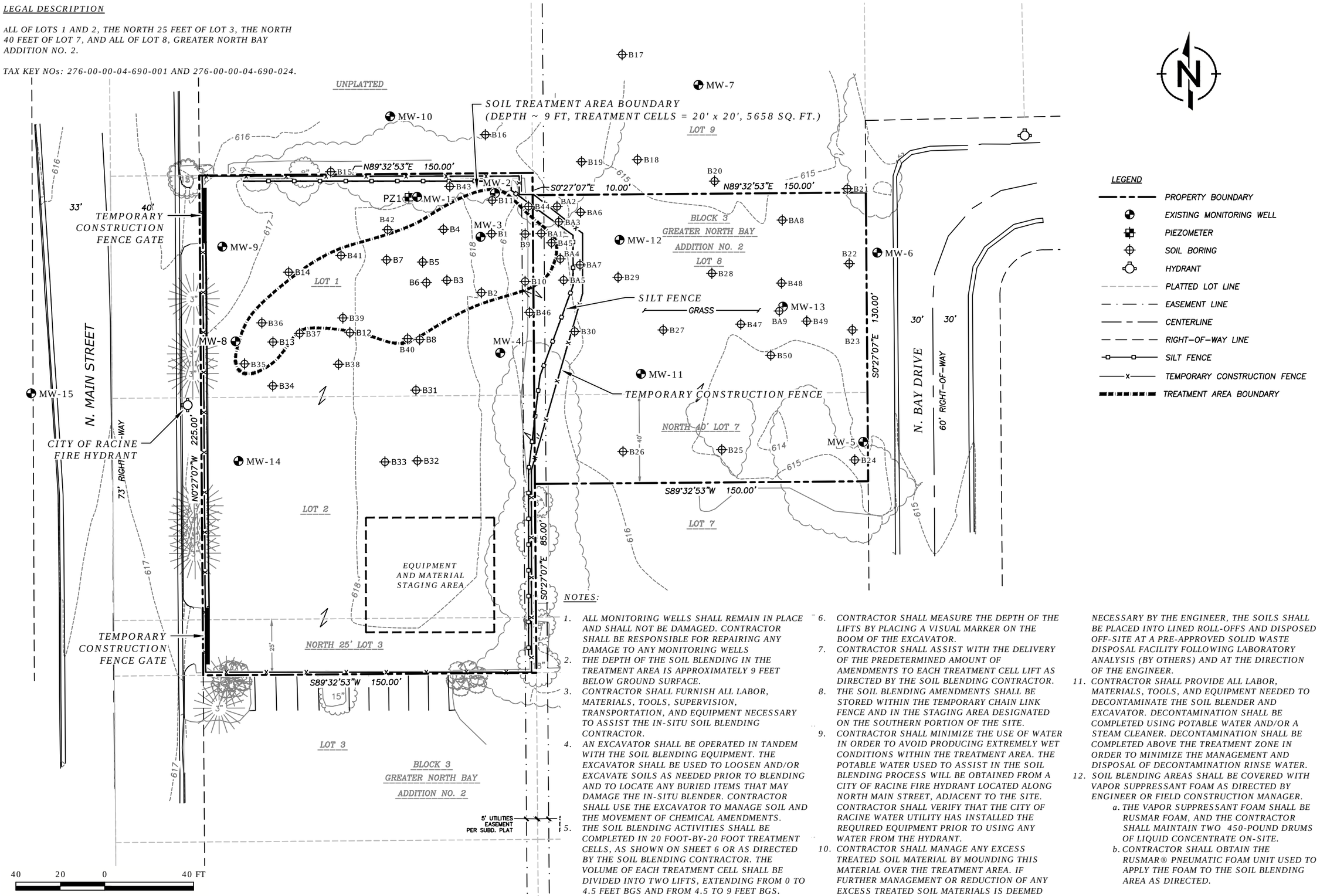
*LEGAL DESCRIPTION*

*ALL OF LOTS 1 AND 2, THE NORTH 25 FEET OF LOT 3, THE NORTH 40 FEET OF LOT 7, AND ALL OF LOT 8, GREATER NORTH BAY ADDITION NO. 2.*

*TAX KEY NOs: 276-00-00-04-690-001 AND 276-00-00-04-690-024.*




*NOTES:*

1. *ALL MONITORING WELLS SHALL REMAIN IN PLACE AND SHALL NOT BE DAMAGED. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO ANY MONITORING WELLS*
2. *THE DEPTH OF THE SOIL BLENDING IN THE TREATMENT AREA IS APPROXIMATELY 9 FEET BELOW GROUND SURFACE.*
3. *CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, SUPERVISION, TRANSPORTATION, AND EQUIPMENT NECESSARY TO ASSIST THE IN-SITU SOIL BLENDING CONTRACTOR.*
4. *AN EXCAVATOR SHALL BE OPERATED IN TANDEM WITH THE SOIL BLENDING EQUIPMENT. THE EXCAVATOR SHALL BE USED TO LOOSEN AND/OR EXCAVATE SOILS AS NEEDED PRIOR TO BLENDING AND TO LOCATE ANY BURIED ITEMS THAT MAY DAMAGE THE IN-SITU BLENDER. CONTRACTOR SHALL USE THE EXCAVATOR TO MANAGE SOIL AND THE MOVEMENT OF CHEMICAL AMENDMENTS.*
5. *THE SOIL BLENDING ACTIVITIES SHALL BE COMPLETED IN 20 FOOT-BY-20 FOOT TREATMENT CELLS, AS SHOWN ON SHEET 6 OR AS DIRECTED BY THE SOIL BLENDING CONTRACTOR. THE VOLUME OF EACH TREATMENT CELL SHALL BE DIVIDED INTO TWO LIFTS, EXTENDING FROM 0 TO 4.5 FEET BGS AND FROM 4.5 TO 9 FEET BGS.*
6. *CONTRACTOR SHALL MEASURE THE DEPTH OF THE LIFTS BY PLACING A VISUAL MARKER ON THE BOOM OF THE EXCAVATOR.*
7. *CONTRACTOR SHALL ASSIST WITH THE DELIVERY OF THE PREDETERMINED AMOUNT OF AMENDMENTS TO EACH TREATMENT CELL LIFT AS DIRECTED BY THE SOIL BLENDING CONTRACTOR.*
8. *THE SOIL BLENDING AMENDMENTS SHALL BE STORED WITHIN THE TEMPORARY CHAIN LINK FENCE AND IN THE STAGING AREA DESIGNATED ON THE SOUTHERN PORTION OF THE SITE.*
9. *CONTRACTOR SHALL MINIMIZE THE USE OF WATER IN ORDER TO AVOID PRODUCING EXTREMELY WET CONDITIONS WITHIN THE TREATMENT AREA. THE POTABLE WATER USED TO ASSIST IN THE SOIL BLENDING PROCESS WILL BE OBTAINED FROM A CITY OF RACINE FIRE HYDRANT LOCATED ALONG NORTH MAIN STREET, ADJACENT TO THE SITE. CONTRACTOR SHALL VERIFY THAT THE CITY OF RACINE WATER UTILITY HAS INSTALLED THE REQUIRED EQUIPMENT PRIOR TO USING ANY WATER FROM THE HYDRANT.*
10. *CONTRACTOR SHALL MANAGE ANY EXCESS TREATED SOIL MATERIAL BY MOUNDING THIS MATERIAL OVER THE TREATMENT AREA. IF FURTHER MANAGEMENT OR REDUCTION OF ANY EXCESS TREATED SOIL MATERIALS IS DEEMED NECESSARY BY THE ENGINEER, THE SOILS SHALL BE PLACED INTO LINED ROLL-OFFS AND DISPOSED OFF-SITE AT A PRE-APPROVED SOLID WASTE DISPOSAL FACILITY FOLLOWING LABORATORY ANALYSIS (BY OTHERS) AND AT THE DIRECTION OF THE ENGINEER.*
11. *CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TOOLS, AND EQUIPMENT NEEDED TO DECONTAMINATE THE SOIL BLENDER AND EXCAVATOR. DECONTAMINATION SHALL BE COMPLETED USING POTABLE WATER AND/OR A STEAM CLEANER. DECONTAMINATION SHALL BE COMPLETED ABOVE THE TREATMENT ZONE IN ORDER TO MINIMIZE THE MANAGEMENT AND DISPOSAL OF DECONTAMINATION RINSE WATER.*
12. *SOIL BLENDING AREAS SHALL BE COVERED WITH VAPOR SUPPRESSANT FOAM AS DIRECTED BY ENGINEER OR FIELD CONSTRUCTION MANAGER.*
    a. *THE VAPOR SUPPRESSANT FOAM SHALL BE RUSMAR FOAM, AND THE CONTRACTOR SHALL MAINTAIN TWO 450-POUND DRUMS OF LIQUID CONCENTRATE ON-SITE.*
    b. *CONTRACTOR SHALL OBTAIN THE RUSMAR® PNEUMATIC FOAM UNIT USED TO APPLY THE FOAM TO THE SOIL BLENDING AREA AS DIRECTED.*

*LEGEND*

- PROPERTY BOUNDARY
- EXISTING MONITORING WELL
- PIEZOMETER
- SOIL BORING
- HYDRANT
- PLATTED LOT LINE
- EASEMENT LINE
- CENTERLINE
- RIGHT-OF-WAY LINE
- SILT FENCE
- TEMPORARY CONSTRUCTION FENCE
- TREATMENT AREA BOUNDARY

| ISSUED FOR | NO. | DATE | DESCRIPTION |
|---|---|---|---|
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PROJECT MGR: ST
DRAFTED BY: APR
CHECKED BY: ST
SCALE: AS SHOWN
DATE: 10/7/16

# SOIL BLENDING AREA

FORMER EXPRESS CLEANERS
RACINE, WISCONSIN

ENVIRON
RAMBOLL



SHEET
5

2141301A

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UNPLATTED

MW-10

MW-7

B16
<25 ug/kg / 4 ft

B43
800 ug/kg / 4 ft
161 J ug/kg / 8 ft
<25.0 ug/kg / 10 ft

B15
<25 ug/kg / 4 ft
<25 ug/kg / 6 ft

MW-1
430 ug/kg / 3 ft
<25 ug/kg / 15.5 ft

MW-2
1740 ug/kg / 3 ft
<25 ug/kg / 15.5 ft

B44
<26.9 ug/kg / 10 ft

B19
<25 ug/kg / 4 ft

B18
<25 ug/kg / 4 ft
<25 ug/kg / 8 ft

B20
104 ug/kg / 4 ft

BA1
130000 ug/kg / 2 ft

BA2
650 ug/kg / 0.5 ft
700 ug/kg / 2 ft

BA6
56 ug/kg / 0.5 ft
74 ug/kg / 2 ft

BA3
1200 ug/kg / 0.5 ft
1300 ug/kg / 2 ft

PZ1
370 ug/kg / 3 ft
<25 ug/kg / 23 ft

B11
63000 ug/kg / 4 ft
590000 ug/kg / 8 ft

B42
33.1 ug/kg / 4 ft
<25.0 ug/kg / 8 ft

B7
10200 ug/kg / 4 ft
77000 ug/kg / 8 ft
<25 ug/kg / 16 ft

MW-3
8400 ug/kg / 3 ft
41 J ug/kg / 15.5 ft

B1
121000 ug/kg / 4 ft
<25 ug/kg / 12 ft

B45
110000 ug/kg / 8 ft
157000 ug/kg / 10 ft
622 ug/kg / 12 ft

MW-12
<18 ug/kg / 3 ft

B41
2860 ug/kg / 7 ft
<26.0 ug/kg / 10 ft

B5
66000 ug/kg / 4 ft
305 ug/kg / 12 ft

B4
270000 ug/kg / 4 ft
138000 ug/kg / 6 ft
270 ug/kg / 16 ft

B9
92000 ug/kg / 2 ft
770000 ug/kg / 10 ft
<25 ug/kg / 16 ft

B14
131 ug/kg / 4 ft

B3
21100 ug/kg / 4 ft

B10
14000 ug/kg / 4 ft
27.5 J ug/kg / 10 ft

BA4
690 ug/kg / 0.5 ft
1000 ug/kg / 2 ft

BA7
84 ug/kg / 0.5 ft
380 ug/kg / 2 ft

B29
<25 ug/kg / 4 ft

B28
<25 ug/kg / 4 ft

B6
136000 ug/kg / 4 ft
174 ug/kg / 14 ft

B2
9900 ug/kg / 4 ft
465 ug/kg / 12 ft

BA5
<25 ug/kg / 0.5 ft
43 ug/kg / 2 ft

B36
39300 ug/kg / 7 ft
<25.0 ug/kg / 10 ft

B39
2070 ug/kg / 5 ft
<25.0 ug/kg / 10 ft

B37
143 ug/kg / 4 ft
567 ug/kg / 8 ft
<25.0 ug/kg / 10 ft

B46
352 ug/kg / 4 ft
<25.0 ug/kg / 8 ft
<25.0 ug/kg / 10 ft

B30
<25 ug/kg / 4 ft

B27
<25 ug/kg / 4 ft

MW-8

MW8
330 ug/kg / 3 ft

B12
1370 ug/kg / 4 ft
<25 ug/kg / 12 ft

B40
1530 ug/kg / 4 ft
44200 ug/kg / 8 ft
127 ug/kg / 10 ft

B8
67 ug/kg / 4 ft
<25 ug/kg / 6 ft
<25 ug/kg / 16 ft

MW-4
<25 ug/kg / 3 ft
<25 ug/kg / 10.5 ft

B35
3020 ug/kg / 7 ft
<25.0 ug/kg / 10 ft
<25.5 ug/kg / 13 ft

B13
112 ug/kg / 4 ft
68000 ug/kg / 8 ft

B38
79.4 ug/kg / 4 ft
<25.0 ug/kg / 8 ft

B34
<24 ug/kg / 5 ft
<24 ug/kg / 9 ft

B31
<25 ug/kg / 4 ft

MW-11

B26
<25 ug/kg / 4 ft

B25
<25 ug/kg / 4 ft

MW-14
<24 ug/kg / 5 ft
<24 ug/kg / 8 ft

B33
<25 ug/kg / 4 ft

B32
<25 ug/kg / 4 ft

TEMPORARY CONSTRUCTION FENCE GATE

SOIL TREATMENT AREA BOUNDARY

CONCRETE SLAB (TO BE REMOVED)

CONCRETE SIGN BASE (TO BE REMOVED)

SILT FENCE

TEMPORARY CONSTRUCTION FENCE

GRASS

LOT 1

LOT 9

BLOCK 3
GREATER NORTH
ADDITION NO.

LOT 8

NORTH 40' LOT

N89°32'53"E 150.00'

S0°27'07"E 10.00'

N0°27'07"W 225.00'

S89°32'53"W 150.00'

40'

LEGEND

- PROPERTY BOUNDARY
- EXISTING MONITORING WELL
- PIEZOMETER
- SOIL BORING
- ELECTRIC PEDESTAL
- POWER POLE W/GUY
- EASEMENT LINE
- G — NATURAL GAS (TO BE REMOVED)
- W — WATER LINE (TO BE REMOVED)
- OH — OVERHEAD LINE
- SAN — SANITARY SEWER (TO BE REMOVED)
- SILT FENCE
- x — TEMPORARY CONSTRUCTION FENCE
- BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- TREATMENT AREA BOUNDARY
- # — TREATMENT CELL

LEGAL DESCRIPTION

ALL OF LOTS 1 AND 2, THE NORTH 25 FEET OF LOT 3, THE NORTH 40 FEET OF LOT 7, AND ALL OF LOT 8, GREATER NORTH BAY ADDITION NO. 2.

TAX KEY NOs: 276-00-00-04-690-001 AND 276-00-00-04-690-024.

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| NO. | DATE | ISSUED FOR DESCRIPTION |
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PROJECT MGR: ST
DRAFTED BY: APR
CHECKED BY: ST
SCALE: AS SHOWN
DATE: 10/11/16

# SOIL BLENDING TREATMENT CELLS

FORMER EXPRESS CLEANERS
RACINE, WISCONSIN

RAMBOLL ENVIRON



SHEET
6

2141301A

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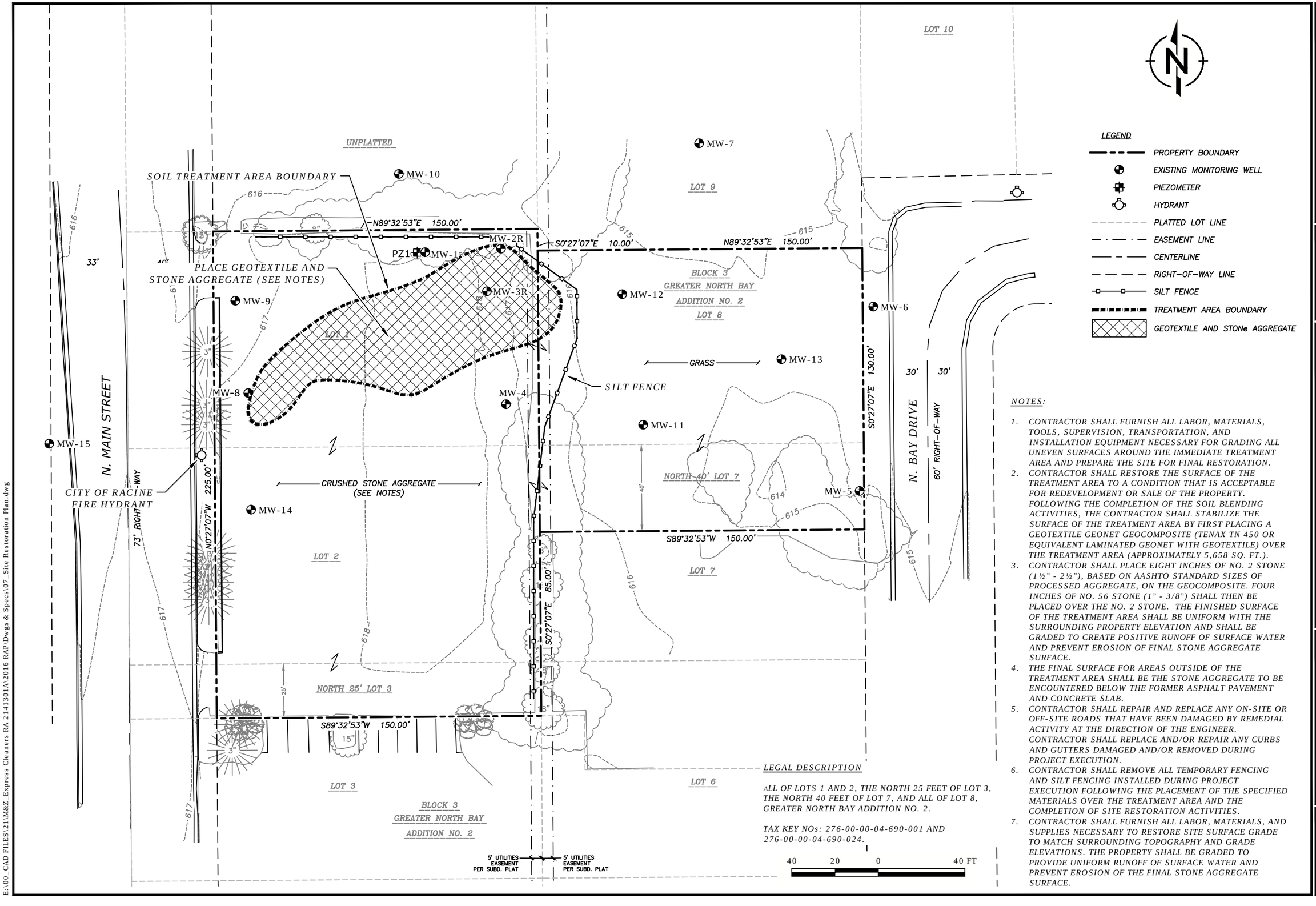


LEGEND

- PROPERTY BOUNDARY
- EXISTING MONITORING WELL
- PIEZOMETER
- HYDRANT
- PLATTED LOT LINE
- EASEMENT LINE
- CENTERLINE
- RIGHT-OF-WAY LINE
- SILT FENCE
- TREATMENT AREA BOUNDARY
- GEOTEXTILE AND STONe AGGREGATE

NOTES:

1. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, SUPERVISION, TRANSPORTATION, AND INSTALLATION EQUIPMENT NECESSARY FOR GRADING ALL UNEVEN SURFACES AROUND THE IMMEDIATE TREATMENT AREA AND PREPARE THE SITE FOR FINAL RESTORATION.
2. CONTRACTOR SHALL RESTORE THE SURFACE OF THE TREATMENT AREA TO A CONDITION THAT IS ACCEPTABLE FOR REDEVELOPMENT OR SALE OF THE PROPERTY. FOLLOWING THE COMPLETION OF THE SOIL BLENDING ACTIVITIES, THE CONTRACTOR SHALL STABILIZE THE SURFACE OF THE TREATMENT AREA BY FIRST PLACING A GEOTEXTILE GEONET GEOCOMPOSITE (TENAX TN 450 OR EQUIVALENT LAMINATED GEONET WITH GEOTEXTILE) OVER THE TREATMENT AREA (APPROXIMATELY 5,658 SQ. FT.).
3. CONTRACTOR SHALL PLACE EIGHT INCHES OF NO. 2 STONE (1½" - 2½"), BASED ON AASHTO STANDARD SIZES OF PROCESSED AGGREGATE, ON THE GEOCOMPOSITE. FOUR INCHES OF NO. 56 STONE (1" - 3/8") SHALL THEN BE PLACED OVER THE NO. 2 STONE. THE FINISHED SURFACE OF THE TREATMENT AREA SHALL BE UNIFORM WITH THE SURROUNDING PROPERTY ELEVATION AND SHALL BE GRADED TO CREATE POSITIVE RUNOFF OF SURFACE WATER AND PREVENT EROSION OF FINAL STONE AGGREGATE SURFACE.
4. THE FINAL SURFACE FOR AREAS OUTSIDE OF THE TREATMENT AREA SHALL BE THE STONE AGGREGATE TO BE ENCOUNTERED BELOW THE FORMER ASPHALT PAVEMENT AND CONCRETE SLAB.
5. CONTRACTOR SHALL REPAIR AND REPLACE ANY ON-SITE OR OFF-SITE ROADS THAT HAVE BEEN DAMAGED BY REMEDIAL ACTIVITY AT THE DIRECTION OF THE ENGINEER. CONTRACTOR SHALL REPLACE AND/OR REPAIR ANY CURBS AND GUTTERS DAMAGED AND/OR REMOVED DURING PROJECT EXECUTION.
6. CONTRACTOR SHALL REMOVE ALL TEMPORARY FENCING AND SILT FENCING INSTALLED DURING PROJECT EXECUTION FOLLOWING THE PLACEMENT OF THE SPECIFIED MATERIALS OVER THE TREATMENT AREA AND THE COMPLETION OF SITE RESTORATION ACTIVITIES.
7. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND SUPPLIES NECESSARY TO RESTORE SITE SURFACE GRADE TO MATCH SURROUNDING TOPOGRAPHY AND GRADE ELEVATIONS. THE PROPERTY SHALL BE GRADED TO PROVIDE UNIFORM RUNOFF OF SURFACE WATER AND PREVENT EROSION OF THE FINAL STONE AGGREGATE SURFACE.

LEGAL DESCRIPTION

ALL OF LOTS 1 AND 2, THE NORTH 25 FEET OF LOT 3, THE NORTH 40 FEET OF LOT 7, AND ALL OF LOT 8, GREATER NORTH BAY ADDITION NO. 2.

TAX KEY NOs: 276-00-00-04-690-001 AND 276-00-00-04-690-024.

| ISSUED FOR | | |
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| NO. | DATE | DESCRIPTION |
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| PROJECT MGR: | ST |
| DRAFTED BY: | APR |
| CHECKED BY: | ST |
| SCALE: | AS SHOWN |
| DATE: | 10/7/16 |

# SITE RESTORATION PLAN

FORMER EXPRESS CLEANERS
RACINE, WISCONSIN

RAMBOLL ENVIRON



SHEET 7

2141301A

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# APPENDIX B

## Pre-Remediation Soil Boring Logs

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-35** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ _ | _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

| Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐ | | Local Grid Location |
|---|---|---|
| State Plane _____ N, _____ E | Lat ° ' " | ☐ N ☐ E |
| 1/4 of 1/4 of Section , T N, R | Long ° ' " | Feet ☐ S Feet ☐ W |

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.33') Asphalt | -- | | | 0.0 | | | | | | |
| | | | 1.0 | (0.33-1') Coarse gravel backfill (fill) | -- | | | 1.4 | | | | | | |
| | | | | (1-3') Brown, silty sand, trace fine gravel, dense (fill) | -- | | | 6.0 | | | | | | |
| | | | 4.0 | (3-6') Brown, fine silty sand, dense, moist (possible fill) | -- | | | 9.5 | | | | | | |
| | | | | | | | | 19.6 | | | | | | |
| Lab Sample (6-7') | | | 6.0 | (6-10') Grey, silt, dense, moist | ML | | | 23.0 | | | | | | |
| | | | 8.0 | | | | | 28.5 | | | | | | |
| Lab Sample (9-10') | | | | | | | | 23.0 | | | | | | |
| | | | 10.0 | | | | | 17.5 | | | | | | |
| | | | | (10-12') Grey, silty sand, loose, wet | | | | 18.2 | | | | | | |
| Lab Sample (12-13') | | | 12.0 | (12-15') Grey, silty sand, loose, wet | SM | | | 2.1 | | | | | | |
| | | | | | | | | 1.8 | | | | | | |
| | | | 14.0 | | | | | 1.4 | | | | | | |
| | | | 16.0 | | | | | | | | | | | |
| | | | 18.0 | | | | | | | | | | | |
| | | | 20.0 | | | | | | | | | | | |
| | | | 22.0 | | | | | | | | | | | |

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

| Signature | Firm |
|---|---|
| Jathan Fye | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-36** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ _ | _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____

Lat _____ ° _____ ' _____ "
Long _____ ° _____ ' _____ "

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

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.33') Asphalt | -- | | | 0.0 | | | | | | |
| | | | | (0.33-0.67') Coarse gravel backfill (fill) | -- | | | 4.8 | | | | | | |
| | | | 1.0 | (0.67-2.5') Dark brown, find sand, dense (fill) | -- | | | 28.0 | | | | | | |
| | | | 4.0 | (2.5-5') Red/Brown, medium sand, medium dense (possible fill) | -- | | | 34.2 | | | | | | |
| | | | | (5-6.5') Tan, medium sand, medium dense (possible fill) | -- | | | 9.3 | | | | | | |
| Lab Sample (6-7') | | | 6.0 | | | | | 7.8 | | | | | | |
| | | | 8.0 | (6.5-8') Brown, clay, stiff | CL | | | 17.8 | | | | | | |
| Lab Sample (9-10') | | | 10.0 | (8-11.5') Brown, silty sand, wet | SM | | | 14.5<br>0.5 | | | | | | |
| | | | 12.0 | (11.5-12') Brown, clay, stiff | CL | | | 0.4 | | | | | | |
| | | | 14.0 | | | | | | | | | | | |
| | | | 16.0 | | | | | | | | | | | |
| | | | 18.0 | | | | | | | | | | | |
| | | | 20.0 | | | | | | | | | | | |
| | | | 22.0 | | | | | | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-37** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 0 9 / 1 3 / 2 0 1 6<br>m m d d y y y y | 0 9 / 1 3 / 2 0 1 6<br>m m d d y y y y | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ _ | _ _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

| Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐ | | Local Grid Location |
|---|---|---|
| State Plane _____ N, _____ E | Lat ___ ° ___ ' ___ " | ☐ N ☐ E |
| ___ 1/4 of ___ 1/4 of Section ___, T ___ N, R ___ | Long ___ ° ___ ' ___ " | ___ Feet ☐ S ___ Feet ☐ W |

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.33') Asphalt | -- | | | 0.0 | | | | | | |
| | | | 1.0 | (0.33-1') Coarse gravel backfill (fill) | -- | | | 2.3 | | | | | | |
| | | | | (1-2') Brown, clay and gravel fill (fill) | -- | | | 4.9 | | | | | | |
| | | | 2.0 | (2-2.5') Brown, med. sand, dense (fill) | -- | | | 8.0 | | | | | | |
| Lab Sample (2-4') | | | 3.0 | | | | | 17.1 | | | | | | |
| | | | 4.0 | (2.5-6') Red/brown, med. Sand, dense, moist at 4' (possible fill) | -- | | | | | | | | | |
| | | | 5.0 | | | | | 21.0 | | | | | | |
| | | | 6.0 | | | | | | | | | | | |
| Lab Sample (6-8') | | | | (6-8') Grey, fine to med. Sand, dense, wet | SM | | | 8.9 | | | | | | |
| | | | 7.0 | | | | | 2.5 | | | | | | |
| | | | 8.0 | (8-9') Grey, silty sand, dense, wet | | | | 9.8 | | | | | | |
| Lab Sample (9-10') | | | 9.0 | (9-10') Grey, clay, stiff | | | | 0.8 | | | | | | |
| | | | 10.0 | | CL | | | | | | | | | |
| | | | 11.0 | (10-12') Grey, clay, stiff | | | | 0.5 | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-38** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ | _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____

Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "

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

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.33') Asphalt | -- | | | 0.0 | | | | | | |
| | | | 1.0 | (0.33-1') Coarse gravel backfill (fill) | -- | | | 0.0 | | | | | | |
| | | | | (1-2') Brown, Sand and gravel fill (fill) | -- | | | 0.4 | | | | | | |
| | | | 2.0 | | | | | | | | | | | |
| Lab Sample (2-4') | | | | (2-3') Brown, clay, stiff (fill) | -- | | | 0.6 | | | | | | |
| | | | 3.0 | (3-3.5') Brown, med. Sand, dense (fill) | -- | | | 4.2 | | | | | | |
| | | | 4.0 | | | | | | | | | | | |
| | | | | (3.5-6.5') Red/brown, med. Sand dense, moist (possible fill) | -- | | | 1.9 | | | | | | |
| | | | 5.0 | | | | | | | | | | | |
| | | | 6.0 | | | | | | | | | | | |
| Lab Sample (6-8') | | | | (6.5-7') Med. Sand, some fine gravel, wet | SP | | | 0.7 | | | | | | |
| | | | 7.0 | | | | | | | | | | | |
| | | | | (7-9') Brown, clay, very stiff | CL | | | 0.8 | | | | | | |
| | | | 8.0 | | | | | 0.5 | | | | | | |
| | | | 9.0 | | | | | | | | | | | |
| | | | | (9-11') Grey, silt, very stiff | ML | | | 0.0 | | | | | | |
| | | | 10.0 | | | | | | | | | | | |
| | | | 11.0 | | | | | | | | | | | |
| | | | | (11-12') Grey, clay, very stiff | CL | | | 0.0 | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-39** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09/13/2016<br>mm dd yyyy | 09/13/2016<br>mm dd yyyy | GeoProbe |

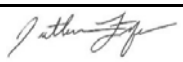
| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ _ | _ _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

| Local Grid Origin ☐ (estimated: □) or Boring Location ☐ | | Local Grid Location |
|---|---|---|
| State Plane _____ N, _____ E | Lat ___ ° ___ ' ___ " | ☐ N ☐ E |
| ___ 1/4 of ___ 1/4 of Section ___, T ___ N, R ___ | Long ___ ° ___ ' ___ " | ___ Feet ☐ S ___ Feet ☐ W |

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.33') Asphalt | -- | | | 0.0 | | | | | | |
| | | | 1.0 | (0.33-1') Coarse gravel backfill (fill) | -- | | | 4.8 | | | | | | |
| | | | | (1-2') Brown, Sand and gravel fill (fill) | -- | | | 9.4 | | | | | | |
| | | | 2.0 | (2-3') Brown, clay, trace silt, stiff (fill) | -- | | | 80.0 | | | | | | |
| | | | 3.0 | | | | | | | | | | | |
| Lab Sample (3-5') | | | 4.0 | (3-6') Red/brown, medium sand, med. dense (possible fill) | -- | | | 4.9 | | | | | | |
| | | | 5.0 | | | | | 13.0 | | | | | | |
| | | | 6.0 | | | | | | | | | | | |
| | | | | (6-7') Grey, clayey silt, stiff | ML | | | 16.3 | | | | | | |
| | | | 7.0 | | | | | | | | | | | |
| | | | 8.0 | (7-9.5') Grey, fine to medium silty sand, dense, wet at 8' | SM | | | 18.4 | | | | | | |
| | | | 9.0 | | | | | 1.9 | | | | | | |
| Lab Sample (9-10') | | | 10.0 | | | | | | | | | | | |
| | | | | (9.5-12') Grey, clay, very stiff | CL | | | 2.8 | | | | | | |
| | | | 11.0 | | | | | 1.2 | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-40** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

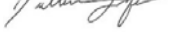
| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ _ | _ _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

| Local Grid Origin ☐ (estimated: □) or Boring Location ☐ | | Local Grid Location |
|---|---|---|
| State Plane _____ N, _____ E<br>_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____ | Lat _____ ° _____ ' _____ "<br>Long _____ ° _____ ' _____ " | □ N □ E<br>_____ Feet □ S _____ Feet □ W |

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.33') Asphalt | -- | | | 0.0 | | | | | | |
| | | | 1.0 | (0.33-1.5') Sand and gravel backfill (fill) | -- | | | 54.0 | | | | | | |
| | | | | (1.5-2') Red/brown, medium sand, loose (fill) | -- | | | 26.7 | | | | | | |
| | | | 2.0 | (2-2.5') Brown, clay, stiff (fill) | -- | | | 78.9 | | | | | | |
| Lab Sample (2-4') | | | | (2.5-3') Brown, med. Sand, well sorted, loose (fill) | -- | | | 55.3 | | | | | | |
| | | | 3.0 | | | | | 7.2 | | | | | | |
| | | | 4.0 | (3-5') Red/brown, fine to medium sand, well sorted, dense (possible fill) | SP | | | 20.4 | | | | | | |
| | | | 5.0 | (5-6') Tan, fine to medium sand, dense, well sorted, moist | | | | 36.7 | | | | | | |
| | | | 6.0 | (6-6.5') Brown, fine to med. Sand, trace fine gravel, wet | | | | 138.8 | | | | | | |
| Lab Sample (6-8') | | | 7.0 | | | | | 23.8 | | | | | | |
| | | | 8.0 | (6.5-10') Brown, clay, stif, wet at 8' | | | | | | | | | | |
| | | | 9.0 | | CL | | | 4.7 | | | | | | |
| Lab Sample (9-10') | | | 10.0 | | | | | | | | | | | |
| | | | 11.0 | (10-12') Brown/grey, clay, trace silt, medium stiff | | | | 3.0 | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-41** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ _ | _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____

Lat _____ ° _____ ' _____ "
Long _____ ° _____ ' _____ "

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

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.5') Concrete | -- | | | 0.0 | | | | | | |
| | | | 2.0 | (0.5-3') Sand and gravel fill (fill) | -- | | | 60.6<br>258.3 | | | | | | |
| | | | 4.0 | (3-4') Brown, fine to medium sand, dense (fill) | -- | | | 611.7 | | | | | | |
| Lab Sample (5-7') | | | 6.0 | (4-6') Red/brown, fine-med. Sand, dense, moist, wet at 6' (possible fill) | -- | | | 15.3<br>282.7 | | | | | | |
| | | | 8.0 | (7.5-8') Brown, clay, stiff | CL | | | 9.1 | | | | | | |
| | | | | (8-9') Brown/grey, clay, trace fine gravel | | | | 51.5 | | | | | | |
| Lab Sample (9-10') | | | 10.0 | (9-12') Grey, fine to medium sand, well sorted, wet, loose | SP | | | 2.0<br>2.2 | | | | | | |
| | | | 12.0 | | | | | | | | | | | |
| | | | 14.0 | | | | | | | | | | | |
| | | | 16.0 | | | | | | | | | | | |
| | | | 18.0 | | | | | | | | | | | |
| | | | 20.0 | | | | | | | | | | | |
| | | | 22.0 | | | | | | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-42** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ | _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____

Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "

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

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.5') Concrete | -- | | | 0.0 | | | | | | |
| | | | 2.0 | (0.5-3') Sand and gravel fill, clay in last 0.5 feet (fill) | -- | | | 2.8<br>4.8 | | | | | | |
| Lab Sample (2-4') | | | 4.0 | (3-5') Brown, fine to medium sand, med. dense (fill) | -- | | | 3.7<br>3.8 | | | | | | |
| Lab Sample (6-8') | | | 6.0<br>8.0<br>10.0 | (5-11') Brown/grey, fine to medium sand, medium density, wet | SW | | | 3.9<br>3.7<br>4.4<br>4.1 | | | | | | |
| | | | 12.0 | (11-12') Grey, sandy clay, stiff, wet | CL | | | 2.7 | | | | | | |
| | | | 14.0 | | | | | | | | | | | |
| | | | 16.0 | | | | | | | | | | | |
| | | | 18.0 | | | | | | | | | | | |
| | | | 20.0 | | | | | | | | | | | |
| | | | 22.0 | | | | | | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-43** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ _ | _ _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

| Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐ | | Local Grid Location |
|---|---|---|
| State Plane _____ N, _____ E | Lat ° ' " | ☐ N ☐ E |
| 1/4 of 1/4 of Section , T N, R | Long ° ' " | Feet ☐ S Feet ☐ W |

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.33') Asphalt | -- | | | 0.0 | | | | | | |
| | | | 2.0 | (0.33-2') Sand and gravel fill (fill) | -- | | | 18.4/49.2 | | | | | | |
| Lab Sample (2-4') | | | | (2-3') Brown, fine to med. Sand, trace fine gravel (fill) | -- | | | 38.9 | | | | | | |
| | | | 4.0 | (3-6') Red/brown, fine to medium sand, dense, wet at 5' (possible fill) | -- | | | 4.7 | | | | | | |
| | | | | | | | | 43.0 | | | | | | |
| Lab Sample (6-8') | | | 6.0 | (6-12') Brown, clay, very stiff | CL | | | 3.2 | | | | | | |
| | | | 8.0 | | | | | | | | | | | |
| Lab Sample (9-10') | | | 10.0 | | | | | 2.6 | | | | | | |
| | | | | | | | | 2.8 | | | | | | |
| | | | 12.0 | | | | | | | | | | | |
| | | | 14.0 | | | | | | | | | | | |
| | | | 16.0 | | | | | | | | | | | |
| | | | 18.0 | | | | | | | | | | | |
| | | | 20.0 | | | | | | | | | | | |
| | | | 22.0 | | | | | | | | | | | |

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

| Signature | Firm |
|---|---|
| Jathan Fyfe | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-44** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ | _ _ _ | -- | ____ Feet MSL | ____ Feet MSL | 2 inches |

Local Grid Origin ☐ (estimated: □) or Boring Location ☐
State Plane _____ N, _____ E
____ 1/4 of ____ 1/4 of Section ____, T ____ N, R ____

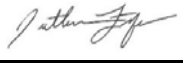
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "

Local Grid Location
____ Feet □ S ____ Feet □ W
□ N □ E

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Soil Properties: Moisture Content | Soil Properties: Liquid Limit | Soil Properties: Plasticity Index | Soil Properties: P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.5') Topsoil | -- | | | 0.0 | | | | | | |
| | | | | (0.5-2') Brown, med. Sand, loose (fill) | -- | | | 6.9 | | | | | | |
| | | | 2.0 | | | | | | | | | | | |
| | | | | (2-6') Red/brown, fine to med. Sand, well sorted, dense (possible fill) | -- | | | 2.2 | | | | | | |
| | | | 4.0 | | | | | 1.6 | | | | | | |
| | | | 6.0 | | | | | | | | | | | |
| | | | | (6-12') Brown, clay, very stiff, trace fine gravel | CL | | | 0.6 | | | | | | |
| Lab Sample (8-10') | | | 8.0 | | | | | | | | | | | |
| | | | 10.0 | | | | | 0.3 | | | | | | |
| | | | 12.0 | | | | | | | | | | | |
| | | | 14.0 | | | | | | | | | | | |
| | | | 16.0 | | | | | | | | | | | |
| | | | 18.0 | | | | | | | | | | | |
| | | | 20.0 | | | | | | | | | | | |
| | | | 22.0 | | | | | | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-45** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ _ | _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

| Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐ | | Local Grid Location |
|---|---|---|
| State Plane _____ N, _____ E | Lat ° ' " | ☐ N ☐ E |
| 1/4 of 1/4 of Section , T N, R | Long ° ' " | Feet ☐ S Feet ☐ W |

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.67') Topsoil | -- | | | 0.0 | | | | | | |
| | | | 2.0 | (0.67-2') Brown, med. Sand, trace fine gravel (fill) | -- | | | 55.3 | | | | | | |
| | | | | (2-3') Brown, clay, medium stiff (fill) | -- | | | 47.2 | | | | | | |
| | | | 4.0 | (3-4') Tan, fine to medium sand, dense (possible fill) | -- | | | 12.0 | | | | | | |
| | | | 6.0 | | | | | 5.6 | | | | | | |
| Lab Sample (6-8') | | | 8.0 | (4-11') Tan, fine to medium sand, dense, wet at 5', grey at 6' | | | | | | | | | | |
| Lab Sample (9-10') | | | 10.0 | | | | | 3.8 | | | | | | |
| Lab Sample (11-12') | | | 12.0 | (11-12') Grey, clay, very stiff | | | | 2.8 | | | | | | |
| | | | 14.0 | | | | | | | | | | | |
| | | | 16.0 | | | | | | | | | | | |
| | | | 18.0 | | | | | | | | | | | |
| | | | 20.0 | | | | | | | | | | | |
| | | | 22.0 | | | | | | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-46** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ _ | _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

| Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐ | | Local Grid Location |
|---|---|---|
| State Plane _____ N, _____ E | Lat ___ ° ___ ' ___ " | ☐ N ☐ E |
| ___ 1/4 of ___ 1/4 of Section ___, T ___ N, R ___ | Long ___ ° ___ ' ___ " | _____ Feet ☐ S _____ Feet ☐ W |

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.5') Topsoil | -- | | | 0.0 | | | | | | |
| | | | 2.0 | (0.5-3') Brown, medium sand, some clay, trace fine gravel (fill) | -- | | | 7.5 | | | | | | |
| Lab Sample (2-4') | | | | | | | | 6.3 | | | | | | |
| | | | 4.0 | (3-6') Red/brown, medium sand, well sorted (possible fill) | -- | | | 5.0 | | | | | | |
| | | | | | | | | 9.7 | | | | | | |
| Lab Sample (6-8') | | | 6.0 | (6-12') Brown, silty clay, very stiff, all clay at 8' | CL | | | 4.0 | | | | | | |
| Lab Sample (9-10') | | | 8.0 | | | | | | | | | | | |
| | | | 10.0 | | | | | 3.6 | | | | | | |
| | | | 12.0 | | | | | | | | | | | |
| | | | 14.0 | | | | | | | | | | | |
| | | | 16.0 | | | | | | | | | | | |
| | | | 18.0 | | | | | | | | | | | |
| | | | 20.0 | | | | | | | | | | | |
| | | | 22.0 | | | | | | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-47** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

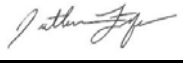
| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ | _ _ _ | -- | ____ Feet MSL | ____ Feet MSL | 2 inches |

| Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐ | | Local Grid Location |
|---|---|---|
| State Plane _____ N, _____ E | Lat ___ ° ___ ' ___ " | ☐ N ☐ E |
| ___ 1/4 of ___ 1/4 of Section ___, T ___ N, R ___ | Long ___ ° ___ ' ___ " | ____ Feet ☐ S ____ Feet ☐ W |

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Soil Properties: Moisture Content | Soil Properties: Liquid Limit | Soil Properties: Plasticity Index | Soil Properties: P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.5') Topsoil | -- | | | 5.9 | | | | | | |
| Lab Sample (1-2') | | | 2.0 | (0.5-3') Brown, medium sand, trace fine gravel, dense (fill) | -- | | | 5.8 | | | | | | |
| | | | 4.0 | (3-6') Brown, fine to medium sand, dense, moist, wet at 4' (possible fill to 4') | -- | | | 5.6<br>8.1 | | | | | | |
| Lab Sample (5-7') | | | 6.0 | | | | | | | | | | | |
| | | | 8.0 | (6-12') Brown,clay, stiff, wet, some sand around 8-10' | CL | | | 4.6 | | | | | | |
| | | | 10.0 | | | | | 4.0 | | | | | | |
| | | | 12.0 | | | | | | | | | | | |
| | | | 14.0 | | | | | | | | | | | |
| | | | 16.0 | | | | | | | | | | | |
| | | | 18.0 | | | | | | | | | | | |
| | | | 20.0 | | | | | | | | | | | |
| | | | 22.0 | | | | | | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-48** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09/13/2016<br>mm dd yyyy | 09/13/2016<br>mm dd yyyy | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ _ | _ _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____

Lat _____ ° _____ ' _____ "
Long _____ ° _____ ' _____ "

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

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.5') Topsoil | -- | | | 2.6 | | | | | | |
| Lab Sample (1-2') | | | 2.0 | (0.5-2') Brown, med. Sand, trace fine gravel (fill) | -- | | | 6.6 | | | | | | |
| | | | | (2-3') Brown, fine to medium sand, dense, moist (fill) | -- | | | 6.5 | | | | | | |
| | | | 4.0 | (3-5.5') Red/brown, fine to medium sand, moist, wet at 4' (possible fill to 4') | -- | | | 3.4<br>4.1 | | | | | | |
| Lab Sample (5-7') | | | 6.0 | (5.5-7.5') Grey, silty sand, dense | ML | | | 4.2 | | | | | | |
| | | | 8.0 | (7.5-12') Grey, clay, stiff | CL | | | 6.5 | | | | | | |
| | | | 10.0 | | | | | 2.7 | | | | | | |
| | | | 12.0 | | | | | | | | | | | |
| | | | 14.0 | | | | | | | | | | | |
| | | | 16.0 | | | | | | | | | | | |
| | | | 18.0 | | | | | | | | | | | |
| | | | 20.0 | | | | | | | | | | | |
| | | | 22.0 | | | | | | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-49** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ _ | _ _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____

Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "

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

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.5') Topsoil | -- | | | 2.4 | | | | | | |
| Lab Sample (1-2') | | | | (0.5-2') Brown, med. Sand, trace fine gravel (fill) | -- | | | 2.5 | | | | | | |
| | | | 2.0 | | | | | | | | | | | |
| | | | 4.0 | (2-6') Dark brown, fine to medium sand, dense, moist, wet at 4' (possible fill) | -- | | | 2.2 | | | | | | |
| Lab Sample (5-7') | | | 6.0 | | | | | 3.5 | | | | | | |
| | | | 8.0 | (6-12') Brown,clay, stiff, trace fine gravel | CL | | | 3.8 | | | | | | |
| | | | 10.0 | | | | | 3.0 | | | | | | |
| | | | 12.0 | | | | | | | | | | | |
| | | | 14.0 | | | | | | | | | | | |
| | | | 16.0 | | | | | | | | | | | |
| | | | 18.0 | | | | | | | | | | | |
| | | | 20.0 | | | | | | | | | | | |
| | | | 22.0 | | | | | | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where completed form should be sent.

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



| Facility/Project Name | License/Permit/Monitoring Number | Boring Number |
|---|---|---|
| Former Express Cleaners | | **B-50** |

| Boring Drilled By: Name of crew chief (first, last) and Firm | Date Drilling Started | Date Drilling Completed | Drilling Method |
|---|---|---|---|
| First Name: Augi Last Name: Mendez<br>Firm: CS Drilling | 09 / 13 / 2016<br>mm dd yyyy | 09 / 13 / 2016<br>mm dd yyyy | GeoProbe |

| WI Unique Well No. | DNR Well ID No. | Well Name | Final Static Water Level | Surface Elevation | Borehole Diameter |
|---|---|---|---|---|---|
| _ _ _ _ _ _ _ | _ _ _ _ | -- | _____ Feet MSL | _____ Feet MSL | 2 inches |

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____

Lat _____ ° _____ ' _____ "
Long _____ ° _____ ' _____ "

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

| Facility ID | County | County Code | Civil Town/City/ or Village |
|---|---|---|---|
| | Racine | 5 1 | Racine, Wisconsin |

| Sample Number and Type | Sample Length Alt. & Recovered (ft) | Blow Counts | Depth in Feet (below ground surface) | Soil/Rock Description and Geologic Origin for Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties: Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | RQD/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (0-0.5') Topsoil | -- | | | 2.7 | | | | | | |
| Lab Sample (1-2') | | | 2.0 | (0.5-2') Brown, med. Sand, trace fine gravel (fill) | -- | | | 4.3 | | | | | | |
| | | | | (2-3') Brown, fine to medium sand, dense (fill) | -- | | | 5.6 | | | | | | |
| | | | 4.0 | (3-6') Red/brown, fine to medium sand, dense, moist, wet at 5' (possible fill to 5') | -- | | | 5.1<br>3.8<br>5.6 | | | | | | |
| Lab Sample (5-7') | | | 6.0 | (6-7') Brown, clay stiff | CL | | | 5.0 | | | | | | |
| | | | 8.0 | (7-8') Clayey silt, grey, dense | ML | | | 4.5 | | | | | | |
| | | | 10.0 | (8-12') Brown, clay very stiff | CL | | | 3.5 | | | | | | |
| | | | 12.0 | | | | | | | | | | | |
| | | | 14.0 | | | | | | | | | | | |
| | | | 16.0 | | | | | | | | | | | |
| | | | 18.0 | | | | | | | | | | | |
| | | | 20.0 | | | | | | | | | | | |
| | | | 22.0 | | | | | | | | | | | |

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

| Signature | Firm |
|---|---|
|  | Ramboll-Environ |

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where completed form should be sent.

# APPENDIX C

## Documentation of Fenceline Air Action Levels for Tetrachloroethene and Trichloroethene

# Appendix C.

## Documentation of Fenceline Air Action Level for Tetrachloroethene and Trichloroethene

Ramboll Environ will compare the results of the integrated fenceline air sampling taken during the duration of the remediation activities to a risk-based air action level (AL) for tetrachloroethene (PCE) and trichloroethene (TCE) to assess the effectiveness of site management activities during source soil remediation. The running average fenceline air concentration may be compared to the air AL to assess whether remediation activities are resulting in perimeter air concentrations that may pose a potential health risk to downwind receptors.

During the remediation activities, the Site will be fenced to limit access, as described in the *Remedial Action Plan* (Ramboll Environ, October 2016). The Site is currently vacant and contains a concrete slab-on-grade that was once part of a one-story, 6,804 square foot strip mall (without a basement), and therefore, there are no current on-site receptors or health risks on the property. Potential offsite receptors include an assisted living facility to the west, a commercial bank to the south, an auto repair shop and drycleaners to the north, and a hair salon to the east. The closest receptor is the auto repair shop and drycleaners to the north. Following the remediation activities, the Site will be redeveloped for light commercial land use.

It should be noted that comparing air ALs directly to fenceline air concentrations is highly conservative, as it does not take into account dispersion and dilution that occurs between the site perimeter and the downwind point of exposure (e.g., assisted living facility, auto shop, etc.). Screening modeling can be performed to calculate a dispersion factor to apply to the air AL to provide for a more realistic assessment of the fenceline monitoring data. The documentation provided in this appendix discusses the derivation of the air action levels only.

The magnitude of the air ALs for PCE and TCE depends on several factors, including target risk level, chemical-specific toxicity, human exposure assumptions, as well as project-specific parameters such as remediation frequency and duration. As described in the *Remedial Action Plan* (Ramboll Environ, October 2016), the soil blending activities for this project are assumed to occur over a twelve hour period, seven days per week, for a project duration of up to 14 days, which is considered a subchronic (less-than-chronic) period of exposure (United States Environmental Protection Agency [USEPA], 2009). The project will occur during year 2016. The basis of the air action levels is described below.

### Basis of Air Action Levels

Both PCE and TCE are considered by the USEPA to have both potential carcinogenic and non-carcinogenic effects. USEPA identifies TCE as carcinogenic to humans, and PCE as being likely carcinogenic to humans (USEPA, 2016). Thus, risk-based air concentrations (RBAC) were derived that are protective of both cancer and non-cancer endpoints. For potential carcinogenic effects, RBACs were derived using the three target risk levels within USEPA's acceptable risk range ($10^{-6}$, $10^{-5}$, and $10^{-4}$). The equations used to derive the RBACs are based on USEPA's *Regional Screening Levels* (USEPA, 2016a), and have been modified to solve for an air concentration, rather than calculate cancer risk or non-cancer hazard. These air concentrations will be used to evaluate potential health risks to downwind receptors and set air action levels for air monitoring at the Site.

Toxicity values for both types of potential health effects for both PCE and TCE are shown in Table 1. It should be noted that the non-carcinogenic reference concentrations have been derived to be protective of chronic (i.e., lifetime) exposures. Due to the lack of subchronic reference concentrations, chronic values have been used. This is a very conservative approach for evaluating a subchronic period of exposure. For both PCE and TCE, the RBACs for potential carcinogenic and non-carcinogenic effects were derived, and the assumptions and calculations are shown in Tables 2 and 3, respectively. A summary of all calculated RBACs is included in Table 4, and the air ALs to be used in evaluating the fenceline air monitoring data for PCE and TCE are identified.

The equations and assumptions used to derive the Risk-Based Air Concentration (RBAC)s for potential carcinogenic and non-carcinogenic effects are also described below.

Risk-Based Air Concentration Based on Potential Carcinogenic Effects (Cancer Risk-Based)

$$RBAC = \frac{TR \times AT}{IUR \times CF \text{ x } ET \times EF \times ED}$$

Where:

- RBAC = Risk-based concentration in air ($mg/m^3$)
- TR = Acceptable target cancer risk level (unitless) (e.g., $10^{-6}$, $10^{-5}$, $10^{-4}$)
- AT = averaging time (70 yr x365 days/year = 25,550 days)
- IUR = inhalation unit risk $(\mu g/m^3)^{-1}$
- CF = Unit Conversion Factor (1,000 ug/mg)
- ET = Exposure time (Hours of exposure per day per hours in a day, resulting in a unitless number)
- EF= Exposure frequency is 14 days per year, based on the project duration of 14 days.
- ED = Exposure duration (1 yr)

The parameters are discussed further below.

**Target risk** – For potential carcinogens, USEPA recommends an acceptable carcinogenic risk range of $1x10^{-4}$ to $1x10^{-6}$. Therefore, when calculating RBACs, it is necessary to specify a target risk level. RBACs were derived using all three target risk levels ($10^{-6}$, $10^{-5}$, and $10^{-4}$).

**Averaging time** – The averaging time used in carcinogenic risk equations is the total lifetime. The default lifetime used in these equations is 70 years (USEPA, 1989). This value is multiplied by 365 days per year, to express the result in days.

**Inhalation Unit Risk** – The inhalation unit risk is defined by USEPA as "the upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 $\mu g/m^3$ in air" (USEPA, 2009). It is expressed in units of $(\mu g/m^3)^{-1}$. The inhalation unit risks were obtained for inhalation cancer toxicity factors from the following sources:

- USEPA, 2016b. Integrated Risk Information System (IRIS), Chemical Assessment Summary for Trichloroethene (Completion date: September 28, 2011); and
- USEPA, 2016c. Integrated Risk Information System (IRIS), Chemical Assessment Summary for Tetrachloroethene (Completion date: February 10, 2012).

**Exposure time** – The exposure time is the time during which remediation takes place. It is anticipated that the soil remediation activities will be conducted over a standard 8-hour working day. However, an exposure time of 12 hours per 24 hours of the day is used to provide a protective means to derive the estimate and to account for variability in work patterns. The treatment area is not required to be covered during non-working times, unless air monitoring indicates that the placement of a vapour suppressing foam barrier is necessary, as discussed in Sections 6.3.7 and 6.3.8 in the *Remedial Action Plan* (Ramboll Environ, October 2016).

**Exposure frequency (EF)** – The exposure frequency is the number of days over which remediation takes place within one year. For this project, the remediation period is assumed to be 14 days in one year. As described in the *Remedial Action Plan* (Ramboll Environ, October 2016), the remediation activities will be completed during Fall 2016.

**Exposure duration** – The exposure duration is the total number of years over which remediation takes place and is considered within the derivation of RBACs for cancer endpoints. Since the remediation is assumed to take place over a 14-day period, the exposure duration is considered to be 1 year.

Risk-Based Air Concentration Based on Potential Non-carcinogenic Effects

$$RBAC = \frac{RfC * AT}{ET * EF}$$

Where:

- RBAC = Acceptable risk-based concentration in air ($mg/m^3$)
- RfC = Reference concentration ($mg/m^3$)
- ET = Exposure time (Hours of exposure per day per hours in a day, resulting in a unitless number)
- EF= Exposure frequency is 14 days per year, based on the project duration of 14 days.

The equation shown above is based on the USEPA's *Regional Screening Levels* (USEPA, 2016a). For evaluation of non-carcinogenic effects, the averaging time is one year total period of exposure (365 days), and the exposure duration is 14 days for this project. The parameters are discussed further below.

**Reference Concentration** – The reference concentration is defined as "an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime" (USEPA, 2009). It is expressed in units of $\mu g/m^3$ or $mg/m^3$. It is conservative (health-protective) to use a reference concentration derived to be protective of chronic (long-term) exposure to derive a RBAC for a subchronic (less than lifetime) period of exposure.

The sources listed below were consulted for inhalation reference concentrations for both PCE and TCE:

- USEPA, 2016b. Integrated Risk Information System (IRIS), Chemical Assessment Summary for Trichloroethene (Completion date: September 28, 2011); and
- USEPA, 2016c. Integrated Risk Information System (IRIS), Chemical Assessment Summary for Tetrachloroethene (Completion date: February 10, 2012).

**Exposure time** – The exposure time is the time during which remediation takes place. For this project, soil remediation activities and potential soil emissions of PCE and TCE are assumed to take place for 12 hours of the 24 hours per day.

**Exposure frequency** – For evaluation of potential non-carcinogenic effects, the exposure frequency is the number of days over which remediation take place over a one year period. For this project, the remediation period is assumed to be 14 days in one year.

**Selection of Fenceline Air Action Levels**

A summary of the calculated RBACs based on potential carcinogenic and non-carcinogenic effects using both sets of toxicity factors for TCE and PCE is presented in Table 4.

For TCE, the range of project-specific RBACs range from 0.10 mg/$m^3$ to 89 mg/$m^3$. The lowest of the RBACs is 0.10 mg/$m^3$, which is based on potential non-carcinogenic effects using the IRIS toxicity values for TCE. Thus, 0.10 mg/$m^3$ (0.019 ppmv) is identified as the TCE air action level for use in the fenceline air monitoring to be conducted during soil remediation at the site, and is protective of both potential carcinogenic and non-carcinogenic effects.

For PCE, the range of project-specific RBACs derived using the IRIS toxicity factors is 2.1 mg/$m^3$ to 1,400 mg/$m^3$. It is recommended that the lowest of the RBACs for PCE be selected as the fenceline AL for PCE. This corresponds to an air action level for PCE of 2.1 mg/$m^3$ (0.31 ppmv), which is protective of both potential carcinogenic and non-carcinogenic effects.

**References**

Ramboll Environ, 2016. Remedial Action Plan for Former Express Cleaners Site. October.

USEPA, 1989. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part A). EPA/540-1-89/002. December.

USEPA, 2009. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment), EPA-540-R-070-002, OSWER 9285.7-82, January 2009.

USEPA, 2016a. Regional Screening Levels. May. Available online at https://www.epa.gov/risk/regional-screening-levels-rsls

USEPA, 2016b. Integrated Risk Information System (IRIS), Chemical Assessment Summary for Tetrachloroethene (Completion date: February 10, 2012).

USEPA, 2016c. Integrated Risk Information System (IRIS), Chemical Assessment Summary for Trichloroethene (Completion date: September 28, 2011).

**Table C-1**
**Toxicity Criteria for Tetrachloroethene and Trichloroethene**
Former Express Cleaners Property
Racine, Wisconsin

| Chemical | Inhalation Unit Risk $(ug/m^3)^{-1}$ | | Inhalation Reference Concentration $(mg/m^3)$ [c] | |
|---|---|---|---|---|
| TCE (USEPA) | 4.1E-06 | [a] | 2.00E-03 | [a] |
| PCE (USEPA) | 2.60E-07 | [b] | 4.00E-02 | [b] |

Notes:

(a) USEPA, 2016. Integrated Risk Information System (IRIS), Chemical Assessment Summary for Trichloroethene (Completion date: September 28, 2011). Available online at: https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=199

(b) USEPA, 2016. Integrated Risk Information System (IRIS), Chemical Assessment Summary for Tetrachloroethene (Completion date: February 10, 2012). Available online at: https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=106

(c) The reference concentration is "an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime." (USEPA, 2009a). The reference concentrations are derived to be protective of chronic (long-term) inhalation exposures, and thus are very conservative for evaluating a subchronic period of exposure.

**Table C-2**
**Derivation of Risk-Based Air Concentration for PCE and TCE (Carcinogenic Effects)**
Former Express Cleaners Property
Racine, Wisconsin

| Chemical | Target Cancer Risk Level | Lifetime (years) | Days per year Exposed (days/year) | Averaging Time (days) [a] | Inhalation Unit Risk ($m^3$/ug) | Conversion Factor (ug/mg) | Hours of exposure[b] | Hours in a day[b] | Exposure Frequency [c] | Exposure Duration (yr) [d] | RBAC ($mg/m^3$) [e] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TCE (USEPA) | 1.00E-06 | 70 | 365 | 25550 | 4.10E-06 | 1.00E+03 | 12 | 24 | 14 | 1 | 0.89 |
| PCE (USEPA) | 1.00E-06 | 70 | 365 | 25550 | 2.60E-07 | 1.00E+03 | 12 | 24 | 14 | 1 | 14.0 |

Notes:
RBAC - Risk-Based Air Concentration
(a) Averaging Time (days) = 365 days/year for 70 years
(b) The hours of exposure and hours in a day are used to calcuate the exposure time, which is the ratio of the number of hours of exposure to the number of hours in a day.
(c) The work will be conducted over a 14 day period during one year, giving an exposure frequency of 14 days per year.
(e) Risk-Based Air Concentration ($mg/m^3$) = $\frac{TR * AT (days)}{IUR (m^3/ug) * (1000 ug/mg) * Exposure Time * Exposure Frequency * Exposure Duration (yr)}$

**Table C-3**
**Derivation of Risk-Based Air Concentration for PCE and TCE (Noncarcinogenic Effects)**
Former Express Cleaners Property
Racine, Wisconsin

| Chemical | Reference Concentration ($mg/m^3$) | Hours of exposure[(a)] | Hours in a day[(a)] | Days per year Exposed[(b)] | Averaging time (days)[(c)] | RBAC ($mg/m^3$)[(d)] |
|---|---|---|---|---|---|---|
| TCE (USEPA) | 2.00E-03 | 12 | 24 | 14 | 365 | 0.10 |
| PCE (USEPA) | 4.00E-02 | 12 | 24 | 14 | 365 | 2.1 |

Notes:
RBAC - Risk-Based Air Concentration
(a) The hours of exposure and hours in a day are used to calcuate the exposure time, which is the ratio of the number of hours of exposure to the number of hours in a day.
(b) The work will be conducted over a 14 day period during one year, giving an exposure frequency of 14 days per year.
(c) An averaging time of 365 days per year is assumed since the work will be completed during one year.
(d) Risk-Based Air Concentration (mg/m3) = $\frac{\text{Reference Concentration (mg/m3) * Averaging Time (365 days/year)}}{\text{Exposure Time (unitless) * Exposure Frequency (14 days/year)}}$

**Table C-4**
**Selection of Fenceline Air Action Level for PCE and TCE**
Former Express Cleaners Property
Racine, Wisconsin

| Chemical | Risk-Based Air Concentration ($mg/m^3$) | | | | Fenceline Air Action Level [(a)] ($mg/m^3$) | Fenceline Air Action Level [(a)] ($ug/m^3$) | Fenceline Air Action Level [(a.b)] ($ppm_v$) |
|---|---|---|---|---|---|---|---|
| | Non-cancer | Cancer | | | | | |
| | | $10^{-6}$ | $10^{-5}$ | $10^{-4}$ | | | |
| TCE (USEPA) | 0.10 | 0.89 | 8.9 | 89 | 0.10 | 104 | 0.019 |
| PCE (USEPA) | 2.1 | 14 | 140 | 1,404 | 2.1 | 2,086 | 0.31 |

Notes:
(a) - Lowest of cancer and non-cancer risk-based air concentrations for each chemical.
(b) - Molecular weights for PCE and TCE are as follows:

$Molecular\ Weight_{PCE}$ = 165.83 g/mol
$Molecular\ Weight_{TCE}$ = 131.4 g/mol

# APPENDIX D

## Laboratory Analytical Reports for Pre-Remediation Sampling Activities

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

October 06, 2016

Scott Tarmann
Environ
175 N. Corporate Dr.
Brookfield, WI 53045

RE: Project: 21-41301A Express Cleaners
Pace Project No.: 10363661

Dear Scott Tarmann:
Enclosed are the analytical results for sample(s) received by the laboratory on September 23, 2016. 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,

Carolynne Trout

Carolynne Trout
carolynne.trout@pacelabs.com
Project Manager

Enclosures

cc: Michelle Murphy, Environ
Abigail Wedig, Environ

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

# CERTIFICATIONS

Project: 21-41301A Express Cleaners
Pace Project No.: 10363661

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification UST-107
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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

## SAMPLE SUMMARY

Project: 21-41301A Express Cleaners
Pace Project No.: 10363661

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **10363661001** | **SS-VP-1** | Air | 09/22/16 11:15 | 09/23/16 09:45 |
| **10363661002** | **SS-VP-2** | Air | 09/22/16 11:40 | 09/23/16 09:45 |

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

## SAMPLE ANALYTE COUNT

Project: 21-41301A Express Cleaners
Pace Project No.: 10363661

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **10363661001** | **SS-VP-1** | TO-15 | NCK | 5 | PASI-M |
| **10363661002** | **SS-VP-2** | TO-15 | NCK | 5 | PASI-M |

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

## ANALYTICAL RESULTS

Project: 21-41301A Express Cleaners
Pace Project No.: 10363661

**Sample: SS-VP-1** **Lab ID: 10363661001** Collected: 09/22/16 11:15 Received: 09/23/16 09:45 Matrix: Air

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| cis-1,2-Dichloroethene | **3.0** | ug/m3 | 1.3 | 0.38 | 1.55 | | 10/06/16 01:58 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.60** | ug/m3 | 1.3 | 0.60 | 1.55 | | 10/06/16 01:58 | 156-60-5 | |
| Tetrachloroethene | **298** | ug/m3 | 1.1 | 0.43 | 1.55 | | 10/06/16 01:58 | 127-18-4 | |
| Trichloroethene | **11.1** | ug/m3 | 0.85 | 0.43 | 1.55 | | 10/06/16 01:58 | 79-01-6 | |
| Vinyl chloride | **<0.30** | ug/m3 | 0.40 | 0.30 | 1.55 | | 10/06/16 01:58 | 75-01-4 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A Express Cleaners
Pace Project No.: 10363661

**Sample: SS-VP-2** **Lab ID: 10363661002** Collected: 09/22/16 11:40 Received: 09/23/16 09:45 Matrix: Air

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| cis-1,2-Dichloroethene | **<0.40** | ug/m3 | 1.3 | 0.40 | 1.61 | | 10/06/16 02:29 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.62** | ug/m3 | 1.3 | 0.62 | 1.61 | | 10/06/16 02:29 | 156-60-5 | |
| Tetrachloroethene | **6440** | ug/m3 | 355 | 143 | 515.2 | | 10/06/16 13:58 | 127-18-4 | A3 |
| Trichloroethene | **3.2** | ug/m3 | 0.89 | 0.44 | 1.61 | | 10/06/16 02:29 | 79-01-6 | |
| Vinyl chloride | **<0.31** | ug/m3 | 0.42 | 0.31 | 1.61 | | 10/06/16 02:29 | 75-01-4 | |

## REPORT OF LABORATORY ANALYSIS

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

# QUALITY CONTROL DATA

Project: 21-41301A Express Cleaners
Pace Project No.: 10363661

QC Batch: 439271 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10363661001, 10363661002

METHOD BLANK: 2386901 Matrix: Air
Associated Lab Samples: 10363661001, 10363661002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ug/m3 | <0.25 | 0.81 | 10/05/16 09:06 | |
| Tetrachloroethene | ug/m3 | <0.28 | 0.69 | 10/05/16 09:06 | |
| trans-1,2-Dichloroethene | ug/m3 | <0.38 | 0.81 | 10/05/16 09:06 | |
| Trichloroethene | ug/m3 | <0.28 | 0.55 | 10/05/16 09:06 | |
| Vinyl chloride | ug/m3 | <0.20 | 0.26 | 10/05/16 09:06 | |

LABORATORY CONTROL SAMPLE: 2386902

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ug/m3 | 40.3 | 47.6 | 118 | 65-139 | |
| Tetrachloroethene | ug/m3 | 69 | 80.3 | 116 | 60-142 | |
| trans-1,2-Dichloroethene | ug/m3 | 40.3 | 45.3 | 112 | 67-137 | |
| Trichloroethene | ug/m3 | 54.6 | 58.4 | 107 | 60-144 | |
| Vinyl chloride | ug/m3 | 26 | 28.4 | 109 | 63-135 | |

SAMPLE DUPLICATE: 2388780

| Parameter | Units | 10363644001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ug/m3 | ND | <0.34 | | 25 | |
| Tetrachloroethene | ug/m3 | ND | <0.39 | | 25 | |
| trans-1,2-Dichloroethene | ug/m3 | ND | <0.54 | | 25 | |
| Trichloroethene | ug/m3 | ND | <0.39 | | 25 | |
| Vinyl chloride | ug/m3 | ND | <0.27 | | 25 | |

SAMPLE DUPLICATE: 2388797

| Parameter | Units | 10363644002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ug/m3 | ND | <0.38 | | 25 | |
| Tetrachloroethene | ug/m3 | 1.1 | 0.87J | | 25 | |
| trans-1,2-Dichloroethene | ug/m3 | ND | <0.60 | | 25 | |
| Trichloroethene | ug/m3 | ND | <0.43 | | 25 | |
| Vinyl chloride | ug/m3 | ND | <0.30 | | 25 | |

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

## REPORT OF LABORATORY ANALYSIS

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

# QUALIFIERS

Project: 21-41301A Express Cleaners
Pace Project No.: 10363661

## DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |

## ANALYTE QUALIFIERS

| | |
|---|---|
| A3 | The sample was analyzed by serial dilution. |

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

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 21-41301A Express Cleaners
Pace Project No.: 10363661

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **10363661001** | **SS-VP-1** | TO-15 | 439271 | | |
| **10363661002** | **SS-VP-2** | TO-15 | 439271 | | |

10363661

Pace Analytical®
www.pacelabs.com

# AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

28875

Page: 1 of 1

**Section A** Required Client Information:

| | |
|---|---|
| Company: | Ramboll Environ |
| Address: | 175 N. Corporate Dr Ste 160 Brookfield WI 53045 |
| Email To: | Scott Tarmann |
| Phone: 262 901 6093 | Fax: |
| Requested Due Date/TAT: | STD |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Scott Tarmann |
| Copy To: | |
| Purchase Order No.: | |
| Project Name: | Express Cleaners |
| Project Number: | 21-41301A |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | |
| Company Name: | |
| Address: | |
| Pace Quote Reference: | 00031327 |
| Pace Project Manager/Sales Rep. | mike Dew |
| Pace Profile #: | |

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

Location of Sampling by State: WI

Reporting Units: µg/m³ X mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

**'Section D Required Client Information**

**AIR SAMPLE ID**
Sample IDs MUST BE UNIQUE

Valid Media Codes

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

| ITEM # | AIR SAMPLE ID | MEDIA CODE | PID Reading (Client only) | COLLECTED COMPOSITE START END/GRAB DATE | COLLECTED COMPOSITE START END/GRAB TIME | COLLECTED COMPOSITE - DATE | COLLECTED COMPOSITE - TIME | Canister Pressure (Initial Field - psig) | Canister Pressure (Final Field - psig) | Summa Can Number | Flow Control Number | Method: PM10 | 3C-Fixed Gas (%) | TO-3 | TO-3M (Methane) | TO-4 (PCBs) | TO-13 (PAH) | TO-14 | TO-15 | TO15 Short List* | Pace Lab ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SS-VP-1 | 6LC | 2.1 | 9/22/16 | 1038 | 9/22/16 | 1115 | -23 | -4 | 0010 | FC 1191 | | | | | | | X | | | 001 |
| 2 | SS-VP-2 | 6LC | 0.0 | 9/22/16 | 1103 | 9/22/16 | 1140 | -25 | -5 | 0326 | FC 1221 | | | | | | | X | | | 002 |
| 3 | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | |

Comments: *
Report only
Vinyl chloride
Trichloroethylene
Tetrachloroethylene
cis 1,2,-DCE
trans 1,2,-DCE

| RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|
| D. Markiz / Ramboll | 9/22/16 | 1600 | Fedex | 9/22/16 | 1600 |
| | | | Mansfield / Pace | 9-23-16 | 9:15 |
| | | | | | |
| | | | | | |

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: David Markiz
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 9/22/16

SAMPLE CONDITIONS

| | Temp in °C | Received on Ice | Custody Sealed Cooler | Samples Intact |
|---|---|---|---|---|
| | AMB | Y/N | Y/N | Y/N |
| | | Y/N | Y/N | Y/N |
| | | Y/N | Y/N | Y/N |

ORIGINAL

Page 10 of 11

| Pace Analytical | Document Name: Air Sample Condition Upon Receipt | Document Revised: 26APR2016 Page 1 of 1 |
|---|---|---|
| | Document No.: F-MN-A-106-rev.11 | Issuing Authority: Pace Minnesota Quality Office |

**Air Sample Condition Upon Receipt**

Client Name: Ramboll Environ

Project #: **WO# : 10363661**

10363661

Courier: ☑ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7772 9272 1380

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

Optional: Proj. Due Date: Proj. Name:

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

Temp. (TO17 and TO13 samples only) (°C): — Corrected Temp (°C): — Thermom. Used: ☐ B88A912167504 ☐ B88A0143310098 ☐ 151401163 ☐ 151401164

Temp should be above freezing to 6°C Correction Factor: — Date & Initials of Person Examining Contents: 9.23.16 mJ

Type of ice Received ☐ Blue ☐ Wet ☑ None

| | | | | Comments: |
|---|---|---|---|---|
| Chain of Custody Present? | ☑ Yes | ☐ No | ☐ N/A | 1. |
| Chain of Custody Filled Out? | ☑ Yes | ☐ No | ☐ N/A | 2. |
| Chain of Custody Relinquished? | ☑ Yes | ☐ No | ☐ N/A | 3. |
| Sampler Name and/or Signature on COC? | ☑ Yes | ☐ No | ☐ N/A | 4. |
| Samples Arrived within Hold Time? | ☑ Yes | ☐ No | ☐ N/A | 5. |
| **Short Hold Time Analysis (<72 hr)?** | ☐ Yes | ☑ No | ☐ N/A | 6. |
| **Rush Turn Around Time Requested?** | ☐ Yes | ☑ No | ☐ N/A | 7. |
| Sufficient Volume? | ☑ Yes | ☐ No | ☐ N/A | 8. |
| Correct Containers Used? | ☑ Yes | ☐ No | ☐ N/A | 9. |
| -Pace Containers Used? | ☑ Yes | ☐ No | ☐ N/A | |
| Containers Intact? | ☑ Yes | ☐ No | ☐ N/A | 10. |
| Media: (Air Can) Airbag Filter TDT Passive | | | | 11. |
| Sample Labels Match COC? | ☑ Yes | ☐ No | ☐ N/A | 12. |

Samples Received:

| Canisters | | | Canisters | | |
|---|---|---|---|---|---|
| Sample Number | Can ID | Flow Controller ID | Sample Number | Can ID | Flow Controller ID |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

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

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Carolyne Trout Date: 9/26/16

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

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

September 28, 2016

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

RE: Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

Dear Jeanne Tarvin:
Enclosed are the analytical results for sample(s) received by the laboratory on September 14, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Steven Mleczko
steve.mleczko@pacelabs.com
Project Manager

Enclosures

cc: Jon Fuqua, Ramboll Environ
Jim Hutchens, Ramboll Environ
Jim Kane, Ramboll Environ
Snejana Karakis, Environ
David L. Markelz, Ramboll Environ
Michelle Murphy, Environ
Abigail M. Wedig, Environ International Corp

**REPORT OF LABORATORY ANALYSIS**

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

## CERTIFICATIONS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Green Bay Certification IDs**

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
Virginia VELAP ID: 460263
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Virginia VELAP Certification ID: 460263
Virginia VELAP ID: 460263
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

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

## SAMPLE SUMMARY

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **40138259001** | **B-35 (6-7')** | Solid | 09/13/16 08:00 | 09/14/16 16:10 |
| **40138259002** | **B-35 (9-10')** | Solid | 09/13/16 08:03 | 09/14/16 16:10 |
| **40138259003** | **B-35 (12-13')** | Solid | 09/13/16 08:40 | 09/14/16 16:10 |
| **40138259004** | **B-36 (6-7')** | Solid | 09/13/16 09:05 | 09/14/16 16:10 |
| **40138259005** | **B-36 (9-10')** | Solid | 09/13/16 09:07 | 09/14/16 16:10 |
| **40138259006** | **B-37 (2-4')** | Solid | 09/13/16 09:35 | 09/14/16 16:10 |
| **40138259007** | **B-37 (6-8')** | Solid | 09/13/16 09:50 | 09/14/16 16:10 |
| **40138259008** | **B-37 (9-10')** | Solid | 09/13/16 09:55 | 09/14/16 16:10 |
| **40138259009** | **B-38 (2-4')** | Solid | 09/13/16 10:15 | 09/14/16 16:10 |
| **40138259010** | **B-38 (6-8')** | Solid | 09/13/16 10:20 | 09/14/16 16:10 |
| **40138259011** | **B-39 (3-5')** | Solid | 09/13/16 10:58 | 09/14/16 16:10 |
| **40138259012** | **B-39 (9-10')** | Solid | 09/13/16 11:02 | 09/14/16 16:10 |
| **40138259013** | **B-40 (2-4')** | Solid | 09/13/16 11:28 | 09/14/16 16:10 |
| **40138259014** | **B-40 (6-8')** | Solid | 09/13/16 11:31 | 09/14/16 16:10 |
| **40138259015** | **B-40 (9-10')** | Solid | 09/13/16 11:35 | 09/14/16 16:10 |
| **40138259016** | **B-41 (5-7')** | Solid | 09/13/16 12:50 | 09/14/16 16:10 |
| **40138259017** | **B-41 (9-10')** | Solid | 09/13/16 12:52 | 09/14/16 16:10 |
| **40138259018** | **B-42 (2-4')** | Solid | 09/13/16 13:05 | 09/14/16 16:10 |
| **40138259019** | **B-42 (6-8')** | Solid | 09/13/16 13:20 | 09/14/16 16:10 |
| **40138259020** | **B-43 (2-4')** | Solid | 09/13/16 13:45 | 09/14/16 16:10 |
| **40138259021** | **B-43 (6-8')** | Solid | 09/13/16 13:50 | 09/14/16 16:10 |
| **40138259022** | **B-43 (9-10')** | Solid | 09/13/16 14:00 | 09/14/16 16:10 |
| **40138259023** | **B-44 (8-10')** | Solid | 09/13/16 14:20 | 09/14/16 16:10 |
| **40138259024** | **B-45 (6-8')** | Solid | 09/13/16 14:50 | 09/14/16 16:10 |
| **40138259025** | **B-45 (9-10')** | Solid | 09/13/16 14:55 | 09/14/16 16:10 |
| **40138259026** | **B-45 (11-12')** | Solid | 09/13/16 15:00 | 09/14/16 16:10 |
| **40138259027** | **B-46 (2-4')** | Solid | 09/13/16 15:20 | 09/14/16 16:10 |
| **40138259028** | **B-46 (6-8')** | Solid | 09/13/16 15:25 | 09/14/16 16:10 |
| **40138259029** | **B-46 (9-10')** | Solid | 09/13/16 15:30 | 09/14/16 16:10 |
| **40138259030** | **B-47 (1-2')** | Solid | 09/13/16 15:30 | 09/14/16 16:10 |
| **40138259031** | **B-47 (5-7')** | Solid | 09/13/16 15:35 | 09/14/16 16:10 |
| **40138259032** | **B-48 (1-2')** | Solid | 09/13/16 16:00 | 09/14/16 16:10 |
| **40138259033** | **B-48 (5-7')** | Solid | 09/13/16 16:05 | 09/14/16 16:10 |
| **40138259034** | **B-49 (1-2')** | Solid | 09/13/16 16:20 | 09/14/16 16:10 |
| **40138259035** | **B-49 (5-7')** | Solid | 09/13/16 16:25 | 09/14/16 16:10 |
| **40138259036** | **B-50 (1-2')** | Solid | 09/13/16 16:35 | 09/14/16 16:10 |
| **40138259037** | **B-50 (5-7')** | Solid | 09/13/16 16:40 | 09/14/16 16:10 |

## REPORT OF LABORATORY ANALYSIS

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

## SAMPLE SUMMARY

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **40138259038** | **MEOH TRIP BLANK** | Solid | 09/13/16 00:00 | 09/14/16 16:10 |

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

## SAMPLE ANALYTE COUNT

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **40138259001** | **B-35 (6-7')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259002** | **B-35 (9-10')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259003** | **B-35 (12-13')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259004** | **B-36 (6-7')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259005** | **B-36 (9-10')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259006** | **B-37 (2-4')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259007** | **B-37 (6-8')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259008** | **B-37 (9-10')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259009** | **B-38 (2-4')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259010** | **B-38 (6-8')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259011** | **B-39 (3-5')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259012** | **B-39 (9-10')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259013** | **B-40 (2-4')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259014** | **B-40 (6-8')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259015** | **B-40 (9-10')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259016** | **B-41 (5-7')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259017** | **B-41 (9-10')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259018** | **B-42 (2-4')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259019** | **B-42 (6-8')** | EPA 8260 | SMT | 65 | PASI-G |

**Pace Analytical Services, Inc.**
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(920)469-2436

## SAMPLE ANALYTE COUNT

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259020** | **B-43 (2-4')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | MAV | 1 | PASI-G |
| **40138259021** | **B-43 (6-8')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | MAV | 1 | PASI-G |
| **40138259022** | **B-43 (9-10')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | MAV | 1 | PASI-G |
| **40138259023** | **B-44 (8-10')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259024** | **B-45 (6-8')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259025** | **B-45 (9-10')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259026** | **B-45 (11-12')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259027** | **B-46 (2-4')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259028** | **B-46 (6-8')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259029** | **B-46 (9-10')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259030** | **B-47 (1-2')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259031** | **B-47 (5-7')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259032** | **B-48 (1-2')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259033** | **B-48 (5-7')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259034** | **B-49 (1-2')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259035** | **B-49 (5-7')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259036** | **B-50 (1-2')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |
| **40138259037** | **B-50 (5-7')** | EPA 8260 | SMT | 65 | PASI-G |
| | | ASTM D2974-87 | TEL | 1 | PASI-G |

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Green Bay, WI 54302
(920)469-2436

## SAMPLE ANALYTE COUNT

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **40138259038** | **MEOH TRIP BLANK** | EPA 8260 | SMT | 65 | PASI-G |

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## SUMMARY OF DETECTION

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

| Lab Sample ID / Method | Client Sample ID / Parameters | Result | Units | Report Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| **40138259001** | **B-35 (6-7')** | | | | | |
| EPA 8260 | Tetrachloroethene | 3020 | ug/kg | 72.5 | 09/19/16 16:26 | |
| EPA 8260 | Trichloroethene | 842 | ug/kg | 72.5 | 09/19/16 16:26 | |
| EPA 8260 | cis-1,2-Dichloroethene | 122 | ug/kg | 72.5 | 09/19/16 16:26 | |
| ASTM D2974-87 | Percent Moisture | 15.5 | % | 0.10 | 09/26/16 14:21 | |
| **40138259002** | **B-35 (9-10')** | | | | | |
| EPA 8260 | cis-1,2-Dichloroethene | 33.0J | ug/kg | 66.9 | 09/19/16 16:49 | |
| ASTM D2974-87 | Percent Moisture | 10.3 | % | 0.10 | 09/26/16 14:22 | |
| **40138259003** | **B-35 (12-13')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 17.5 | % | 0.10 | 09/26/16 14:22 | |
| **40138259004** | **B-36 (6-7')** | | | | | |
| EPA 8260 | Tetrachloroethene | 39300 | ug/kg | 350 | 09/20/16 09:39 | |
| EPA 8260 | Trichloroethene | 344J | ug/kg | 350 | 09/20/16 09:39 | |
| EPA 8260 | cis-1,2-Dichloroethene | 166J | ug/kg | 350 | 09/20/16 09:39 | |
| ASTM D2974-87 | Percent Moisture | 14.3 | % | 0.10 | 09/26/16 14:22 | |
| **40138259005** | **B-36 (9-10')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 16.2 | % | 0.10 | 09/26/16 14:22 | |
| **40138259006** | **B-37 (2-4')** | | | | | |
| EPA 8260 | Tetrachloroethene | 143 | ug/kg | 66.7 | 09/19/16 17:58 | |
| ASTM D2974-87 | Percent Moisture | 10.0 | % | 0.10 | 09/26/16 14:22 | |
| **40138259007** | **B-37 (6-8')** | | | | | |
| EPA 8260 | Tetrachloroethene | 567 | ug/kg | 72.9 | 09/21/16 19:13 | |
| EPA 8260 | Trichloroethene | 115 | ug/kg | 72.9 | 09/21/16 19:13 | |
| EPA 8260 | cis-1,2-Dichloroethene | 39.1J | ug/kg | 72.9 | 09/21/16 19:13 | |
| ASTM D2974-87 | Percent Moisture | 17.7 | % | 0.10 | 09/26/16 14:22 | |
| **40138259008** | **B-37 (9-10')** | | | | | |
| EPA 8260 | cis-1,2-Dichloroethene | 101 | ug/kg | 67.8 | 09/21/16 19:36 | |
| ASTM D2974-87 | Percent Moisture | 11.5 | % | 0.10 | 09/26/16 14:22 | |
| **40138259009** | **B-38 (2-4')** | | | | | |
| EPA 8260 | Tetrachloroethene | 79.4 | ug/kg | 65.8 | 09/21/16 19:58 | |
| ASTM D2974-87 | Percent Moisture | 8.8 | % | 0.10 | 09/26/16 14:22 | |
| **40138259010** | **B-38 (6-8')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 12.6 | % | 0.10 | 09/26/16 14:22 | |
| **40138259011** | **B-39 (3-5')** | | | | | |
| EPA 8260 | Tetrachloroethene | 2070 | ug/kg | 63.9 | 09/21/16 20:44 | |
| ASTM D2974-87 | Percent Moisture | 6.0 | % | 0.10 | 09/26/16 14:23 | |
| **40138259012** | **B-39 (9-10')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 18.5 | % | 0.10 | 09/27/16 08:03 | |
| **40138259013** | **B-40 (2-4')** | | | | | |
| EPA 8260 | Tetrachloroethene | 1530 | ug/kg | 65.9 | 09/21/16 23:04 | |
| ASTM D2974-87 | Percent Moisture | 8.0 | % | 0.10 | 09/27/16 08:03 | |

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## SUMMARY OF DETECTION

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

| Lab Sample ID / Method | Client Sample ID / Parameters | Result | Units | Report Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| **40138259014** | **B-40 (6-8')** | | | | | |
| EPA 8260 | Tetrachloroethene | 44200 | ug/kg | 596 | 09/22/16 03:41 | |
| EPA 8260 | Trichloroethene | 299J | ug/kg | 596 | 09/22/16 03:41 | |
| ASTM D2974-87 | Percent Moisture | 12.5 | % | 0.10 | 09/27/16 08:03 | |
| **40138259015** | **B-40 (9-10')** | | | | | |
| EPA 8260 | Tetrachloroethene | 127 | ug/kg | 69.8 | 09/21/16 23:27 | |
| ASTM D2974-87 | Percent Moisture | 14.0 | % | 0.10 | 09/27/16 08:03 | |
| **40138259016** | **B-41 (5-7')** | | | | | |
| EPA 8260 | Tetrachloroethene | 2860 | ug/kg | 78.6 | 09/21/16 23:50 | |
| ASTM D2974-87 | Percent Moisture | 22.1 | % | 0.10 | 09/27/16 08:03 | |
| **40138259017** | **B-41 (9-10')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 13.3 | % | 0.10 | 09/27/16 08:03 | |
| **40138259018** | **B-42 (2-4')** | | | | | |
| EPA 8260 | Tetrachloroethene | 33.1J | ug/kg | 68.4 | 09/22/16 00:36 | |
| ASTM D2974-87 | Percent Moisture | 12.3 | % | 0.10 | 09/27/16 08:03 | |
| **40138259019** | **B-42 (6-8')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 17.1 | % | 0.10 | 09/27/16 08:03 | |
| **40138259020** | **B-43 (2-4')** | | | | | |
| EPA 8260 | Tetrachloroethene | 800 | ug/kg | 284 | 09/22/16 01:22 | |
| ASTM D2974-87 | Percent Moisture | 78.9 | % | 0.10 | 09/21/16 10:43 | |
| **40138259021** | **B-43 (6-8')** | | | | | |
| EPA 8260 | Tetrachloroethene | 161J | ug/kg | 228 | 09/22/16 01:45 | |
| EPA 8260 | cis-1,2-Dichloroethene | 187J | ug/kg | 228 | 09/22/16 01:45 | |
| ASTM D2974-87 | Percent Moisture | 73.7 | % | 0.10 | 09/21/16 10:43 | |
| **40138259022** | **B-43 (9-10')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 67.1 | % | 0.10 | 09/21/16 10:44 | |
| **40138259023** | **B-44 (8-10')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 14.1 | % | 0.10 | 09/27/16 08:04 | |
| **40138259024** | **B-45 (6-8')** | | | | | |
| EPA 8260 | Tetrachloroethene | 110000 | ug/kg | 1400 | 09/22/16 04:04 | |
| EPA 8260 | Trichloroethene | 871J | ug/kg | 1400 | 09/22/16 04:04 | |
| ASTM D2974-87 | Percent Moisture | 14.1 | % | 0.10 | 09/27/16 08:04 | |
| **40138259025** | **B-45 (9-10')** | | | | | |
| EPA 8260 | Tetrachloroethene | 157000 | ug/kg | 1450 | 09/22/16 04:27 | |
| ASTM D2974-87 | Percent Moisture | 17.1 | % | 0.10 | 09/27/16 08:04 | |
| **40138259026** | **B-45 (11-12')** | | | | | |
| EPA 8260 | Tetrachloroethene | 622 | ug/kg | 72.1 | 09/22/16 02:55 | |
| ASTM D2974-87 | Percent Moisture | 16.8 | % | 0.10 | 09/27/16 08:04 | |
| **40138259027** | **B-46 (2-4')** | | | | | |
| EPA 8260 | Tetrachloroethene | 352 | ug/kg | 71.4 | 09/22/16 03:18 | |

## REPORT OF LABORATORY ANALYSIS

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## SUMMARY OF DETECTION

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

| Lab Sample ID / Method | Client Sample ID / Parameters | Result | Units | Report Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| **40138259027** | **B-46 (2-4')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 14.2 | % | 0.10 | 09/27/16 08:04 | |
| **40138259028** | **B-46 (6-8')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 13.1 | % | 0.10 | 09/27/16 08:04 | |
| **40138259029** | **B-46 (9-10')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 11.5 | % | 0.10 | 09/27/16 08:04 | |
| **40138259030** | **B-47 (1-2')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 10.2 | % | 0.10 | 09/27/16 08:04 | |
| **40138259031** | **B-47 (5-7')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 13.9 | % | 0.10 | 09/27/16 08:04 | |
| **40138259032** | **B-48 (1-2')** | | | | | |
| EPA 8260 | Tetrachloroethene | 174 | ug/kg | 64.8 | 09/22/16 08:20 | |
| ASTM D2974-87 | Percent Moisture | 7.4 | % | 0.10 | 09/27/16 08:04 | |
| **40138259033** | **B-48 (5-7')** | | | | | |
| EPA 8260 | Styrene | 114 | ug/kg | 71.8 | 09/22/16 13:21 | |
| ASTM D2974-87 | Percent Moisture | 16.4 | % | 0.10 | 09/27/16 08:04 | |
| **40138259034** | **B-49 (1-2')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 9.8 | % | 0.10 | 09/27/16 08:05 | |
| **40138259035** | **B-49 (5-7')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 13.4 | % | 0.10 | 09/27/16 08:34 | |
| **40138259036** | **B-50 (1-2')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 9.5 | % | 0.10 | 09/27/16 08:34 | |
| **40138259037** | **B-50 (5-7')** | | | | | |
| ASTM D2974-87 | Percent Moisture | 12.8 | % | 0.10 | 09/27/16 08:35 | |

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## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-35 (6-7')** **Lab ID: 40138259001** Collected: 09/13/16 08:00 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<48.5** | ug/kg | 255 | 48.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<93.1** | ug/kg | 255 | 93.1 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 106-43-4 | W |
| Benzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 71-43-2 | W |
| Bromobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 108-86-1 | W |
| Bromochloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 74-97-5 | W |
| Bromodichloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 75-27-4 | W |
| Bromoform | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 75-25-2 | W |
| Bromomethane | **<71.3** | ug/kg | 255 | 71.3 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 74-83-9 | W |
| Carbon tetrachloride | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 56-23-5 | W |
| Chlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 108-90-7 | W |
| Chloroethane | **<68.4** | ug/kg | 255 | 68.4 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 75-00-3 | W |
| Chloroform | **<47.4** | ug/kg | 255 | 47.4 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 67-66-3 | W |
| Chloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 74-87-3 | W |
| Dibromochloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 124-48-1 | W |
| Dibromomethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 75-71-8 | W |
| Diisopropyl ether | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 108-20-3 | W |
| Ethylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 1634-04-4 | W |
| Methylene Chloride | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 75-09-2 | W |
| Naphthalene | **<40.9** | ug/kg | 255 | 40.9 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 91-20-3 | W |
| Styrene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-35 (6-7')** **Lab ID: 40138259001** Collected: 09/13/16 08:00 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **3020** | ug/kg | 72.5 | 30.2 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 127-18-4 | |
| Toluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 108-88-3 | W |
| Trichloroethene | **842** | ug/kg | 72.5 | 30.2 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 79-01-6 | |
| Trichlorofluoromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 75-69-4 | W |
| Vinyl chloride | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 75-01-4 | W |
| Xylene (Total) | **<76.5** | ug/kg | 184 | 76.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **122** | ug/kg | 72.5 | 30.2 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 156-59-2 | |
| cis-1,3-Dichloropropene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 10061-01-5 | W |
| m&p-Xylene | **<51.0** | ug/kg | 122 | 51.0 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 179601-23-1 | W |
| n-Butylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 104-51-8 | W |
| n-Propylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 103-65-1 | W |
| o-Xylene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 99-87-6 | W |
| sec-Butylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 135-98-8 | W |
| tert-Butylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 97 | % | 53-165 | | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 1868-53-7 | |
| Toluene-d8 (S) | 106 | % | 54-163 | | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 103 | % | 48-138 | | 1 | 09/19/16 08:00 | 09/19/16 16:26 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **15.5** | % | 0.10 | 0.10 | 1 | | 09/26/16 14:21 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-35 (9-10')** **Lab ID: 40138259002** Collected: 09/13/16 08:03 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-35 (9-10')** **Lab ID: 40138259002** Collected: 09/13/16 08:03 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **33.0J** | ug/kg | 66.9 | 27.9 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 156-59-2 | |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 101 | % | 53-165 | | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 54-163 | | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 107 | % | 48-138 | | 1 | 09/19/16 08:00 | 09/19/16 16:49 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **10.3** | % | 0.10 | 0.10 | 1 | | 09/26/16 14:22 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-35 (12-13')** **Lab ID: 40138259003** Collected: 09/13/16 08:40 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<48.5** | ug/kg | 255 | 48.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<93.1** | ug/kg | 255 | 93.1 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 106-43-4 | W |
| Benzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 71-43-2 | W |
| Bromobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 108-86-1 | W |
| Bromochloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 74-97-5 | W |
| Bromodichloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 75-27-4 | W |
| Bromoform | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 75-25-2 | W |
| Bromomethane | **<71.3** | ug/kg | 255 | 71.3 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 74-83-9 | W |
| Carbon tetrachloride | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 56-23-5 | W |
| Chlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 108-90-7 | W |
| Chloroethane | **<68.4** | ug/kg | 255 | 68.4 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 75-00-3 | W |
| Chloroform | **<47.4** | ug/kg | 255 | 47.4 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 67-66-3 | W |
| Chloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 74-87-3 | W |
| Dibromochloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 124-48-1 | W |
| Dibromomethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 75-71-8 | W |
| Diisopropyl ether | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 108-20-3 | W |
| Ethylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 1634-04-4 | W |
| Methylene Chloride | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 75-09-2 | W |
| Naphthalene | **<40.9** | ug/kg | 255 | 40.9 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 91-20-3 | W |
| Styrene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-35 (12-13')** **Lab ID: 40138259003** Collected: 09/13/16 08:40 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 127-18-4 | W |
| Toluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 108-88-3 | W |
| Trichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 75-69-4 | W |
| Vinyl chloride | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 75-01-4 | W |
| Xylene (Total) | **<76.5** | ug/kg | 184 | 76.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 10061-01-5 | W |
| m&p-Xylene | **<51.0** | ug/kg | 122 | 51.0 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 179601-23-1 | W |
| n-Butylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 104-51-8 | W |
| n-Propylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 103-65-1 | W |
| o-Xylene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 99-87-6 | W |
| sec-Butylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 135-98-8 | W |
| tert-Butylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 91 | % | 53-165 | | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 1868-53-7 | |
| Toluene-d8 (S) | 96 | % | 54-163 | | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 93 | % | 48-138 | | 1 | 09/19/16 08:00 | 09/19/16 17:12 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **17.5** | % | 0.10 | 0.10 | 1 | | 09/26/16 14:22 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-36 (6-7')** **Lab ID: 40138259004** Collected: 09/13/16 09:05 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 79-00-5 | W |
| 1,1-Dichloroethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 75-34-3 | W |
| 1,1-Dichloroethene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 75-35-4 | W |
| 1,1-Dichloropropene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<238** | ug/kg | 1250 | 238 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<456** | ug/kg | 1250 | 456 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 95-50-1 | W |
| 1,2-Dichloroethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 107-06-2 | W |
| 1,2-Dichloropropane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 541-73-1 | W |
| 1,3-Dichloropropane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 106-46-7 | W |
| 2,2-Dichloropropane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 594-20-7 | W |
| 2-Chlorotoluene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 95-49-8 | W |
| 4-Chlorotoluene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 106-43-4 | W |
| Benzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 71-43-2 | W |
| Bromobenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 108-86-1 | W |
| Bromochloromethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 74-97-5 | W |
| Bromodichloromethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 75-27-4 | W |
| Bromoform | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 75-25-2 | W |
| Bromomethane | **<350** | ug/kg | 1250 | 350 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 74-83-9 | W |
| Carbon tetrachloride | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 56-23-5 | W |
| Chlorobenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 108-90-7 | W |
| Chloroethane | **<335** | ug/kg | 1250 | 335 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 75-00-3 | W |
| Chloroform | **<232** | ug/kg | 1250 | 232 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 67-66-3 | W |
| Chloromethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 74-87-3 | W |
| Dibromochloromethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 124-48-1 | W |
| Dibromomethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 74-95-3 | W |
| Dichlorodifluoromethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 75-71-8 | W |
| Diisopropyl ether | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 108-20-3 | W |
| Ethylbenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 1634-04-4 | W |
| Methylene Chloride | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 75-09-2 | W |
| Naphthalene | **<200** | ug/kg | 1250 | 200 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 91-20-3 | W |
| Styrene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-36 (6-7')** **Lab ID: 40138259004** Collected: 09/13/16 09:05 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **39300** | ug/kg | 350 | 146 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 127-18-4 | |
| Toluene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 108-88-3 | W |
| Trichloroethene | **344J** | ug/kg | 350 | 146 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 79-01-6 | |
| Trichlorofluoromethane | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 75-69-4 | W |
| Vinyl chloride | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 75-01-4 | W |
| Xylene (Total) | **<375** | ug/kg | 900 | 375 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **166J** | ug/kg | 350 | 146 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 156-59-2 | |
| cis-1,3-Dichloropropene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 10061-01-5 | W |
| m&p-Xylene | **<250** | ug/kg | 600 | 250 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 179601-23-1 | W |
| n-Butylbenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 104-51-8 | W |
| n-Propylbenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 103-65-1 | W |
| o-Xylene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 95-47-6 | W |
| p-Isopropyltoluene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 99-87-6 | W |
| sec-Butylbenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 135-98-8 | W |
| tert-Butylbenzene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<125** | ug/kg | 300 | 125 | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 88 | % | 53-165 | | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 1868-53-7 | |
| Toluene-d8 (S) | 94 | % | 54-163 | | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 83 | % | 48-138 | | 5 | 09/19/16 08:00 | 09/20/16 09:39 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **14.3** | % | 0.10 | 0.10 | 1 | | 09/26/16 14:22 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-36 (9-10')** **Lab ID: 40138259005** Collected: 09/13/16 09:07 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-36 (9-10')** **Lab ID: 40138259005** Collected: 09/13/16 09:07 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 98 | % | 53-165 | | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 54-163 | | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 48-138 | | 1 | 09/19/16 08:00 | 09/19/16 17:35 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **16.2** | % | 0.10 | 0.10 | 1 | | 09/26/16 14:22 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-37 (2-4')** **Lab ID: 40138259006** Collected: 09/13/16 09:35 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-37 (2-4')** **Lab ID: 40138259006** Collected: 09/13/16 09:35 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **143** | ug/kg | 66.7 | 27.8 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 127-18-4 | |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 109 | % | 53-165 | | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 1868-53-7 | |
| Toluene-d8 (S) | 115 | % | 54-163 | | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 114 | % | 48-138 | | 1 | 09/19/16 08:00 | 09/19/16 17:58 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **10.0** | % | 0.10 | 0.10 | 1 | | 09/26/16 14:22 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-37 (6-8')** **Lab ID: 40138259007** Collected: 09/13/16 09:50 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-37 (6-8')** **Lab ID: 40138259007** Collected: 09/13/16 09:50 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **567** | ug/kg | 72.9 | 30.4 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 127-18-4 | |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 108-88-3 | W |
| Trichloroethene | **115** | ug/kg | 72.9 | 30.4 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 79-01-6 | |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **39.1J** | ug/kg | 72.9 | 30.4 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 156-59-2 | |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 107 | % | 53-165 | | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 1868-53-7 | |
| Toluene-d8 (S) | 95 | % | 54-163 | | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 78 | % | 48-138 | | 1 | 09/21/16 07:30 | 09/21/16 19:13 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **17.7** | % | 0.10 | 0.10 | 1 | | 09/26/16 14:22 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-37 (9-10')** **Lab ID: 40138259008** Collected: 09/13/16 09:55 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-37 (9-10')** **Lab ID: 40138259008** Collected: 09/13/16 09:55 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **101** | ug/kg | 67.8 | 28.2 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 156-59-2 | |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 120 | % | 53-165 | | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 1868-53-7 | |
| Toluene-d8 (S) | 102 | % | 54-163 | | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 82 | % | 48-138 | | 1 | 09/21/16 07:30 | 09/21/16 19:36 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **11.5** | % | 0.10 | 0.10 | 1 | | 09/26/16 14:22 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-38 (2-4')** **Lab ID: 40138259009** Collected: 09/13/16 10:15 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-38 (2-4')** **Lab ID: 40138259009** Collected: 09/13/16 10:15 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **79.4** | ug/kg | 65.8 | 27.4 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 127-18-4 | |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 132 | % | 53-165 | | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 1868-53-7 | |
| Toluene-d8 (S) | 114 | % | 54-163 | | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 93 | % | 48-138 | | 1 | 09/21/16 07:30 | 09/21/16 19:58 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **8.8** | % | 0.10 | 0.10 | 1 | | 09/26/16 14:22 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-38 (6-8')** **Lab ID: 40138259010** Collected: 09/13/16 10:20 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-38 (6-8')** **Lab ID: 40138259010** Collected: 09/13/16 10:20 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 115 | % | 53-165 | | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 1868-53-7 | |
| Toluene-d8 (S) | 97 | % | 54-163 | | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 79 | % | 48-138 | | 1 | 09/21/16 07:30 | 09/21/16 20:21 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **12.6** | % | 0.10 | 0.10 | 1 | | 09/26/16 14:22 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-39 (3-5')** **Lab ID: 40138259011** Collected: 09/13/16 10:58 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-39 (3-5')** **Lab ID: 40138259011** Collected: 09/13/16 10:58 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **2070** | ug/kg | 63.9 | 26.6 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 127-18-4 | |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 137 | % | 53-165 | | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 1868-53-7 | |
| Toluene-d8 (S) | 111 | % | 54-163 | | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 92 | % | 48-138 | | 1 | 09/21/16 07:30 | 09/21/16 20:44 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **6.0** | % | 0.10 | 0.10 | 1 | | 09/26/16 14:23 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-39 (9-10')** **Lab ID: 40138259012** Collected: 09/13/16 11:02 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-39 (9-10')** **Lab ID: 40138259012** Collected: 09/13/16 11:02 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 112 | % | 53-165 | | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 1868-53-7 | |
| Toluene-d8 (S) | 96 | % | 54-163 | | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 77 | % | 48-138 | | 1 | 09/21/16 07:30 | 09/21/16 21:06 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **18.5** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:03 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-40 (2-4')** **Lab ID: 40138259013** Collected: 09/13/16 11:28 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<48.0** | ug/kg | 253 | 48.0 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<92.2** | ug/kg | 253 | 92.2 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 106-43-4 | W |
| Benzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 71-43-2 | W |
| Bromobenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 108-86-1 | W |
| Bromochloromethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 74-97-5 | W |
| Bromodichloromethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 75-27-4 | W |
| Bromoform | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 75-25-2 | W |
| Bromomethane | **<70.6** | ug/kg | 253 | 70.6 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 74-83-9 | W |
| Carbon tetrachloride | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 56-23-5 | W |
| Chlorobenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 108-90-7 | W |
| Chloroethane | **<67.7** | ug/kg | 253 | 67.7 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 75-00-3 | W |
| Chloroform | **<46.9** | ug/kg | 253 | 46.9 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 67-66-3 | W |
| Chloromethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 74-87-3 | W |
| Dibromochloromethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 124-48-1 | W |
| Dibromomethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 75-71-8 | W |
| Diisopropyl ether | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 108-20-3 | W |
| Ethylbenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 1634-04-4 | W |
| Methylene Chloride | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 75-09-2 | W |
| Naphthalene | **<40.4** | ug/kg | 253 | 40.4 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 91-20-3 | W |
| Styrene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-40 (2-4')** **Lab ID: 40138259013** Collected: 09/13/16 11:28 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **1530** | ug/kg | 65.9 | 27.4 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 127-18-4 | |
| Toluene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 108-88-3 | W |
| Trichloroethene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 75-69-4 | W |
| Vinyl chloride | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 75-01-4 | W |
| Xylene (Total) | **<75.8** | ug/kg | 182 | 75.8 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 10061-01-5 | W |
| m&p-Xylene | **<50.5** | ug/kg | 121 | 50.5 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 179601-23-1 | W |
| n-Butylbenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 104-51-8 | W |
| n-Propylbenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 103-65-1 | W |
| o-Xylene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 99-87-6 | W |
| sec-Butylbenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 135-98-8 | W |
| tert-Butylbenzene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.3** | ug/kg | 60.6 | 25.3 | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 108 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 1868-53-7 | |
| Toluene-d8 (S) | 111 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 108 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/21/16 23:04 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **8.0** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:03 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-40 (6-8')** **Lab ID: 40138259014** Collected: 09/13/16 11:31 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 79-00-5 | W |
| 1,1-Dichloroethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 75-34-3 | W |
| 1,1-Dichloroethene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 75-35-4 | W |
| 1,1-Dichloropropene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<413** | ug/kg | 2170 | 413 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<793** | ug/kg | 2170 | 793 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 95-50-1 | W |
| 1,2-Dichloroethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 107-06-2 | W |
| 1,2-Dichloropropane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 541-73-1 | W |
| 1,3-Dichloropropane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 106-46-7 | W |
| 2,2-Dichloropropane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 594-20-7 | W |
| 2-Chlorotoluene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 95-49-8 | W |
| 4-Chlorotoluene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 106-43-4 | W |
| Benzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 71-43-2 | W |
| Bromobenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 108-86-1 | W |
| Bromochloromethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 74-97-5 | W |
| Bromodichloromethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 75-27-4 | W |
| Bromoform | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 75-25-2 | W |
| Bromomethane | **<608** | ug/kg | 2170 | 608 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 74-83-9 | W |
| Carbon tetrachloride | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 56-23-5 | W |
| Chlorobenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 108-90-7 | W |
| Chloroethane | **<583** | ug/kg | 2170 | 583 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 75-00-3 | W |
| Chloroform | **<404** | ug/kg | 2170 | 404 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 67-66-3 | W |
| Chloromethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 74-87-3 | W |
| Dibromochloromethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 124-48-1 | W |
| Dibromomethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 74-95-3 | W |
| Dichlorodifluoromethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 75-71-8 | W |
| Diisopropyl ether | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 108-20-3 | W |
| Ethylbenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 1634-04-4 | W |
| Methylene Chloride | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 75-09-2 | W |
| Naphthalene | **<348** | ug/kg | 2170 | 348 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 91-20-3 | W |
| Styrene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-40 (6-8')** **Lab ID: 40138259014** Collected: 09/13/16 11:31 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **44200** | ug/kg | 596 | 248 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 127-18-4 | |
| Toluene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 108-88-3 | W |
| Trichloroethene | **299J** | ug/kg | 596 | 248 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 79-01-6 | |
| Trichlorofluoromethane | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 75-69-4 | W |
| Vinyl chloride | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 75-01-4 | W |
| Xylene (Total) | **<652** | ug/kg | 1570 | 652 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 10061-01-5 | W |
| m&p-Xylene | **<435** | ug/kg | 1040 | 435 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 179601-23-1 | W |
| n-Butylbenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 104-51-8 | W |
| n-Propylbenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 103-65-1 | W |
| o-Xylene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 95-47-6 | W |
| p-Isopropyltoluene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 99-87-6 | W |
| sec-Butylbenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 135-98-8 | W |
| tert-Butylbenzene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<217** | ug/kg | 522 | 217 | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 103 | % | 53-165 | | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 54-163 | | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 96 | % | 48-138 | | 8 | 09/21/16 12:45 | 09/22/16 03:41 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **12.5** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:03 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-40 (9-10')** **Lab ID: 40138259015** Collected: 09/13/16 11:35 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-40 (9-10')** **Lab ID: 40138259015** Collected: 09/13/16 11:35 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **127** | ug/kg | 69.8 | 29.1 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 127-18-4 | |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 103 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 103 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/21/16 23:27 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **14.0** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:03 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-41 (5-7')** **Lab ID: 40138259016** Collected: 09/13/16 12:50 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<48.5** | ug/kg | 255 | 48.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<93.1** | ug/kg | 255 | 93.1 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 106-43-4 | W |
| Benzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 71-43-2 | W |
| Bromobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 108-86-1 | W |
| Bromochloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 74-97-5 | W |
| Bromodichloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 75-27-4 | W |
| Bromoform | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 75-25-2 | W |
| Bromomethane | **<71.3** | ug/kg | 255 | 71.3 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 74-83-9 | W |
| Carbon tetrachloride | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 56-23-5 | W |
| Chlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 108-90-7 | W |
| Chloroethane | **<68.4** | ug/kg | 255 | 68.4 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 75-00-3 | W |
| Chloroform | **<47.4** | ug/kg | 255 | 47.4 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 67-66-3 | W |
| Chloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 74-87-3 | W |
| Dibromochloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 124-48-1 | W |
| Dibromomethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 75-71-8 | W |
| Diisopropyl ether | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 108-20-3 | W |
| Ethylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 1634-04-4 | W |
| Methylene Chloride | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 75-09-2 | W |
| Naphthalene | **<40.9** | ug/kg | 255 | 40.9 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 91-20-3 | W |
| Styrene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-41 (5-7')** **Lab ID: 40138259016** Collected: 09/13/16 12:50 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **2860** | ug/kg | 78.6 | 32.7 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 127-18-4 | |
| Toluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 108-88-3 | W |
| Trichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 75-69-4 | W |
| Vinyl chloride | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 75-01-4 | W |
| Xylene (Total) | **<76.5** | ug/kg | 184 | 76.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 10061-01-5 | W |
| m&p-Xylene | **<51.0** | ug/kg | 122 | 51.0 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 179601-23-1 | W |
| n-Butylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 104-51-8 | W |
| n-Propylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 103-65-1 | W |
| o-Xylene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 99-87-6 | W |
| sec-Butylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 135-98-8 | W |
| tert-Butylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 118 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 1868-53-7 | |
| Toluene-d8 (S) | 122 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 119 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/21/16 23:50 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **22.1** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:03 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-41 (9-10')** **Lab ID: 40138259017** Collected: 09/13/16 12:52 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 79-00-5 | W |
| 1,1-Dichloroethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 75-34-3 | W |
| 1,1-Dichloroethene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 75-35-4 | W |
| 1,1-Dichloropropene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<49.5** | ug/kg | 260 | 49.5 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<95.0** | ug/kg | 260 | 95.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 95-50-1 | W |
| 1,2-Dichloroethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 107-06-2 | W |
| 1,2-Dichloropropane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 541-73-1 | W |
| 1,3-Dichloropropane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 106-46-7 | W |
| 2,2-Dichloropropane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 594-20-7 | W |
| 2-Chlorotoluene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 95-49-8 | W |
| 4-Chlorotoluene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 106-43-4 | W |
| Benzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 71-43-2 | W |
| Bromobenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 108-86-1 | W |
| Bromochloromethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 74-97-5 | W |
| Bromodichloromethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 75-27-4 | W |
| Bromoform | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 75-25-2 | W |
| Bromomethane | **<72.8** | ug/kg | 260 | 72.8 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 74-83-9 | W |
| Carbon tetrachloride | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 56-23-5 | W |
| Chlorobenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 108-90-7 | W |
| Chloroethane | **<69.8** | ug/kg | 260 | 69.8 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 75-00-3 | W |
| Chloroform | **<48.4** | ug/kg | 260 | 48.4 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 67-66-3 | W |
| Chloromethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 74-87-3 | W |
| Dibromochloromethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 124-48-1 | W |
| Dibromomethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 74-95-3 | W |
| Dichlorodifluoromethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 75-71-8 | W |
| Diisopropyl ether | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 108-20-3 | W |
| Ethylbenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 1634-04-4 | W |
| Methylene Chloride | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 75-09-2 | W |
| Naphthalene | **<41.7** | ug/kg | 260 | 41.7 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 91-20-3 | W |
| Styrene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-41 (9-10')** **Lab ID: 40138259017** Collected: 09/13/16 12:52 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 127-18-4 | W |
| Toluene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 108-88-3 | W |
| Trichloroethene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 79-01-6 | W |
| Trichlorofluoromethane | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 75-69-4 | W |
| Vinyl chloride | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 75-01-4 | W |
| Xylene (Total) | **<78.1** | ug/kg | 188 | 78.1 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 10061-01-5 | W |
| m&p-Xylene | **<52.1** | ug/kg | 125 | 52.1 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 179601-23-1 | W |
| n-Butylbenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 104-51-8 | W |
| n-Propylbenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 103-65-1 | W |
| o-Xylene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 95-47-6 | W |
| p-Isopropyltoluene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 99-87-6 | W |
| sec-Butylbenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 135-98-8 | W |
| tert-Butylbenzene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<26.0** | ug/kg | 62.5 | 26.0 | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 96 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 1868-53-7 | |
| Toluene-d8 (S) | 99 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 00:13 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **13.3** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:03 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-42 (2-4')** **Lab ID: 40138259018** Collected: 09/13/16 13:05 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-42 (2-4')** **Lab ID: 40138259018** Collected: 09/13/16 13:05 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **33.1J** | ug/kg | 68.4 | 28.5 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 127-18-4 | |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 106 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 1868-53-7 | |
| Toluene-d8 (S) | 113 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 112 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 00:36 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **12.3** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:03 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-42 (6-8')** **Lab ID: 40138259019** Collected: 09/13/16 13:20 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-42 (6-8')** **Lab ID: 40138259019** Collected: 09/13/16 13:20 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 100 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 1868-53-7 | |
| Toluene-d8 (S) | 105 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 00:59 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **17.1** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:03 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-43 (2-4')** **Lab ID: 40138259020** Collected: 09/13/16 13:45 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-43 (2-4')** **Lab ID: 40138259020** Collected: 09/13/16 13:45 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **800** | ug/kg | 284 | 118 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 127-18-4 | |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 126 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 1868-53-7 | |
| Toluene-d8 (S) | 128 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 125 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 01:22 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **78.9** | % | 0.10 | 0.10 | 1 | | 09/21/16 10:43 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-43 (6-8')** **Lab ID: 40138259021** Collected: 09/13/16 13:50 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-43 (6-8')** **Lab ID: 40138259021** Collected: 09/13/16 13:50 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **161J** | ug/kg | 228 | 95.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 127-18-4 | |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **187J** | ug/kg | 228 | 95.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 156-59-2 | |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 96 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 1868-53-7 | |
| Toluene-d8 (S) | 101 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 01:45 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **73.7** | % | 0.10 | 0.10 | 1 | | 09/21/16 10:43 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-43 (9-10')** **Lab ID: 40138259022** Collected: 09/13/16 14:00 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-43 (9-10')** **Lab ID: 40138259022** Collected: 09/13/16 14:00 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 104 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 1868-53-7 | |
| Toluene-d8 (S) | 105 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 100 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 02:08 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **67.1** | % | 0.10 | 0.10 | 1 | | 09/21/16 10:44 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-44 (8-10')** **Lab ID: 40138259023** Collected: 09/13/16 14:20 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 79-00-5 | W |
| 1,1-Dichloroethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 75-34-3 | W |
| 1,1-Dichloroethene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 75-35-4 | W |
| 1,1-Dichloropropene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<51.1** | ug/kg | 269 | 51.1 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<98.1** | ug/kg | 269 | 98.1 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 95-50-1 | W |
| 1,2-Dichloroethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 107-06-2 | W |
| 1,2-Dichloropropane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 541-73-1 | W |
| 1,3-Dichloropropane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 106-46-7 | W |
| 2,2-Dichloropropane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 594-20-7 | W |
| 2-Chlorotoluene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 95-49-8 | W |
| 4-Chlorotoluene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 106-43-4 | W |
| Benzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 71-43-2 | W |
| Bromobenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 108-86-1 | W |
| Bromochloromethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 74-97-5 | W |
| Bromodichloromethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 75-27-4 | W |
| Bromoform | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 75-25-2 | W |
| Bromomethane | **<75.2** | ug/kg | 269 | 75.2 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 74-83-9 | W |
| Carbon tetrachloride | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 56-23-5 | W |
| Chlorobenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 108-90-7 | W |
| Chloroethane | **<72.1** | ug/kg | 269 | 72.1 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 75-00-3 | W |
| Chloroform | **<49.9** | ug/kg | 269 | 49.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 67-66-3 | W |
| Chloromethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 74-87-3 | W |
| Dibromochloromethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 124-48-1 | W |
| Dibromomethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 74-95-3 | W |
| Dichlorodifluoromethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 75-71-8 | W |
| Diisopropyl ether | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 108-20-3 | W |
| Ethylbenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 1634-04-4 | W |
| Methylene Chloride | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 75-09-2 | W |
| Naphthalene | **<43.1** | ug/kg | 269 | 43.1 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 91-20-3 | W |
| Styrene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-44 (8-10')** **Lab ID: 40138259023** Collected: 09/13/16 14:20 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 127-18-4 | W |
| Toluene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 108-88-3 | W |
| Trichloroethene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 79-01-6 | W |
| Trichlorofluoromethane | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 75-69-4 | W |
| Vinyl chloride | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 75-01-4 | W |
| Xylene (Total) | **<80.6** | ug/kg | 194 | 80.6 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 10061-01-5 | W |
| m&p-Xylene | **<53.8** | ug/kg | 129 | 53.8 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 179601-23-1 | W |
| n-Butylbenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 104-51-8 | W |
| n-Propylbenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 103-65-1 | W |
| o-Xylene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 95-47-6 | W |
| p-Isopropyltoluene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 99-87-6 | W |
| sec-Butylbenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 135-98-8 | W |
| tert-Butylbenzene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<26.9** | ug/kg | 64.5 | 26.9 | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 96 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 1868-53-7 | |
| Toluene-d8 (S) | 100 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 94 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 02:32 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **14.1** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:04 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-45 (6-8')** **Lab ID: 40138259024** Collected: 09/13/16 14:50 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 79-00-5 | W |
| 1,1-Dichloroethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 75-34-3 | W |
| 1,1-Dichloroethene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 75-35-4 | W |
| 1,1-Dichloropropene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<951** | ug/kg | 5000 | 951 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<1820** | ug/kg | 5000 | 1820 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 95-50-1 | W |
| 1,2-Dichloroethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 107-06-2 | W |
| 1,2-Dichloropropane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 541-73-1 | W |
| 1,3-Dichloropropane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 106-46-7 | W |
| 2,2-Dichloropropane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 594-20-7 | W |
| 2-Chlorotoluene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 95-49-8 | W |
| 4-Chlorotoluene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 106-43-4 | W |
| Benzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 71-43-2 | W |
| Bromobenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 108-86-1 | W |
| Bromochloromethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 74-97-5 | W |
| Bromodichloromethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 75-27-4 | W |
| Bromoform | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 75-25-2 | W |
| Bromomethane | **<1400** | ug/kg | 5000 | 1400 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 74-83-9 | W |
| Carbon tetrachloride | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 56-23-5 | W |
| Chlorobenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 108-90-7 | W |
| Chloroethane | **<1340** | ug/kg | 5000 | 1340 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 75-00-3 | W |
| Chloroform | **<929** | ug/kg | 5000 | 929 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 67-66-3 | W |
| Chloromethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 74-87-3 | W |
| Dibromochloromethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 124-48-1 | W |
| Dibromomethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 74-95-3 | W |
| Dichlorodifluoromethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 75-71-8 | W |
| Diisopropyl ether | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 108-20-3 | W |
| Ethylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 1634-04-4 | W |
| Methylene Chloride | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 75-09-2 | W |
| Naphthalene | **<801** | ug/kg | 5000 | 801 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 91-20-3 | W |
| Styrene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-45 (6-8')** **Lab ID: 40138259024** Collected: 09/13/16 14:50 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **110000** | ug/kg | 1400 | 582 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 127-18-4 | |
| Toluene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 108-88-3 | W |
| Trichloroethene | **871J** | ug/kg | 1400 | 582 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 79-01-6 | |
| Trichlorofluoromethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 75-69-4 | W |
| Vinyl chloride | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 75-01-4 | W |
| Xylene (Total) | **<1500** | ug/kg | 3600 | 1500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 10061-01-5 | W |
| m&p-Xylene | **<1000** | ug/kg | 2400 | 1000 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 179601-23-1 | W |
| n-Butylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 104-51-8 | W |
| n-Propylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 103-65-1 | W |
| o-Xylene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 95-47-6 | W |
| p-Isopropyltoluene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 99-87-6 | W |
| sec-Butylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 135-98-8 | W |
| tert-Butylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 0 | % | 53-165 | | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 1868-53-7 | S4 |
| Toluene-d8 (S) | 0 | % | 54-163 | | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 2037-26-5 | S4 |
| 4-Bromofluorobenzene (S) | 0 | % | 48-138 | | 20 | 09/21/16 12:45 | 09/22/16 04:04 | 460-00-4 | S4 |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **14.1** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:04 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-45 (9-10')** **Lab ID: 40138259025** Collected: 09/13/16 14:55 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 79-00-5 | W |
| 1,1-Dichloroethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 75-34-3 | W |
| 1,1-Dichloroethene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 75-35-4 | W |
| 1,1-Dichloropropene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<951** | ug/kg | 5000 | 951 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<1820** | ug/kg | 5000 | 1820 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 95-50-1 | W |
| 1,2-Dichloroethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 107-06-2 | W |
| 1,2-Dichloropropane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 541-73-1 | W |
| 1,3-Dichloropropane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 106-46-7 | W |
| 2,2-Dichloropropane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 594-20-7 | W |
| 2-Chlorotoluene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 95-49-8 | W |
| 4-Chlorotoluene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 106-43-4 | W |
| Benzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 71-43-2 | W |
| Bromobenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 108-86-1 | W |
| Bromochloromethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 74-97-5 | W |
| Bromodichloromethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 75-27-4 | W |
| Bromoform | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 75-25-2 | W |
| Bromomethane | **<1400** | ug/kg | 5000 | 1400 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 74-83-9 | W |
| Carbon tetrachloride | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 56-23-5 | W |
| Chlorobenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 108-90-7 | W |
| Chloroethane | **<1340** | ug/kg | 5000 | 1340 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 75-00-3 | W |
| Chloroform | **<929** | ug/kg | 5000 | 929 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 67-66-3 | W |
| Chloromethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 74-87-3 | W |
| Dibromochloromethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 124-48-1 | W |
| Dibromomethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 74-95-3 | W |
| Dichlorodifluoromethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 75-71-8 | W |
| Diisopropyl ether | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 108-20-3 | W |
| Ethylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 1634-04-4 | W |
| Methylene Chloride | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 75-09-2 | W |
| Naphthalene | **<801** | ug/kg | 5000 | 801 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 91-20-3 | W |
| Styrene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-45 (9-10')** **Lab ID: 40138259025** Collected: 09/13/16 14:55 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **157000** | ug/kg | 1450 | 603 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 127-18-4 | |
| Toluene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 108-88-3 | W |
| Trichloroethene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 79-01-6 | W |
| Trichlorofluoromethane | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 75-69-4 | W |
| Vinyl chloride | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 75-01-4 | W |
| Xylene (Total) | **<1500** | ug/kg | 3600 | 1500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 10061-01-5 | W |
| m&p-Xylene | **<1000** | ug/kg | 2400 | 1000 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 179601-23-1 | W |
| n-Butylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 104-51-8 | W |
| n-Propylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 103-65-1 | W |
| o-Xylene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 95-47-6 | W |
| p-Isopropyltoluene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 99-87-6 | W |
| sec-Butylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 135-98-8 | W |
| tert-Butylbenzene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<500** | ug/kg | 1200 | 500 | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 0 | % | 53-165 | | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 1868-53-7 | S4 |
| Toluene-d8 (S) | 0 | % | 54-163 | | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 2037-26-5 | S4 |
| 4-Bromofluorobenzene (S) | 0 | % | 48-138 | | 20 | 09/21/16 12:45 | 09/22/16 04:27 | 460-00-4 | S4 |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **17.1** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:04 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-45 (11-12')** **Lab ID: 40138259026** Collected: 09/13/16 15:00 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-45 (11-12')** **Lab ID: 40138259026** Collected: 09/13/16 15:00 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **622** | ug/kg | 72.1 | 30.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 127-18-4 | |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 105 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 1868-53-7 | |
| Toluene-d8 (S) | 106 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 103 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 02:55 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **16.8** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:04 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-46 (2-4')** **Lab ID: 40138259027** Collected: 09/13/16 15:20 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<48.5** | ug/kg | 255 | 48.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<93.1** | ug/kg | 255 | 93.1 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 106-43-4 | W |
| Benzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 71-43-2 | W |
| Bromobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 108-86-1 | W |
| Bromochloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 74-97-5 | W |
| Bromodichloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 75-27-4 | W |
| Bromoform | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 75-25-2 | W |
| Bromomethane | **<71.3** | ug/kg | 255 | 71.3 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 74-83-9 | W |
| Carbon tetrachloride | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 56-23-5 | W |
| Chlorobenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 108-90-7 | W |
| Chloroethane | **<68.4** | ug/kg | 255 | 68.4 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 75-00-3 | W |
| Chloroform | **<47.4** | ug/kg | 255 | 47.4 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 67-66-3 | W |
| Chloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 74-87-3 | W |
| Dibromochloromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 124-48-1 | W |
| Dibromomethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 75-71-8 | W |
| Diisopropyl ether | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 108-20-3 | W |
| Ethylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 1634-04-4 | W |
| Methylene Chloride | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 75-09-2 | W |
| Naphthalene | **<40.9** | ug/kg | 255 | 40.9 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 91-20-3 | W |
| Styrene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-46 (2-4')** **Lab ID: 40138259027** Collected: 09/13/16 15:20 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **352** | ug/kg | 71.4 | 29.7 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 127-18-4 | |
| Toluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 108-88-3 | W |
| Trichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 75-69-4 | W |
| Vinyl chloride | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 75-01-4 | W |
| Xylene (Total) | **<76.5** | ug/kg | 184 | 76.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 10061-01-5 | W |
| m&p-Xylene | **<51.0** | ug/kg | 122 | 51.0 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 179601-23-1 | W |
| n-Butylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 104-51-8 | W |
| n-Propylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 103-65-1 | W |
| o-Xylene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 99-87-6 | W |
| sec-Butylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 135-98-8 | W |
| tert-Butylbenzene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.5** | ug/kg | 61.2 | 25.5 | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 102 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 1868-53-7 | |
| Toluene-d8 (S) | 108 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 106 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 03:18 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **14.2** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:04 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-46 (6-8')** **Lab ID: 40138259028** Collected: 09/13/16 15:25 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-46 (6-8')** **Lab ID: 40138259028** Collected: 09/13/16 15:25 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 109 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 1868-53-7 | |
| Toluene-d8 (S) | 110 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 105 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 08:43 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **13.1** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:04 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-46 (9-10')** **Lab ID: 40138259029** Collected: 09/13/16 15:30 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-46 (9-10')** **Lab ID: 40138259029** Collected: 09/13/16 15:30 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 104 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 1868-53-7 | |
| Toluene-d8 (S) | 104 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 09:06 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **11.5** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:04 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-47 (1-2')** **Lab ID: 40138259030** Collected: 09/13/16 15:30 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-47 (1-2')** **Lab ID: 40138259030** Collected: 09/13/16 15:30 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 109 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 1868-53-7 | |
| Toluene-d8 (S) | 110 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 106 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 09:29 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **10.2** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:04 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-47 (5-7')** **Lab ID: 40138259031** Collected: 09/13/16 15:35 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-47 (5-7')** **Lab ID: 40138259031** Collected: 09/13/16 15:35 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 92 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 1868-53-7 | |
| Toluene-d8 (S) | 96 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 94 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 09:52 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **13.9** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:04 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-48 (1-2')** **Lab ID: 40138259032** Collected: 09/13/16 16:00 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-48 (1-2')** **Lab ID: 40138259032** Collected: 09/13/16 16:00 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **174** | ug/kg | 64.8 | 27.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 127-18-4 | |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 104 | % | 53-165 | | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 1868-53-7 | |
| Toluene-d8 (S) | 108 | % | 54-163 | | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 106 | % | 48-138 | | 1 | 09/21/16 12:45 | 09/22/16 08:20 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **7.4** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:04 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-48 (5-7')** **Lab ID: 40138259033** Collected: 09/13/16 16:05 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 91-20-3 | W |
| Styrene | **114** | ug/kg | 71.8 | 29.9 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 100-42-5 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-48 (5-7')** **Lab ID: 40138259033** Collected: 09/13/16 16:05 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 90 | % | 53-165 | | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 1868-53-7 | |
| Toluene-d8 (S) | 96 | % | 54-163 | | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 95 | % | 48-138 | | 1 | 09/22/16 07:15 | 09/22/16 13:21 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **16.4** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:04 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-49 (1-2')** **Lab ID: 40138259034** Collected: 09/13/16 16:20 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-49 (1-2')** **Lab ID: 40138259034** Collected: 09/13/16 16:20 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 105 | % | 53-165 | | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 1868-53-7 | |
| Toluene-d8 (S) | 111 | % | 54-163 | | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 109 | % | 48-138 | | 1 | 09/22/16 07:15 | 09/22/16 13:44 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **9.8** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:05 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-49 (5-7')** **Lab ID: 40138259035** Collected: 09/13/16 16:25 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-49 (5-7')** **Lab ID: 40138259035** Collected: 09/13/16 16:25 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 96 | % | 53-165 | | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 1868-53-7 | |
| Toluene-d8 (S) | 100 | % | 54-163 | | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 48-138 | | 1 | 09/22/16 07:15 | 09/22/16 14:07 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **13.4** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:34 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-50 (1-2')** **Lab ID: 40138259036** Collected: 09/13/16 16:35 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-50 (1-2')** **Lab ID: 40138259036** Collected: 09/13/16 16:35 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 108 | % | 53-165 | | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 1868-53-7 | |
| Toluene-d8 (S) | 114 | % | 54-163 | | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 112 | % | 48-138 | | 1 | 09/22/16 07:15 | 09/22/16 12:58 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **9.5** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:34 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-50 (5-7')** **Lab ID: 40138259037** Collected: 09/13/16 16:40 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: B-50 (5-7')** **Lab ID: 40138259037** Collected: 09/13/16 16:40 Received: 09/14/16 16:10 Matrix: Solid

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

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 94 | % | 53-165 | | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 1868-53-7 | |
| Toluene-d8 (S) | 97 | % | 54-163 | | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 95 | % | 48-138 | | 1 | 09/22/16 07:15 | 09/22/16 14:30 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **12.8** | % | 0.10 | 0.10 | 1 | | 09/27/16 08:35 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: MEOH TRIP BLANK** **Lab ID: 40138259038** Collected: 09/13/16 00:00 Received: 09/14/16 16:10 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 630-20-6 | W |
| 1,1,1-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 71-55-6 | W |
| 1,1,2,2-Tetrachloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 79-34-5 | W |
| 1,1,2-Trichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 79-00-5 | W |
| 1,1-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 75-34-3 | W |
| 1,1-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 75-35-4 | W |
| 1,1-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 563-58-6 | W |
| 1,2,3-Trichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 87-61-6 | W |
| 1,2,3-Trichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 96-18-4 | W |
| 1,2,4-Trichlorobenzene | **<47.6** | ug/kg | 250 | 47.6 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 120-82-1 | W |
| 1,2,4-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 95-63-6 | W |
| 1,2-Dibromo-3-chloropropane | **<91.2** | ug/kg | 250 | 91.2 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 96-12-8 | W |
| 1,2-Dibromoethane (EDB) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 106-93-4 | W |
| 1,2-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 95-50-1 | W |
| 1,2-Dichloroethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 107-06-2 | W |
| 1,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 78-87-5 | W |
| 1,3,5-Trimethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 108-67-8 | W |
| 1,3-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 541-73-1 | W |
| 1,3-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 142-28-9 | W |
| 1,4-Dichlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 106-46-7 | W |
| 2,2-Dichloropropane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 594-20-7 | W |
| 2-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 95-49-8 | W |
| 4-Chlorotoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 106-43-4 | W |
| Benzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 71-43-2 | W |
| Bromobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 108-86-1 | W |
| Bromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 74-97-5 | W |
| Bromodichloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 75-27-4 | W |
| Bromoform | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 75-25-2 | W |
| Bromomethane | **<69.9** | ug/kg | 250 | 69.9 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 74-83-9 | W |
| Carbon tetrachloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 56-23-5 | W |
| Chlorobenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 108-90-7 | W |
| Chloroethane | **<67.0** | ug/kg | 250 | 67.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 75-00-3 | W |
| Chloroform | **<46.4** | ug/kg | 250 | 46.4 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 67-66-3 | W |
| Chloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 74-87-3 | W |
| Dibromochloromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 124-48-1 | W |
| Dibromomethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 74-95-3 | W |
| Dichlorodifluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 75-71-8 | W |
| Diisopropyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 108-20-3 | W |
| Ethylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 100-41-4 | W |
| Hexachloro-1,3-butadiene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 87-68-3 | W |
| Isopropylbenzene (Cumene) | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 98-82-8 | W |
| Methyl-tert-butyl ether | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 1634-04-4 | W |
| Methylene Chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 75-09-2 | W |
| Naphthalene | **<40.0** | ug/kg | 250 | 40.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 91-20-3 | W |
| Styrene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 100-42-5 | W |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

**Sample: MEOH TRIP BLANK** **Lab ID: 40138259038** Collected: 09/13/16 00:00 Received: 09/14/16 16:10 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Med Level Normal List** | Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B | | | | | | | | |
| Tetrachloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 127-18-4 | W |
| Toluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 108-88-3 | W |
| Trichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 79-01-6 | W |
| Trichlorofluoromethane | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 75-69-4 | W |
| Vinyl chloride | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 75-01-4 | W |
| Xylene (Total) | **<75.0** | ug/kg | 180 | 75.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 1330-20-7 | W |
| cis-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 156-59-2 | W |
| cis-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 10061-01-5 | W |
| m&p-Xylene | **<50.0** | ug/kg | 120 | 50.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 179601-23-1 | W |
| n-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 104-51-8 | W |
| n-Propylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 103-65-1 | W |
| o-Xylene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 95-47-6 | W |
| p-Isopropyltoluene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 99-87-6 | W |
| sec-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 135-98-8 | W |
| tert-Butylbenzene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 98-06-6 | W |
| trans-1,2-Dichloroethene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 156-60-5 | W |
| trans-1,3-Dichloropropene | **<25.0** | ug/kg | 60.0 | 25.0 | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 10061-02-6 | W |
| ***Surrogates*** | | | | | | | | | |
| Dibromofluoromethane (S) | 93 | % | 53-165 | | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 1868-53-7 | |
| Toluene-d8 (S) | 95 | % | 54-163 | | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 96 | % | 48-138 | | 1 | 09/22/16 07:15 | 09/22/16 12:11 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

QC Batch: 235301 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Normal List
Associated Lab Samples: 40138259001, 40138259002, 40138259003, 40138259004, 40138259005, 40138259006

METHOD BLANK: 1394737 Matrix: Solid
Associated Lab Samples: 40138259001, 40138259002, 40138259003, 40138259004, 40138259005, 40138259006

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/kg | <13.7 | 50.0 | 09/19/16 08:52 | |
| 1,1,1-Trichloroethane | ug/kg | <14.4 | 50.0 | 09/19/16 08:52 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | <17.5 | 50.0 | 09/19/16 08:52 | |
| 1,1,2-Trichloroethane | ug/kg | <20.2 | 50.0 | 09/19/16 08:52 | |
| 1,1-Dichloroethane | ug/kg | <17.6 | 50.0 | 09/19/16 08:52 | |
| 1,1-Dichloroethene | ug/kg | <17.6 | 50.0 | 09/19/16 08:52 | |
| 1,1-Dichloropropene | ug/kg | <14.0 | 50.0 | 09/19/16 08:52 | |
| 1,2,3-Trichlorobenzene | ug/kg | <17.0 | 50.0 | 09/19/16 08:52 | |
| 1,2,3-Trichloropropane | ug/kg | <22.3 | 50.0 | 09/19/16 08:52 | |
| 1,2,4-Trichlorobenzene | ug/kg | <47.6 | 250 | 09/19/16 08:52 | |
| 1,2,4-Trimethylbenzene | ug/kg | <12.2 | 50.0 | 09/19/16 08:52 | |
| 1,2-Dibromo-3-chloropropane | ug/kg | <91.2 | 250 | 09/19/16 08:52 | |
| 1,2-Dibromoethane (EDB) | ug/kg | <14.7 | 50.0 | 09/19/16 08:52 | |
| 1,2-Dichlorobenzene | ug/kg | <16.2 | 50.0 | 09/19/16 08:52 | |
| 1,2-Dichloroethane | ug/kg | <15.0 | 50.0 | 09/19/16 08:52 | |
| 1,2-Dichloropropane | ug/kg | <16.8 | 50.0 | 09/19/16 08:52 | |
| 1,3,5-Trimethylbenzene | ug/kg | <14.5 | 50.0 | 09/19/16 08:52 | |
| 1,3-Dichlorobenzene | ug/kg | <13.2 | 50.0 | 09/19/16 08:52 | |
| 1,3-Dichloropropane | ug/kg | <12.0 | 50.0 | 09/19/16 08:52 | |
| 1,4-Dichlorobenzene | ug/kg | <15.9 | 50.0 | 09/19/16 08:52 | |
| 2,2-Dichloropropane | ug/kg | <12.6 | 50.0 | 09/19/16 08:52 | |
| 2-Chlorotoluene | ug/kg | <15.8 | 50.0 | 09/19/16 08:52 | |
| 4-Chlorotoluene | ug/kg | <13.0 | 50.0 | 09/19/16 08:52 | |
| Benzene | ug/kg | <9.2 | 20.0 | 09/19/16 08:52 | |
| Bromobenzene | ug/kg | <20.6 | 50.0 | 09/19/16 08:52 | |
| Bromochloromethane | ug/kg | <21.4 | 50.0 | 09/19/16 08:52 | |
| Bromodichloromethane | ug/kg | <9.8 | 50.0 | 09/19/16 08:52 | |
| Bromoform | ug/kg | <19.8 | 50.0 | 09/19/16 08:52 | |
| Bromomethane | ug/kg | <69.9 | 250 | 09/19/16 08:52 | |
| Carbon tetrachloride | ug/kg | <12.1 | 50.0 | 09/19/16 08:52 | |
| Chlorobenzene | ug/kg | <14.8 | 50.0 | 09/19/16 08:52 | |
| Chloroethane | ug/kg | <67.0 | 250 | 09/19/16 08:52 | |
| Chloroform | ug/kg | <46.4 | 250 | 09/19/16 08:52 | |
| Chloromethane | ug/kg | <20.4 | 50.0 | 09/19/16 08:52 | |
| cis-1,2-Dichloroethene | ug/kg | <16.6 | 50.0 | 09/19/16 08:52 | |
| cis-1,3-Dichloropropene | ug/kg | <16.6 | 50.0 | 09/19/16 08:52 | |
| Dibromochloromethane | ug/kg | <17.9 | 50.0 | 09/19/16 08:52 | |
| Dibromomethane | ug/kg | <19.3 | 50.0 | 09/19/16 08:52 | |
| Dichlorodifluoromethane | ug/kg | <12.3 | 50.0 | 09/19/16 08:52 | |
| Diisopropyl ether | ug/kg | <17.7 | 50.0 | 09/19/16 08:52 | |
| Ethylbenzene | ug/kg | <12.4 | 50.0 | 09/19/16 08:52 | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

METHOD BLANK: 1394737 Matrix: Solid
Associated Lab Samples: 40138259001, 40138259002, 40138259003, 40138259004, 40138259005, 40138259006

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Hexachloro-1,3-butadiene | ug/kg | <24.5 | 50.0 | 09/19/16 08:52 | |
| Isopropylbenzene (Cumene) | ug/kg | <12.6 | 50.0 | 09/19/16 08:52 | |
| m&p-Xylene | ug/kg | <34.4 | 100 | 09/19/16 08:52 | |
| Methyl-tert-butyl ether | ug/kg | <12.7 | 50.0 | 09/19/16 08:52 | |
| Methylene Chloride | ug/kg | <16.2 | 50.0 | 09/19/16 08:52 | |
| n-Butylbenzene | ug/kg | 12.9J | 50.0 | 09/19/16 08:52 | |
| n-Propylbenzene | ug/kg | <11.6 | 50.0 | 09/19/16 08:52 | |
| Naphthalene | ug/kg | <40.0 | 250 | 09/19/16 08:52 | |
| o-Xylene | ug/kg | <14.0 | 50.0 | 09/19/16 08:52 | |
| p-Isopropyltoluene | ug/kg | <12.0 | 50.0 | 09/19/16 08:52 | |
| sec-Butylbenzene | ug/kg | <11.9 | 50.0 | 09/19/16 08:52 | |
| Styrene | ug/kg | <9.0 | 50.0 | 09/19/16 08:52 | |
| tert-Butylbenzene | ug/kg | <9.5 | 50.0 | 09/19/16 08:52 | |
| Tetrachloroethene | ug/kg | <12.9 | 50.0 | 09/19/16 08:52 | |
| Toluene | ug/kg | <11.2 | 50.0 | 09/19/16 08:52 | |
| trans-1,2-Dichloroethene | ug/kg | <16.5 | 50.0 | 09/19/16 08:52 | |
| trans-1,3-Dichloropropene | ug/kg | <14.4 | 50.0 | 09/19/16 08:52 | |
| Trichloroethene | ug/kg | <23.6 | 50.0 | 09/19/16 08:52 | |
| Trichlorofluoromethane | ug/kg | <24.7 | 50.0 | 09/19/16 08:52 | |
| Vinyl chloride | ug/kg | <21.1 | 50.0 | 09/19/16 08:52 | |
| Xylene (Total) | ug/kg | <48.4 | 150 | 09/19/16 08:52 | |
| 4-Bromofluorobenzene (S) | % | 98 | 48-138 | 09/19/16 08:52 | |
| Dibromofluoromethane (S) | % | 99 | 53-165 | 09/19/16 08:52 | |
| Toluene-d8 (S) | % | 103 | 54-163 | 09/19/16 08:52 | |

LABORATORY CONTROL SAMPLE: 1394738

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | 2500 | 2440 | 98 | 70-130 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2500 | 2670 | 107 | 70-130 | |
| 1,1,2-Trichloroethane | ug/kg | 2500 | 2730 | 109 | 70-130 | |
| 1,1-Dichloroethane | ug/kg | 2500 | 2540 | 102 | 70-133 | |
| 1,1-Dichloroethene | ug/kg | 2500 | 2030 | 81 | 70-130 | |
| 1,2,4-Trichlorobenzene | ug/kg | 2500 | 2730 | 109 | 70-130 | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 2500 | 2350 | 94 | 50-150 | |
| 1,2-Dibromoethane (EDB) | ug/kg | 2500 | 2640 | 106 | 70-130 | |
| 1,2-Dichlorobenzene | ug/kg | 2500 | 2600 | 104 | 70-130 | |
| 1,2-Dichloroethane | ug/kg | 2500 | 2600 | 104 | 70-138 | |
| 1,2-Dichloropropane | ug/kg | 2500 | 2730 | 109 | 70-130 | |
| 1,3-Dichlorobenzene | ug/kg | 2500 | 2580 | 103 | 70-130 | |
| 1,4-Dichlorobenzene | ug/kg | 2500 | 2480 | 99 | 70-130 | |
| Benzene | ug/kg | 2500 | 2610 | 104 | 70-130 | |
| Bromodichloromethane | ug/kg | 2500 | 2610 | 104 | 70-130 | |
| Bromoform | ug/kg | 2500 | 2320 | 93 | 68-130 | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

LABORATORY CONTROL SAMPLE: 1394738

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Bromomethane | ug/kg | 2500 | 2110 | 84 | 25-163 | |
| Carbon tetrachloride | ug/kg | 2500 | 2440 | 98 | 70-130 | |
| Chlorobenzene | ug/kg | 2500 | 2670 | 107 | 70-130 | |
| Chloroethane | ug/kg | 2500 | 2180 | 87 | 34-151 | |
| Chloroform | ug/kg | 2500 | 2480 | 99 | 70-130 | |
| Chloromethane | ug/kg | 2500 | 1820 | 73 | 52-130 | |
| cis-1,2-Dichloroethene | ug/kg | 2500 | 2520 | 101 | 70-130 | |
| cis-1,3-Dichloropropene | ug/kg | 2500 | 2640 | 105 | 70-130 | |
| Dibromochloromethane | ug/kg | 2500 | 2390 | 95 | 70-130 | |
| Dichlorodifluoromethane | ug/kg | 2500 | 1300 | 52 | 27-150 | |
| Ethylbenzene | ug/kg | 2500 | 2700 | 108 | 70-130 | |
| Isopropylbenzene (Cumene) | ug/kg | 2500 | 2730 | 109 | 70-130 | |
| m&p-Xylene | ug/kg | 5000 | 5520 | 110 | 70-130 | |
| Methyl-tert-butyl ether | ug/kg | 2500 | 2720 | 109 | 70-130 | |
| Methylene Chloride | ug/kg | 2500 | 2500 | 100 | 70-131 | |
| o-Xylene | ug/kg | 2500 | 2760 | 110 | 70-130 | |
| Styrene | ug/kg | 2500 | 2460 | 98 | 70-130 | |
| Tetrachloroethene | ug/kg | 2500 | 2560 | 102 | 70-130 | |
| Toluene | ug/kg | 2500 | 2750 | 110 | 70-130 | |
| trans-1,2-Dichloroethene | ug/kg | 2500 | 2430 | 97 | 70-130 | |
| trans-1,3-Dichloropropene | ug/kg | 2500 | 2450 | 98 | 70-130 | |
| Trichloroethene | ug/kg | 2500 | 2640 | 105 | 70-130 | |
| Trichlorofluoromethane | ug/kg | 2500 | 1960 | 78 | 50-150 | |
| Vinyl chloride | ug/kg | 2500 | 2090 | 84 | 57-130 | |
| Xylene (Total) | ug/kg | 7500 | 8280 | 110 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 112 | 48-138 | |
| Dibromofluoromethane (S) | % | | | 106 | 53-165 | |
| Toluene-d8 (S) | % | | | 109 | 54-163 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1394739 1394740

| Parameter | Units | 40138247001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1280 | 1410 | 86 | 95 | 70-130 | 10 | 20 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1580 | 1670 | 106 | 112 | 70-130 | 6 | 20 | |
| 1,1,2-Trichloroethane | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1590 | 1660 | 107 | 112 | 70-130 | 5 | 20 | |
| 1,1-Dichloroethane | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1420 | 1480 | 96 | 99 | 64-133 | 4 | 20 | |
| 1,1-Dichloroethene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1120 | 1200 | 75 | 81 | 56-130 | 7 | 24 | |
| 1,2,4-Trichlorobenzene | ug/kg | <0.048 mg/kg | 1490 | 1490 | 1660 | 1850 | 110 | 123 | 70-130 | 11 | 20 | |
| 1,2-Dibromo-3-chloropropane | ug/kg | <0.091 mg/kg | 1490 | 1490 | 1470 | 1750 | 99 | 118 | 50-150 | 17 | 20 | |

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## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1394739 1394740

| Parameter | Units | 40138247001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromoethane (EDB) | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1490 | 1620 | 100 | 109 | 70-130 | 8 | 20 | |
| 1,2-Dichlorobenzene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1510 | 1660 | 101 | 112 | 70-130 | 10 | 20 | |
| 1,2-Dichloroethane | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1520 | 1530 | 102 | 103 | 70-138 | 1 | 20 | |
| 1,2-Dichloropropane | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1530 | 1620 | 103 | 109 | 70-130 | 6 | 20 | |
| 1,3-Dichlorobenzene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1510 | 1660 | 101 | 111 | 70-130 | 9 | 20 | |
| 1,4-Dichlorobenzene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1430 | 1580 | 96 | 106 | 70-130 | 10 | 20 | |
| Benzene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1470 | 1500 | 99 | 101 | 70-130 | 2 | 20 | |
| Bromodichloromethane | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1420 | 1480 | 95 | 100 | 70-130 | 4 | 20 | |
| Bromoform | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1320 | 1460 | 89 | 98 | 65-130 | 9 | 20 | |
| Bromomethane | ug/kg | <0.070 mg/kg | 1490 | 1490 | 1310 | 1400 | 88 | 94 | 11-163 | 7 | 21 | |
| Carbon tetrachloride | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1250 | 1290 | 84 | 87 | 70-130 | 4 | 20 | |
| Chlorobenzene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1490 | 1550 | 101 | 104 | 70-130 | 4 | 20 | |
| Chloroethane | ug/kg | <0.067 mg/kg | 1490 | 1490 | 1150 | 1140 | 77 | 77 | 17-151 | 0 | 20 | |
| Chloroform | ug/kg | <0.046 mg/kg | 1490 | 1490 | 1400 | 1410 | 94 | 95 | 70-130 | 0 | 20 | |
| Chloromethane | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1030 | 1070 | 69 | 72 | 13-130 | 4 | 20 | |
| cis-1,2-Dichloroethene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1400 | 1510 | 94 | 101 | 70-130 | 8 | 20 | |
| cis-1,3-Dichloropropene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1440 | 1520 | 97 | 102 | 70-130 | 5 | 20 | |
| Dibromochloromethane | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1400 | 1470 | 94 | 99 | 70-130 | 5 | 20 | |
| Dichlorodifluoromethane | ug/kg | <0.025 mg/kg | 1490 | 1490 | 905 | 880 | 61 | 59 | 10-150 | 3 | 21 | |
| Ethylbenzene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1440 | 1580 | 97 | 107 | 70-130 | 10 | 20 | |
| Isopropylbenzene (Cumene) | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1420 | 1580 | 95 | 106 | 70-130 | 11 | 20 | |
| m&p-Xylene | ug/kg | 0.085J mg/kg | 2970 | 2970 | 2990 | 3330 | 98 | 109 | 70-130 | 11 | 20 | |
| Methyl-tert-butyl ether | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1540 | 1640 | 103 | 110 | 70-130 | 6 | 20 | |
| Methylene Chloride | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1390 | 1440 | 94 | 97 | 70-131 | 4 | 20 | |
| o-Xylene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1480 | 1580 | 99 | 107 | 70-130 | 7 | 20 | |
| Styrene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1410 | 1520 | 95 | 102 | 70-130 | 8 | 20 | |
| Tetrachloroethene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1340 | 1500 | 90 | 101 | 70-130 | 12 | 20 | |

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## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1394739 1394740

| Parameter | Units | 40138247001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Toluene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1510 | 1600 | 102 | 108 | 70-130 | 6 | 20 | |
| trans-1,2-Dichloroethene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1330 | 1410 | 90 | 95 | 70-130 | 6 | 20 | |
| trans-1,3-Dichloropropene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1340 | 1470 | 90 | 99 | 70-130 | 9 | 20 | |
| Trichloroethene | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1390 | 1540 | 94 | 104 | 70-130 | 10 | 20 | |
| Trichlorofluoromethane | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1120 | 1350 | 75 | 91 | 40-150 | 18 | 31 | |
| Vinyl chloride | ug/kg | <0.025 mg/kg | 1490 | 1490 | 1200 | 1300 | 81 | 87 | 26-130 | 8 | 20 | |
| Xylene (Total) | ug/kg | <75.0 | 4460 | 4460 | 4460 | 4910 | 98 | 108 | 70-130 | 10 | 20 | |
| 4-Bromofluorobenzene (S) | % | | | | | | 111 | 117 | 48-138 | | | |
| Dibromofluoromethane (S) | % | | | | | | 106 | 107 | 53-165 | | | |
| Toluene-d8 (S) | % | | | | | | 109 | 113 | 54-163 | | | |

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## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

QC Batch: 235591 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Normal List
Associated Lab Samples: 40138259007, 40138259008, 40138259009, 40138259010, 40138259011, 40138259012

METHOD BLANK: 1396343 Matrix: Solid
Associated Lab Samples: 40138259007, 40138259008, 40138259009, 40138259010, 40138259011, 40138259012

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/kg | <13.7 | 50.0 | 09/21/16 09:31 | |
| 1,1,1-Trichloroethane | ug/kg | <14.4 | 50.0 | 09/21/16 09:31 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | <17.5 | 50.0 | 09/21/16 09:31 | |
| 1,1,2-Trichloroethane | ug/kg | <20.2 | 50.0 | 09/21/16 09:31 | |
| 1,1-Dichloroethane | ug/kg | <17.6 | 50.0 | 09/21/16 09:31 | |
| 1,1-Dichloroethene | ug/kg | <17.6 | 50.0 | 09/21/16 09:31 | |
| 1,1-Dichloropropene | ug/kg | <14.0 | 50.0 | 09/21/16 09:31 | |
| 1,2,3-Trichlorobenzene | ug/kg | <17.0 | 50.0 | 09/21/16 09:31 | |
| 1,2,3-Trichloropropane | ug/kg | <22.3 | 50.0 | 09/21/16 09:31 | |
| 1,2,4-Trichlorobenzene | ug/kg | <47.6 | 250 | 09/21/16 09:31 | |
| 1,2,4-Trimethylbenzene | ug/kg | <12.2 | 50.0 | 09/21/16 09:31 | |
| 1,2-Dibromo-3-chloropropane | ug/kg | <91.2 | 250 | 09/21/16 09:31 | |
| 1,2-Dibromoethane (EDB) | ug/kg | <14.7 | 50.0 | 09/21/16 09:31 | |
| 1,2-Dichlorobenzene | ug/kg | <16.2 | 50.0 | 09/21/16 09:31 | |
| 1,2-Dichloroethane | ug/kg | <15.0 | 50.0 | 09/21/16 09:31 | |
| 1,2-Dichloropropane | ug/kg | <16.8 | 50.0 | 09/21/16 09:31 | |
| 1,3,5-Trimethylbenzene | ug/kg | <14.5 | 50.0 | 09/21/16 09:31 | |
| 1,3-Dichlorobenzene | ug/kg | <13.2 | 50.0 | 09/21/16 09:31 | |
| 1,3-Dichloropropane | ug/kg | <12.0 | 50.0 | 09/21/16 09:31 | |
| 1,4-Dichlorobenzene | ug/kg | <15.9 | 50.0 | 09/21/16 09:31 | |
| 2,2-Dichloropropane | ug/kg | <12.6 | 50.0 | 09/21/16 09:31 | |
| 2-Chlorotoluene | ug/kg | <15.8 | 50.0 | 09/21/16 09:31 | |
| 4-Chlorotoluene | ug/kg | <13.0 | 50.0 | 09/21/16 09:31 | |
| Benzene | ug/kg | <9.2 | 20.0 | 09/21/16 09:31 | |
| Bromobenzene | ug/kg | <20.6 | 50.0 | 09/21/16 09:31 | |
| Bromochloromethane | ug/kg | <21.4 | 50.0 | 09/21/16 09:31 | |
| Bromodichloromethane | ug/kg | <9.8 | 50.0 | 09/21/16 09:31 | |
| Bromoform | ug/kg | <19.8 | 50.0 | 09/21/16 09:31 | |
| Bromomethane | ug/kg | <69.9 | 250 | 09/21/16 09:31 | |
| Carbon tetrachloride | ug/kg | <12.1 | 50.0 | 09/21/16 09:31 | |
| Chlorobenzene | ug/kg | <14.8 | 50.0 | 09/21/16 09:31 | |
| Chloroethane | ug/kg | <67.0 | 250 | 09/21/16 09:31 | |
| Chloroform | ug/kg | <46.4 | 250 | 09/21/16 09:31 | |
| Chloromethane | ug/kg | <20.4 | 50.0 | 09/21/16 09:31 | |
| cis-1,2-Dichloroethene | ug/kg | <16.6 | 50.0 | 09/21/16 09:31 | |
| cis-1,3-Dichloropropene | ug/kg | <16.6 | 50.0 | 09/21/16 09:31 | |
| Dibromochloromethane | ug/kg | <17.9 | 50.0 | 09/21/16 09:31 | |
| Dibromomethane | ug/kg | <19.3 | 50.0 | 09/21/16 09:31 | |
| Dichlorodifluoromethane | ug/kg | <12.3 | 50.0 | 09/21/16 09:31 | |
| Diisopropyl ether | ug/kg | <17.7 | 50.0 | 09/21/16 09:31 | |
| Ethylbenzene | ug/kg | <12.4 | 50.0 | 09/21/16 09:31 | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

METHOD BLANK: 1396343 Matrix: Solid
Associated Lab Samples: 40138259007, 40138259008, 40138259009, 40138259010, 40138259011, 40138259012

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Hexachloro-1,3-butadiene | ug/kg | <24.5 | 50.0 | 09/21/16 09:31 | |
| Isopropylbenzene (Cumene) | ug/kg | <12.6 | 50.0 | 09/21/16 09:31 | |
| m&p-Xylene | ug/kg | <34.4 | 100 | 09/21/16 09:31 | |
| Methyl-tert-butyl ether | ug/kg | <12.7 | 50.0 | 09/21/16 09:31 | |
| Methylene Chloride | ug/kg | <16.2 | 50.0 | 09/21/16 09:31 | |
| n-Butylbenzene | ug/kg | <10.5 | 50.0 | 09/21/16 09:31 | |
| n-Propylbenzene | ug/kg | <11.6 | 50.0 | 09/21/16 09:31 | |
| Naphthalene | ug/kg | <40.0 | 250 | 09/21/16 09:31 | |
| o-Xylene | ug/kg | <14.0 | 50.0 | 09/21/16 09:31 | |
| p-Isopropyltoluene | ug/kg | <12.0 | 50.0 | 09/21/16 09:31 | |
| sec-Butylbenzene | ug/kg | <11.9 | 50.0 | 09/21/16 09:31 | |
| Styrene | ug/kg | <9.0 | 50.0 | 09/21/16 09:31 | |
| tert-Butylbenzene | ug/kg | <9.5 | 50.0 | 09/21/16 09:31 | |
| Tetrachloroethene | ug/kg | <12.9 | 50.0 | 09/21/16 09:31 | |
| Toluene | ug/kg | <11.2 | 50.0 | 09/21/16 09:31 | |
| trans-1,2-Dichloroethene | ug/kg | <16.5 | 50.0 | 09/21/16 09:31 | |
| trans-1,3-Dichloropropene | ug/kg | <14.4 | 50.0 | 09/21/16 09:31 | |
| Trichloroethene | ug/kg | <23.6 | 50.0 | 09/21/16 09:31 | |
| Trichlorofluoromethane | ug/kg | <24.7 | 50.0 | 09/21/16 09:31 | |
| Vinyl chloride | ug/kg | <21.1 | 50.0 | 09/21/16 09:31 | |
| Xylene (Total) | ug/kg | <48.4 | 150 | 09/21/16 09:31 | |
| 4-Bromofluorobenzene (S) | % | 78 | 48-138 | 09/21/16 09:31 | |
| Dibromofluoromethane (S) | % | 117 | 53-165 | 09/21/16 09:31 | |
| Toluene-d8 (S) | % | 98 | 54-163 | 09/21/16 09:31 | |

LABORATORY CONTROL SAMPLE: 1396344

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | 2500 | 2610 | 104 | 70-130 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2500 | 2480 | 99 | 70-130 | |
| 1,1,2-Trichloroethane | ug/kg | 2500 | 2680 | 107 | 70-130 | |
| 1,1-Dichloroethane | ug/kg | 2500 | 2960 | 119 | 70-133 | |
| 1,1-Dichloroethene | ug/kg | 2500 | 2550 | 102 | 70-130 | |
| 1,2,4-Trichlorobenzene | ug/kg | 2500 | 2300 | 92 | 70-130 | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 2500 | 2390 | 96 | 50-150 | |
| 1,2-Dibromoethane (EDB) | ug/kg | 2500 | 2510 | 101 | 70-130 | |
| 1,2-Dichlorobenzene | ug/kg | 2500 | 2460 | 98 | 70-130 | |
| 1,2-Dichloroethane | ug/kg | 2500 | 2650 | 106 | 70-138 | |
| 1,2-Dichloropropane | ug/kg | 2500 | 3210 | 128 | 70-130 | |
| 1,3-Dichlorobenzene | ug/kg | 2500 | 2410 | 97 | 70-130 | |
| 1,4-Dichlorobenzene | ug/kg | 2500 | 2550 | 102 | 70-130 | |
| Benzene | ug/kg | 2500 | 2800 | 112 | 70-130 | |
| Bromodichloromethane | ug/kg | 2500 | 3090 | 124 | 70-130 | |
| Bromoform | ug/kg | 2500 | 2390 | 96 | 68-130 | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

LABORATORY CONTROL SAMPLE: 1396344

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Bromomethane | ug/kg | 2500 | 2200 | 88 | 25-163 | |
| Carbon tetrachloride | ug/kg | 2500 | 2770 | 111 | 70-130 | |
| Chlorobenzene | ug/kg | 2500 | 2680 | 107 | 70-130 | |
| Chloroethane | ug/kg | 2500 | 2870 | 115 | 34-151 | |
| Chloroform | ug/kg | 2500 | 2750 | 110 | 70-130 | |
| Chloromethane | ug/kg | 2500 | 2290 | 92 | 52-130 | |
| cis-1,2-Dichloroethene | ug/kg | 2500 | 2630 | 105 | 70-130 | |
| cis-1,3-Dichloropropene | ug/kg | 2500 | 2700 | 108 | 70-130 | |
| Dibromochloromethane | ug/kg | 2500 | 2490 | 100 | 70-130 | |
| Dichlorodifluoromethane | ug/kg | 2500 | 1390 | 56 | 27-150 | |
| Ethylbenzene | ug/kg | 2500 | 2590 | 104 | 70-130 | |
| Isopropylbenzene (Cumene) | ug/kg | 2500 | 2720 | 109 | 70-130 | |
| m&p-Xylene | ug/kg | 5000 | 5450 | 109 | 70-130 | |
| Methyl-tert-butyl ether | ug/kg | 2500 | 2370 | 95 | 70-130 | |
| Methylene Chloride | ug/kg | 2500 | 2970 | 119 | 70-131 | |
| o-Xylene | ug/kg | 2500 | 2430 | 97 | 70-130 | |
| Styrene | ug/kg | 2500 | 2640 | 106 | 70-130 | |
| Tetrachloroethene | ug/kg | 2500 | 2610 | 104 | 70-130 | |
| Toluene | ug/kg | 2500 | 2730 | 109 | 70-130 | |
| trans-1,2-Dichloroethene | ug/kg | 2500 | 2640 | 106 | 70-130 | |
| trans-1,3-Dichloropropene | ug/kg | 2500 | 2460 | 99 | 70-130 | |
| Trichloroethene | ug/kg | 2500 | 2850 | 114 | 70-130 | |
| Trichlorofluoromethane | ug/kg | 2500 | 2270 | 91 | 50-150 | |
| Vinyl chloride | ug/kg | 2500 | 2350 | 94 | 57-130 | |
| Xylene (Total) | ug/kg | 7500 | 7890 | 105 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 98 | 48-138 | |
| Dibromofluoromethane (S) | % | | | 116 | 53-165 | |
| Toluene-d8 (S) | % | | | 104 | 54-163 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396345 1396346

| Parameter | Units | 40138515002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | <25.0 | 1520 | 1520 | 1540 | 1470 | 101 | 97 | 70-130 | 4 | 20 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | <25.0 | 1520 | 1520 | 1440 | 1440 | 95 | 95 | 70-130 | 0 | 20 | |
| 1,1,2-Trichloroethane | ug/kg | <25.0 | 1520 | 1520 | 1570 | 1490 | 103 | 98 | 70-130 | 6 | 20 | |
| 1,1-Dichloroethane | ug/kg | <25.0 | 1520 | 1520 | 1770 | 1770 | 117 | 116 | 64-133 | 0 | 20 | |
| 1,1-Dichloroethene | ug/kg | <25.0 | 1520 | 1520 | 1470 | 1480 | 97 | 97 | 56-130 | 1 | 24 | |
| 1,2,4-Trichlorobenzene | ug/kg | <47.6 | 1520 | 1520 | 1500 | 1470 | 99 | 97 | 70-130 | 2 | 20 | |
| 1,2-Dibromo-3-chloropropane | ug/kg | <91.2 | 1520 | 1520 | 1560 | 1490 | 103 | 98 | 50-150 | 5 | 20 | |
| 1,2-Dibromoethane (EDB) | ug/kg | <25.0 | 1520 | 1520 | 1470 | 1480 | 97 | 97 | 70-130 | 1 | 20 | |
| 1,2-Dichlorobenzene | ug/kg | 55.5J | 1520 | 1520 | 1560 | 1530 | 99 | 97 | 70-130 | 1 | 20 | |
| 1,2-Dichloroethane | ug/kg | <25.0 | 1520 | 1520 | 1650 | 1570 | 108 | 103 | 70-138 | 5 | 20 | |
| 1,2-Dichloropropane | ug/kg | <25.0 | 1520 | 1520 | 1830 | 1800 | 121 | 118 | 70-130 | 2 | 20 | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396345 1396346

| Parameter | Units | 40138515002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,3-Dichlorobenzene | ug/kg | <25.0 | 1520 | 1520 | 1450 | 1440 | 95 | 95 | 70-130 | 0 | 20 | |
| 1,4-Dichlorobenzene | ug/kg | <25.0 | 1520 | 1520 | 1560 | 1520 | 101 | 99 | 70-130 | 3 | 20 | |
| Benzene | ug/kg | <25.0 | 1520 | 1520 | 1730 | 1630 | 113 | 106 | 70-130 | 6 | 20 | |
| Bromodichloromethane | ug/kg | <25.0 | 1520 | 1520 | 1730 | 1740 | 114 | 114 | 70-130 | 0 | 20 | |
| Bromoform | ug/kg | <25.0 | 1520 | 1520 | 1510 | 1520 | 99 | 100 | 65-130 | 1 | 20 | |
| Bromomethane | ug/kg | <69.9 | 1520 | 1520 | 1370 | 1260 | 90 | 83 | 11-163 | 9 | 21 | |
| Carbon tetrachloride | ug/kg | <25.0 | 1520 | 1520 | 1590 | 1530 | 104 | 101 | 70-130 | 3 | 20 | |
| Chlorobenzene | ug/kg | <25.0 | 1520 | 1520 | 1580 | 1550 | 104 | 102 | 70-130 | 2 | 20 | |
| Chloroethane | ug/kg | <67.0 | 1520 | 1520 | 1540 | 1460 | 101 | 96 | 17-151 | 5 | 20 | |
| Chloroform | ug/kg | <46.4 | 1520 | 1520 | 1710 | 1630 | 112 | 107 | 70-130 | 5 | 20 | |
| Chloromethane | ug/kg | <25.0 | 1520 | 1520 | 1110 | 1130 | 73 | 75 | 13-130 | 2 | 20 | |
| cis-1,2-Dichloroethene | ug/kg | <25.0 | 1520 | 1520 | 1530 | 1560 | 101 | 103 | 70-130 | 2 | 20 | |
| cis-1,3-Dichloropropene | ug/kg | <25.0 | 1520 | 1520 | 1440 | 1440 | 94 | 95 | 70-130 | 0 | 20 | |
| Dibromochloromethane | ug/kg | <25.0 | 1520 | 1520 | 1540 | 1510 | 101 | 99 | 70-130 | 2 | 20 | |
| Dichlorodifluoromethane | ug/kg | <25.0 | 1520 | 1520 | 671 | 621 | 44 | 41 | 10-150 | 8 | 21 | |
| Ethylbenzene | ug/kg | <25.0 | 1520 | 1520 | 1400 | 1370 | 91 | 89 | 70-130 | 2 | 20 | |
| Isopropylbenzene (Cumene) | ug/kg | <25.0 | 1520 | 1520 | 1440 | 1440 | 94 | 95 | 70-130 | 0 | 20 | |
| m&p-Xylene | ug/kg | <50.0 | 3040 | 3040 | 2900 | 2940 | 95 | 97 | 70-130 | 2 | 20 | |
| Methyl-tert-butyl ether | ug/kg | <25.0 | 1520 | 1520 | 1430 | 1430 | 94 | 94 | 70-130 | 0 | 20 | |
| Methylene Chloride | ug/kg | <25.0 | 1520 | 1520 | 1840 | 1830 | 121 | 120 | 70-131 | 1 | 20 | |
| o-Xylene | ug/kg | <25.0 | 1520 | 1520 | 1360 | 1360 | 88 | 89 | 70-130 | 1 | 20 | |
| Styrene | ug/kg | <25.0 | 1520 | 1520 | 1470 | 1450 | 97 | 95 | 70-130 | 1 | 20 | |
| Tetrachloroethene | ug/kg | <25.0 | 1520 | 1520 | 1430 | 1420 | 94 | 94 | 70-130 | 0 | 20 | |
| Toluene | ug/kg | <25.0 | 1520 | 1520 | 1550 | 1550 | 101 | 102 | 70-130 | 1 | 20 | |
| trans-1,2-Dichloroethene | ug/kg | <25.0 | 1520 | 1520 | 1570 | 1470 | 103 | 96 | 70-130 | 7 | 20 | |
| trans-1,3-Dichloropropene | ug/kg | <25.0 | 1520 | 1520 | 1380 | 1360 | 91 | 90 | 70-130 | 1 | 20 | |
| Trichloroethene | ug/kg | <25.0 | 1520 | 1520 | 1530 | 1570 | 101 | 104 | 70-130 | 3 | 20 | |
| Trichlorofluoromethane | ug/kg | <25.0 | 1520 | 1520 | 1270 | 1190 | 84 | 78 | 40-150 | 6 | 31 | |
| Vinyl chloride | ug/kg | <25.0 | 1520 | 1520 | 1340 | 1280 | 88 | 84 | 26-130 | 5 | 20 | |
| Xylene (Total) | ug/kg | <75.0 | 4560 | 4560 | 4250 | 4300 | 93 | 94 | 70-130 | 1 | 20 | |
| 4-Bromofluorobenzene (S) | % | | | | | | 93 | 95 | 48-138 | | | |
| Dibromofluoromethane (S) | % | | | | | | 119 | 113 | 53-165 | | | |
| Toluene-d8 (S) | % | | | | | | 98 | 102 | 54-163 | | | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

QC Batch: 235660 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Normal List
Associated Lab Samples: 40138259013, 40138259014, 40138259015, 40138259016, 40138259017, 40138259018, 40138259019, 40138259020, 40138259021, 40138259022, 40138259023, 40138259024, 40138259025, 40138259026, 40138259027, 40138259028, 40138259029, 40138259030, 40138259031, 40138259032

METHOD BLANK: 1396793 Matrix: Solid
Associated Lab Samples: 40138259013, 40138259014, 40138259015, 40138259016, 40138259017, 40138259018, 40138259019, 40138259020, 40138259021, 40138259022, 40138259023, 40138259024, 40138259025, 40138259026, 40138259027, 40138259028, 40138259029, 40138259030, 40138259031, 40138259032

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/kg | <13.7 | 50.0 | 09/21/16 18:26 | |
| 1,1,1-Trichloroethane | ug/kg | <14.4 | 50.0 | 09/21/16 18:26 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | <17.5 | 50.0 | 09/21/16 18:26 | |
| 1,1,2-Trichloroethane | ug/kg | <20.2 | 50.0 | 09/21/16 18:26 | |
| 1,1-Dichloroethane | ug/kg | <17.6 | 50.0 | 09/21/16 18:26 | |
| 1,1-Dichloroethene | ug/kg | <17.6 | 50.0 | 09/21/16 18:26 | |
| 1,1-Dichloropropene | ug/kg | <14.0 | 50.0 | 09/21/16 18:26 | |
| 1,2,3-Trichlorobenzene | ug/kg | <17.0 | 50.0 | 09/21/16 18:26 | |
| 1,2,3-Trichloropropane | ug/kg | <22.3 | 50.0 | 09/21/16 18:26 | |
| 1,2,4-Trichlorobenzene | ug/kg | <47.6 | 250 | 09/21/16 18:26 | |
| 1,2,4-Trimethylbenzene | ug/kg | <12.2 | 50.0 | 09/21/16 18:26 | |
| 1,2-Dibromo-3-chloropropane | ug/kg | <91.2 | 250 | 09/21/16 18:26 | |
| 1,2-Dibromoethane (EDB) | ug/kg | <14.7 | 50.0 | 09/21/16 18:26 | |
| 1,2-Dichlorobenzene | ug/kg | <16.2 | 50.0 | 09/21/16 18:26 | |
| 1,2-Dichloroethane | ug/kg | <15.0 | 50.0 | 09/21/16 18:26 | |
| 1,2-Dichloropropane | ug/kg | <16.8 | 50.0 | 09/21/16 18:26 | |
| 1,3,5-Trimethylbenzene | ug/kg | <14.5 | 50.0 | 09/21/16 18:26 | |
| 1,3-Dichlorobenzene | ug/kg | <13.2 | 50.0 | 09/21/16 18:26 | |
| 1,3-Dichloropropane | ug/kg | <12.0 | 50.0 | 09/21/16 18:26 | |
| 1,4-Dichlorobenzene | ug/kg | <15.9 | 50.0 | 09/21/16 18:26 | |
| 2,2-Dichloropropane | ug/kg | <12.6 | 50.0 | 09/21/16 18:26 | |
| 2-Chlorotoluene | ug/kg | <15.8 | 50.0 | 09/21/16 18:26 | |
| 4-Chlorotoluene | ug/kg | <13.0 | 50.0 | 09/21/16 18:26 | |
| Benzene | ug/kg | <9.2 | 20.0 | 09/21/16 18:26 | |
| Bromobenzene | ug/kg | <20.6 | 50.0 | 09/21/16 18:26 | |
| Bromochloromethane | ug/kg | <21.4 | 50.0 | 09/21/16 18:26 | |
| Bromodichloromethane | ug/kg | <9.8 | 50.0 | 09/21/16 18:26 | |
| Bromoform | ug/kg | <19.8 | 50.0 | 09/21/16 18:26 | |
| Bromomethane | ug/kg | <69.9 | 250 | 09/21/16 18:26 | |
| Carbon tetrachloride | ug/kg | <12.1 | 50.0 | 09/21/16 18:26 | |
| Chlorobenzene | ug/kg | <14.8 | 50.0 | 09/21/16 18:26 | |
| Chloroethane | ug/kg | <67.0 | 250 | 09/21/16 18:26 | |
| Chloroform | ug/kg | <46.4 | 250 | 09/21/16 18:26 | |
| Chloromethane | ug/kg | <20.4 | 50.0 | 09/21/16 18:26 | |
| cis-1,2-Dichloroethene | ug/kg | <16.6 | 50.0 | 09/21/16 18:26 | |
| cis-1,3-Dichloropropene | ug/kg | <16.6 | 50.0 | 09/21/16 18:26 | |
| Dibromochloromethane | ug/kg | <17.9 | 50.0 | 09/21/16 18:26 | |
| Dibromomethane | ug/kg | <19.3 | 50.0 | 09/21/16 18:26 | |

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## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

METHOD BLANK: 1396793 Matrix: Solid

Associated Lab Samples: 40138259013, 40138259014, 40138259015, 40138259016, 40138259017, 40138259018, 40138259019, 40138259020, 40138259021, 40138259022, 40138259023, 40138259024, 40138259025, 40138259026, 40138259027, 40138259028, 40138259029, 40138259030, 40138259031, 40138259032

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | ug/kg | <12.3 | 50.0 | 09/21/16 18:26 | |
| Diisopropyl ether | ug/kg | <17.7 | 50.0 | 09/21/16 18:26 | |
| Ethylbenzene | ug/kg | <12.4 | 50.0 | 09/21/16 18:26 | |
| Hexachloro-1,3-butadiene | ug/kg | <24.5 | 50.0 | 09/21/16 18:26 | |
| Isopropylbenzene (Cumene) | ug/kg | <12.6 | 50.0 | 09/21/16 18:26 | |
| m&p-Xylene | ug/kg | <34.4 | 100 | 09/21/16 18:26 | |
| Methyl-tert-butyl ether | ug/kg | <12.7 | 50.0 | 09/21/16 18:26 | |
| Methylene Chloride | ug/kg | <16.2 | 50.0 | 09/21/16 18:26 | |
| n-Butylbenzene | ug/kg | <10.5 | 50.0 | 09/21/16 18:26 | |
| n-Propylbenzene | ug/kg | <11.6 | 50.0 | 09/21/16 18:26 | |
| Naphthalene | ug/kg | <40.0 | 250 | 09/21/16 18:26 | |
| o-Xylene | ug/kg | <14.0 | 50.0 | 09/21/16 18:26 | |
| p-Isopropyltoluene | ug/kg | <12.0 | 50.0 | 09/21/16 18:26 | |
| sec-Butylbenzene | ug/kg | <11.9 | 50.0 | 09/21/16 18:26 | |
| Styrene | ug/kg | <9.0 | 50.0 | 09/21/16 18:26 | |
| tert-Butylbenzene | ug/kg | <9.5 | 50.0 | 09/21/16 18:26 | |
| Tetrachloroethene | ug/kg | <12.9 | 50.0 | 09/21/16 18:26 | |
| Toluene | ug/kg | <11.2 | 50.0 | 09/21/16 18:26 | |
| trans-1,2-Dichloroethene | ug/kg | <16.5 | 50.0 | 09/21/16 18:26 | |
| trans-1,3-Dichloropropene | ug/kg | <14.4 | 50.0 | 09/21/16 18:26 | |
| Trichloroethene | ug/kg | <23.6 | 50.0 | 09/21/16 18:26 | |
| Trichlorofluoromethane | ug/kg | <24.7 | 50.0 | 09/21/16 18:26 | |
| Vinyl chloride | ug/kg | <21.1 | 50.0 | 09/21/16 18:26 | |
| Xylene (Total) | ug/kg | <48.4 | 150 | 09/21/16 18:26 | |
| 4-Bromofluorobenzene (S) | % | 101 | 48-138 | 09/21/16 18:26 | |
| Dibromofluoromethane (S) | % | 101 | 53-165 | 09/21/16 18:26 | |
| Toluene-d8 (S) | % | 107 | 54-163 | 09/21/16 18:26 | |

LABORATORY CONTROL SAMPLE: 1396794

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | 2500 | 2390 | 95 | 70-130 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2500 | 2760 | 110 | 70-130 | |
| 1,1,2-Trichloroethane | ug/kg | 2500 | 2810 | 112 | 70-130 | |
| 1,1-Dichloroethane | ug/kg | 2500 | 2550 | 102 | 70-133 | |
| 1,1-Dichloroethene | ug/kg | 2500 | 2140 | 86 | 70-130 | |
| 1,2,4-Trichlorobenzene | ug/kg | 2500 | 2700 | 108 | 70-130 | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 2500 | 2480 | 99 | 50-150 | |
| 1,2-Dibromoethane (EDB) | ug/kg | 2500 | 2700 | 108 | 70-130 | |
| 1,2-Dichlorobenzene | ug/kg | 2500 | 2620 | 105 | 70-130 | |
| 1,2-Dichloroethane | ug/kg | 2500 | 2540 | 102 | 70-138 | |
| 1,2-Dichloropropane | ug/kg | 2500 | 2870 | 115 | 70-130 | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

LABORATORY CONTROL SAMPLE: 1396794

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,3-Dichlorobenzene | ug/kg | 2500 | 2520 | 101 | 70-130 | |
| 1,4-Dichlorobenzene | ug/kg | 2500 | 2500 | 100 | 70-130 | |
| Benzene | ug/kg | 2500 | 2620 | 105 | 70-130 | |
| Bromodichloromethane | ug/kg | 2500 | 2490 | 100 | 70-130 | |
| Bromoform | ug/kg | 2500 | 2260 | 90 | 68-130 | |
| Bromomethane | ug/kg | 2500 | 2190 | 88 | 25-163 | |
| Carbon tetrachloride | ug/kg | 2500 | 2370 | 95 | 70-130 | |
| Chlorobenzene | ug/kg | 2500 | 2660 | 107 | 70-130 | |
| Chloroethane | ug/kg | 2500 | 2200 | 88 | 34-151 | |
| Chloroform | ug/kg | 2500 | 2480 | 99 | 70-130 | |
| Chloromethane | ug/kg | 2500 | 2130 | 85 | 52-130 | |
| cis-1,2-Dichloroethene | ug/kg | 2500 | 2520 | 101 | 70-130 | |
| cis-1,3-Dichloropropene | ug/kg | 2500 | 2590 | 104 | 70-130 | |
| Dibromochloromethane | ug/kg | 2500 | 2270 | 91 | 70-130 | |
| Dichlorodifluoromethane | ug/kg | 2500 | 1500 | 60 | 27-150 | |
| Ethylbenzene | ug/kg | 2500 | 2720 | 109 | 70-130 | |
| Isopropylbenzene (Cumene) | ug/kg | 2500 | 2700 | 108 | 70-130 | |
| m&p-Xylene | ug/kg | 5000 | 5600 | 112 | 70-130 | |
| Methyl-tert-butyl ether | ug/kg | 2500 | 2680 | 107 | 70-130 | |
| Methylene Chloride | ug/kg | 2500 | 2530 | 101 | 70-131 | |
| o-Xylene | ug/kg | 2500 | 2770 | 111 | 70-130 | |
| Styrene | ug/kg | 2500 | 2540 | 102 | 70-130 | |
| Tetrachloroethene | ug/kg | 2500 | 2580 | 103 | 70-130 | |
| Toluene | ug/kg | 2500 | 2770 | 111 | 70-130 | |
| trans-1,2-Dichloroethene | ug/kg | 2500 | 2460 | 98 | 70-130 | |
| trans-1,3-Dichloropropene | ug/kg | 2500 | 2360 | 94 | 70-130 | |
| Trichloroethene | ug/kg | 2500 | 2580 | 103 | 70-130 | |
| Trichlorofluoromethane | ug/kg | 2500 | 2030 | 81 | 50-150 | |
| Vinyl chloride | ug/kg | 2500 | 2360 | 94 | 57-130 | |
| Xylene (Total) | ug/kg | 7500 | 8360 | 111 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 109 | 48-138 | |
| Dibromofluoromethane (S) | % | | | 104 | 53-165 | |
| Toluene-d8 (S) | % | | | 109 | 54-163 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396795 1396796

| Parameter | Units | 40138259015 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | <25.0 | 1450 | 1450 | 1310 | 1310 | 90 | 90 | 70-130 | 0 | 20 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | <25.0 | 1450 | 1450 | 1710 | 1700 | 118 | 117 | 70-130 | 1 | 20 | |
| 1,1,2-Trichloroethane | ug/kg | <25.0 | 1450 | 1450 | 1710 | 1640 | 117 | 113 | 70-130 | 4 | 20 | |
| 1,1-Dichloroethane | ug/kg | <25.0 | 1450 | 1450 | 1480 | 1450 | 102 | 100 | 64-133 | 2 | 20 | |
| 1,1-Dichloroethene | ug/kg | <25.0 | 1450 | 1450 | 1090 | 1120 | 75 | 77 | 56-130 | 2 | 24 | |
| 1,2,4-Trichlorobenzene | ug/kg | <47.6 | 1450 | 1450 | 1710 | 1770 | 116 | 120 | 70-130 | 3 | 20 | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396795 1396796

| Parameter | Units | 40138259015 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | ug/kg | <91.2 | 1450 | 1450 | 1550 | 1610 | 106 | 110 | 50-150 | 4 | 20 | |
| 1,2-Dibromoethane (EDB) | ug/kg | <25.0 | 1450 | 1450 | 1550 | 1550 | 107 | 107 | 70-130 | 0 | 20 | |
| 1,2-Dichlorobenzene | ug/kg | <25.0 | 1450 | 1450 | 1630 | 1580 | 112 | 108 | 70-130 | 4 | 20 | |
| 1,2-Dichloroethane | ug/kg | <25.0 | 1450 | 1450 | 1520 | 1550 | 105 | 106 | 70-138 | 1 | 20 | |
| 1,2-Dichloropropane | ug/kg | <25.0 | 1450 | 1450 | 1610 | 1690 | 111 | 116 | 70-130 | 4 | 20 | |
| 1,3-Dichlorobenzene | ug/kg | <25.0 | 1450 | 1450 | 1570 | 1520 | 108 | 105 | 70-130 | 3 | 20 | |
| 1,4-Dichlorobenzene | ug/kg | <25.0 | 1450 | 1450 | 1560 | 1500 | 107 | 103 | 70-130 | 4 | 20 | |
| Benzene | ug/kg | <25.0 | 1450 | 1450 | 1530 | 1520 | 105 | 105 | 70-130 | 0 | 20 | |
| Bromodichloromethane | ug/kg | <25.0 | 1450 | 1450 | 1420 | 1440 | 98 | 99 | 70-130 | 2 | 20 | |
| Bromoform | ug/kg | <25.0 | 1450 | 1450 | 1350 | 1350 | 93 | 93 | 65-130 | 1 | 20 | |
| Bromomethane | ug/kg | <69.9 | 1450 | 1450 | 1090 | 1150 | 75 | 79 | 11-163 | 5 | 21 | |
| Carbon tetrachloride | ug/kg | <25.0 | 1450 | 1450 | 1250 | 1270 | 86 | 87 | 70-130 | 2 | 20 | |
| Chlorobenzene | ug/kg | <25.0 | 1450 | 1450 | 1530 | 1500 | 105 | 103 | 70-130 | 2 | 20 | |
| Chloroethane | ug/kg | <67.0 | 1450 | 1450 | 1030 | 1040 | 71 | 72 | 17-151 | 1 | 20 | |
| Chloroform | ug/kg | <46.4 | 1450 | 1450 | 1450 | 1460 | 100 | 100 | 70-130 | 0 | 20 | |
| Chloromethane | ug/kg | <25.0 | 1450 | 1450 | 953 | 966 | 66 | 66 | 13-130 | 1 | 20 | |
| cis-1,2-Dichloroethene | ug/kg | <25.0 | 1450 | 1450 | 1450 | 1440 | 100 | 99 | 70-130 | 1 | 20 | |
| cis-1,3-Dichloropropene | ug/kg | <25.0 | 1450 | 1450 | 1410 | 1440 | 97 | 99 | 70-130 | 2 | 20 | |
| Dibromochloromethane | ug/kg | <25.0 | 1450 | 1450 | 1370 | 1360 | 94 | 94 | 70-130 | 0 | 20 | |
| Dichlorodifluoromethane | ug/kg | <25.0 | 1450 | 1450 | 615 | 657 | 42 | 45 | 10-150 | 7 | 21 | |
| Ethylbenzene | ug/kg | <25.0 | 1450 | 1450 | 1520 | 1480 | 104 | 102 | 70-130 | 3 | 20 | |
| Isopropylbenzene (Cumene) | ug/kg | <25.0 | 1450 | 1450 | 1510 | 1480 | 104 | 102 | 70-130 | 2 | 20 | |
| m&p-Xylene | ug/kg | <50.0 | 2910 | 2910 | 3190 | 3090 | 110 | 106 | 70-130 | 3 | 20 | |
| Methyl-tert-butyl ether | ug/kg | <25.0 | 1450 | 1450 | 1560 | 1610 | 107 | 111 | 70-130 | 3 | 20 | |
| Methylene Chloride | ug/kg | <25.0 | 1450 | 1450 | 1480 | 1410 | 102 | 97 | 70-131 | 5 | 20 | |
| o-Xylene | ug/kg | <25.0 | 1450 | 1450 | 1560 | 1450 | 108 | 100 | 70-130 | 7 | 20 | |
| Styrene | ug/kg | <25.0 | 1450 | 1450 | 1500 | 1460 | 103 | 101 | 70-130 | 2 | 20 | |
| Tetrachloroethene | ug/kg | 127 | 1450 | 1450 | 1540 | 1460 | 97 | 92 | 70-130 | 5 | 20 | |
| Toluene | ug/kg | <25.0 | 1450 | 1450 | 1590 | 1520 | 109 | 105 | 70-130 | 4 | 20 | |
| trans-1,2-Dichloroethene | ug/kg | <25.0 | 1450 | 1450 | 1370 | 1380 | 94 | 95 | 70-130 | 1 | 20 | |
| trans-1,3-Dichloropropene | ug/kg | <25.0 | 1450 | 1450 | 1390 | 1370 | 96 | 94 | 70-130 | 1 | 20 | |
| Trichloroethene | ug/kg | <25.0 | 1450 | 1450 | 1410 | 1520 | 97 | 105 | 70-130 | 7 | 20 | |
| Trichlorofluoromethane | ug/kg | <25.0 | 1450 | 1450 | 1070 | 1060 | 73 | 73 | 40-150 | 0 | 31 | |
| Vinyl chloride | ug/kg | <25.0 | 1450 | 1450 | 1190 | 1190 | 82 | 82 | 26-130 | 0 | 20 | |
| Xylene (Total) | ug/kg | <75.0 | 4360 | 4360 | 4750 | 4550 | 109 | 104 | 70-130 | 4 | 20 | |
| 4-Bromofluorobenzene (S) | % | | | | | | 109 | 105 | 48-138 | | | |
| Dibromofluoromethane (S) | % | | | | | | 104 | 101 | 53-165 | | | |
| Toluene-d8 (S) | % | | | | | | 106 | 102 | 54-163 | | | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

QC Batch: 235777 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Normal List
Associated Lab Samples: 40138259033, 40138259034, 40138259035, 40138259036, 40138259037, 40138259038

METHOD BLANK: 1397834 Matrix: Solid
Associated Lab Samples: 40138259033, 40138259034, 40138259035, 40138259036, 40138259037, 40138259038

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/kg | <13.7 | 50.0 | 09/22/16 07:34 | |
| 1,1,1-Trichloroethane | ug/kg | <14.4 | 50.0 | 09/22/16 07:34 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | <17.5 | 50.0 | 09/22/16 07:34 | |
| 1,1,2-Trichloroethane | ug/kg | <20.2 | 50.0 | 09/22/16 07:34 | |
| 1,1-Dichloroethane | ug/kg | <17.6 | 50.0 | 09/22/16 07:34 | |
| 1,1-Dichloroethene | ug/kg | <17.6 | 50.0 | 09/22/16 07:34 | |
| 1,1-Dichloropropene | ug/kg | <14.0 | 50.0 | 09/22/16 07:34 | |
| 1,2,3-Trichlorobenzene | ug/kg | <17.0 | 50.0 | 09/22/16 07:34 | |
| 1,2,3-Trichloropropane | ug/kg | <22.3 | 50.0 | 09/22/16 07:34 | |
| 1,2,4-Trichlorobenzene | ug/kg | <47.6 | 250 | 09/22/16 07:34 | |
| 1,2,4-Trimethylbenzene | ug/kg | <12.2 | 50.0 | 09/22/16 07:34 | |
| 1,2-Dibromo-3-chloropropane | ug/kg | <91.2 | 250 | 09/22/16 07:34 | |
| 1,2-Dibromoethane (EDB) | ug/kg | <14.7 | 50.0 | 09/22/16 07:34 | |
| 1,2-Dichlorobenzene | ug/kg | <16.2 | 50.0 | 09/22/16 07:34 | |
| 1,2-Dichloroethane | ug/kg | <15.0 | 50.0 | 09/22/16 07:34 | |
| 1,2-Dichloropropane | ug/kg | <16.8 | 50.0 | 09/22/16 07:34 | |
| 1,3,5-Trimethylbenzene | ug/kg | <14.5 | 50.0 | 09/22/16 07:34 | |
| 1,3-Dichlorobenzene | ug/kg | <13.2 | 50.0 | 09/22/16 07:34 | |
| 1,3-Dichloropropane | ug/kg | <12.0 | 50.0 | 09/22/16 07:34 | |
| 1,4-Dichlorobenzene | ug/kg | <15.9 | 50.0 | 09/22/16 07:34 | |
| 2,2-Dichloropropane | ug/kg | <12.6 | 50.0 | 09/22/16 07:34 | |
| 2-Chlorotoluene | ug/kg | <15.8 | 50.0 | 09/22/16 07:34 | |
| 4-Chlorotoluene | ug/kg | <13.0 | 50.0 | 09/22/16 07:34 | |
| Benzene | ug/kg | <9.2 | 20.0 | 09/22/16 07:34 | |
| Bromobenzene | ug/kg | <20.6 | 50.0 | 09/22/16 07:34 | |
| Bromochloromethane | ug/kg | <21.4 | 50.0 | 09/22/16 07:34 | |
| Bromodichloromethane | ug/kg | <9.8 | 50.0 | 09/22/16 07:34 | |
| Bromoform | ug/kg | <19.8 | 50.0 | 09/22/16 07:34 | |
| Bromomethane | ug/kg | <69.9 | 250 | 09/22/16 07:34 | |
| Carbon tetrachloride | ug/kg | <12.1 | 50.0 | 09/22/16 07:34 | |
| Chlorobenzene | ug/kg | <14.8 | 50.0 | 09/22/16 07:34 | |
| Chloroethane | ug/kg | <67.0 | 250 | 09/22/16 07:34 | |
| Chloroform | ug/kg | <46.4 | 250 | 09/22/16 07:34 | |
| Chloromethane | ug/kg | <20.4 | 50.0 | 09/22/16 07:34 | |
| cis-1,2-Dichloroethene | ug/kg | <16.6 | 50.0 | 09/22/16 07:34 | |
| cis-1,3-Dichloropropene | ug/kg | <16.6 | 50.0 | 09/22/16 07:34 | |
| Dibromochloromethane | ug/kg | <17.9 | 50.0 | 09/22/16 07:34 | |
| Dibromomethane | ug/kg | <19.3 | 50.0 | 09/22/16 07:34 | |
| Dichlorodifluoromethane | ug/kg | <12.3 | 50.0 | 09/22/16 07:34 | |
| Diisopropyl ether | ug/kg | <17.7 | 50.0 | 09/22/16 07:34 | |
| Ethylbenzene | ug/kg | <12.4 | 50.0 | 09/22/16 07:34 | |

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## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

METHOD BLANK: 1397834 Matrix: Solid
Associated Lab Samples: 40138259033, 40138259034, 40138259035, 40138259036, 40138259037, 40138259038

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Hexachloro-1,3-butadiene | ug/kg | <24.5 | 50.0 | 09/22/16 07:34 | |
| Isopropylbenzene (Cumene) | ug/kg | <12.6 | 50.0 | 09/22/16 07:34 | |
| m&p-Xylene | ug/kg | <34.4 | 100 | 09/22/16 07:34 | |
| Methyl-tert-butyl ether | ug/kg | <12.7 | 50.0 | 09/22/16 07:34 | |
| Methylene Chloride | ug/kg | <16.2 | 50.0 | 09/22/16 07:34 | |
| n-Butylbenzene | ug/kg | <10.5 | 50.0 | 09/22/16 07:34 | |
| n-Propylbenzene | ug/kg | <11.6 | 50.0 | 09/22/16 07:34 | |
| Naphthalene | ug/kg | <40.0 | 250 | 09/22/16 07:34 | |
| o-Xylene | ug/kg | <14.0 | 50.0 | 09/22/16 07:34 | |
| p-Isopropyltoluene | ug/kg | <12.0 | 50.0 | 09/22/16 07:34 | |
| sec-Butylbenzene | ug/kg | <11.9 | 50.0 | 09/22/16 07:34 | |
| Styrene | ug/kg | <9.0 | 50.0 | 09/22/16 07:34 | |
| tert-Butylbenzene | ug/kg | <9.5 | 50.0 | 09/22/16 07:34 | |
| Tetrachloroethene | ug/kg | <12.9 | 50.0 | 09/22/16 07:34 | |
| Toluene | ug/kg | <11.2 | 50.0 | 09/22/16 07:34 | |
| trans-1,2-Dichloroethene | ug/kg | <16.5 | 50.0 | 09/22/16 07:34 | |
| trans-1,3-Dichloropropene | ug/kg | <14.4 | 50.0 | 09/22/16 07:34 | |
| Trichloroethene | ug/kg | <23.6 | 50.0 | 09/22/16 07:34 | |
| Trichlorofluoromethane | ug/kg | <24.7 | 50.0 | 09/22/16 07:34 | |
| Vinyl chloride | ug/kg | <21.1 | 50.0 | 09/22/16 07:34 | |
| Xylene (Total) | ug/kg | <48.4 | 150 | 09/22/16 07:34 | |
| 4-Bromofluorobenzene (S) | % | 100 | 48-138 | 09/22/16 07:34 | |
| Dibromofluoromethane (S) | % | 96 | 53-165 | 09/22/16 07:34 | |
| Toluene-d8 (S) | % | 103 | 54-163 | 09/22/16 07:34 | |

LABORATORY CONTROL SAMPLE: 1397835

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | 2500 | 2300 | 92 | 70-130 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2500 | 2550 | 102 | 70-130 | |
| 1,1,2-Trichloroethane | ug/kg | 2500 | 2490 | 100 | 70-130 | |
| 1,1-Dichloroethane | ug/kg | 2500 | 2460 | 98 | 70-133 | |
| 1,1-Dichloroethene | ug/kg | 2500 | 2220 | 89 | 70-130 | |
| 1,2,4-Trichlorobenzene | ug/kg | 2500 | 2550 | 102 | 70-130 | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 2500 | 2180 | 87 | 50-150 | |
| 1,2-Dibromoethane (EDB) | ug/kg | 2500 | 2470 | 99 | 70-130 | |
| 1,2-Dichlorobenzene | ug/kg | 2500 | 2490 | 100 | 70-130 | |
| 1,2-Dichloroethane | ug/kg | 2500 | 2490 | 99 | 70-138 | |
| 1,2-Dichloropropane | ug/kg | 2500 | 2680 | 107 | 70-130 | |
| 1,3-Dichlorobenzene | ug/kg | 2500 | 2490 | 100 | 70-130 | |
| 1,4-Dichlorobenzene | ug/kg | 2500 | 2440 | 98 | 70-130 | |
| Benzene | ug/kg | 2500 | 2560 | 103 | 70-130 | |
| Bromodichloromethane | ug/kg | 2500 | 2370 | 95 | 70-130 | |
| Bromoform | ug/kg | 2500 | 2000 | 80 | 68-130 | |

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## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

LABORATORY CONTROL SAMPLE: 1397835

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Bromomethane | ug/kg | 2500 | 1900 | 76 | 25-163 | |
| Carbon tetrachloride | ug/kg | 2500 | 2330 | 93 | 70-130 | |
| Chlorobenzene | ug/kg | 2500 | 2460 | 98 | 70-130 | |
| Chloroethane | ug/kg | 2500 | 2090 | 83 | 34-151 | |
| Chloroform | ug/kg | 2500 | 2370 | 95 | 70-130 | |
| Chloromethane | ug/kg | 2500 | 1970 | 79 | 52-130 | |
| cis-1,2-Dichloroethene | ug/kg | 2500 | 2420 | 97 | 70-130 | |
| cis-1,3-Dichloropropene | ug/kg | 2500 | 2410 | 96 | 70-130 | |
| Dibromochloromethane | ug/kg | 2500 | 2130 | 85 | 70-130 | |
| Dichlorodifluoromethane | ug/kg | 2500 | 1400 | 56 | 27-150 | |
| Ethylbenzene | ug/kg | 2500 | 2550 | 102 | 70-130 | |
| Isopropylbenzene (Cumene) | ug/kg | 2500 | 2530 | 101 | 70-130 | |
| m&p-Xylene | ug/kg | 5000 | 5240 | 105 | 70-130 | |
| Methyl-tert-butyl ether | ug/kg | 2500 | 2490 | 99 | 70-130 | |
| Methylene Chloride | ug/kg | 2500 | 2390 | 96 | 70-131 | |
| o-Xylene | ug/kg | 2500 | 2480 | 99 | 70-130 | |
| Styrene | ug/kg | 2500 | 2340 | 94 | 70-130 | |
| Tetrachloroethene | ug/kg | 2500 | 2410 | 97 | 70-130 | |
| Toluene | ug/kg | 2500 | 2610 | 105 | 70-130 | |
| trans-1,2-Dichloroethene | ug/kg | 2500 | 2430 | 97 | 70-130 | |
| trans-1,3-Dichloropropene | ug/kg | 2500 | 2150 | 86 | 70-130 | |
| Trichloroethene | ug/kg | 2500 | 2450 | 98 | 70-130 | |
| Trichlorofluoromethane | ug/kg | 2500 | 2100 | 84 | 50-150 | |
| Vinyl chloride | ug/kg | 2500 | 2230 | 89 | 57-130 | |
| Xylene (Total) | ug/kg | 7500 | 7720 | 103 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 104 | 48-138 | |
| Dibromofluoromethane (S) | % | | | 101 | 53-165 | |
| Toluene-d8 (S) | % | | | 103 | 54-163 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1397836 1397837

| Parameter | Units | 40138259036 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | <25.0 | 1380 | 1380 | 1210 | 1190 | 88 | 86 | 70-130 | 2 | 20 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | <25.0 | 1380 | 1380 | 1550 | 1560 | 112 | 113 | 70-130 | 1 | 20 | |
| 1,1,2-Trichloroethane | ug/kg | <25.0 | 1380 | 1380 | 1490 | 1520 | 108 | 110 | 70-130 | 2 | 20 | |
| 1,1-Dichloroethane | ug/kg | <25.0 | 1380 | 1380 | 1400 | 1370 | 101 | 99 | 64-133 | 2 | 20 | |
| 1,1-Dichloroethene | ug/kg | <25.0 | 1380 | 1380 | 1110 | 1100 | 80 | 80 | 56-130 | 1 | 24 | |
| 1,2,4-Trichlorobenzene | ug/kg | <47.6 | 1380 | 1380 | 1620 | 1660 | 118 | 120 | 70-130 | 2 | 20 | |
| 1,2-Dibromo-3-chloropropane | ug/kg | <91.2 | 1380 | 1380 | 1460 | 1430 | 106 | 103 | 50-150 | 2 | 20 | |
| 1,2-Dibromoethane (EDB) | ug/kg | <25.0 | 1380 | 1380 | 1470 | 1430 | 106 | 103 | 70-130 | 3 | 20 | |
| 1,2-Dichlorobenzene | ug/kg | <25.0 | 1380 | 1380 | 1480 | 1530 | 107 | 111 | 70-130 | 3 | 20 | |
| 1,2-Dichloroethane | ug/kg | <25.0 | 1380 | 1380 | 1400 | 1390 | 101 | 100 | 70-138 | 1 | 20 | |
| 1,2-Dichloropropane | ug/kg | <25.0 | 1380 | 1380 | 1490 | 1560 | 108 | 113 | 70-130 | 5 | 20 | |

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## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1397836 1397837

| Parameter | Units | 40138259036 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,3-Dichlorobenzene | ug/kg | <25.0 | 1380 | 1380 | 1410 | 1470 | 102 | 106 | 70-130 | 4 | 20 | |
| 1,4-Dichlorobenzene | ug/kg | <25.0 | 1380 | 1380 | 1370 | 1430 | 99 | 103 | 70-130 | 4 | 20 | |
| Benzene | ug/kg | <25.0 | 1380 | 1380 | 1410 | 1470 | 102 | 106 | 70-130 | 4 | 20 | |
| Bromodichloromethane | ug/kg | <25.0 | 1380 | 1380 | 1310 | 1330 | 95 | 96 | 70-130 | 1 | 20 | |
| Bromoform | ug/kg | <25.0 | 1380 | 1380 | 1220 | 1300 | 89 | 94 | 65-130 | 6 | 20 | |
| Bromomethane | ug/kg | <69.9 | 1380 | 1380 | 1030 | 1090 | 75 | 79 | 11-163 | 6 | 21 | |
| Carbon tetrachloride | ug/kg | <25.0 | 1380 | 1380 | 1180 | 1210 | 85 | 88 | 70-130 | 3 | 20 | |
| Chlorobenzene | ug/kg | <25.0 | 1380 | 1380 | 1400 | 1470 | 101 | 107 | 70-130 | 5 | 20 | |
| Chloroethane | ug/kg | <67.0 | 1380 | 1380 | 991 | 974 | 72 | 71 | 17-151 | 2 | 20 | |
| Chloroform | ug/kg | <46.4 | 1380 | 1380 | 1350 | 1370 | 98 | 99 | 70-130 | 2 | 20 | |
| Chloromethane | ug/kg | <25.0 | 1380 | 1380 | 920 | 920 | 67 | 67 | 13-130 | 0 | 20 | |
| cis-1,2-Dichloroethene | ug/kg | <25.0 | 1380 | 1380 | 1350 | 1390 | 98 | 101 | 70-130 | 3 | 20 | |
| cis-1,3-Dichloropropene | ug/kg | <25.0 | 1380 | 1380 | 1290 | 1370 | 93 | 100 | 70-130 | 6 | 20 | |
| Dibromochloromethane | ug/kg | <25.0 | 1380 | 1380 | 1240 | 1330 | 90 | 97 | 70-130 | 7 | 20 | |
| Dichlorodifluoromethane | ug/kg | <25.0 | 1380 | 1380 | 626 | 585 | 45 | 42 | 10-150 | 7 | 21 | |
| Ethylbenzene | ug/kg | <25.0 | 1380 | 1380 | 1410 | 1400 | 102 | 102 | 70-130 | 0 | 20 | |
| Isopropylbenzene (Cumene) | ug/kg | <25.0 | 1380 | 1380 | 1440 | 1420 | 104 | 103 | 70-130 | 1 | 20 | |
| m&p-Xylene | ug/kg | <50.0 | 2760 | 2760 | 2930 | 3000 | 106 | 109 | 70-130 | 3 | 20 | |
| Methyl-tert-butyl ether | ug/kg | <25.0 | 1380 | 1380 | 1410 | 1490 | 102 | 108 | 70-130 | 5 | 20 | |
| Methylene Chloride | ug/kg | <25.0 | 1380 | 1380 | 1350 | 1440 | 98 | 104 | 70-131 | 6 | 20 | |
| o-Xylene | ug/kg | <25.0 | 1380 | 1380 | 1430 | 1490 | 104 | 108 | 70-130 | 4 | 20 | |
| Styrene | ug/kg | <25.0 | 1380 | 1380 | 1370 | 1390 | 99 | 101 | 70-130 | 1 | 20 | |
| Tetrachloroethene | ug/kg | <25.0 | 1380 | 1380 | 1320 | 1350 | 95 | 98 | 70-130 | 2 | 20 | |
| Toluene | ug/kg | <25.0 | 1380 | 1380 | 1460 | 1490 | 105 | 108 | 70-130 | 3 | 20 | |
| trans-1,2-Dichloroethene | ug/kg | <25.0 | 1380 | 1380 | 1300 | 1320 | 94 | 96 | 70-130 | 2 | 20 | |
| trans-1,3-Dichloropropene | ug/kg | <25.0 | 1380 | 1380 | 1280 | 1330 | 93 | 96 | 70-130 | 4 | 20 | |
| Trichloroethene | ug/kg | <25.0 | 1380 | 1380 | 1370 | 1370 | 99 | 99 | 70-130 | 0 | 20 | |
| Trichlorofluoromethane | ug/kg | <25.0 | 1380 | 1380 | 1060 | 993 | 76 | 72 | 40-150 | 6 | 31 | |
| Vinyl chloride | ug/kg | <25.0 | 1380 | 1380 | 1140 | 1100 | 82 | 80 | 26-130 | 3 | 20 | |
| Xylene (Total) | ug/kg | <75.0 | 4140 | 4140 | 4360 | 4490 | 105 | 108 | 70-130 | 3 | 20 | |
| 4-Bromofluorobenzene (S) | % | | | | | | 118 | 119 | 48-138 | | | |
| Dibromofluoromethane (S) | % | | | | | | 112 | 111 | 53-165 | | | |
| Toluene-d8 (S) | % | | | | | | 114 | 114 | 54-163 | | | |

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## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

QC Batch: 235580 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40138259020, 40138259021, 40138259022

SAMPLE DUPLICATE: 1396312

| Parameter | Units | 40138541001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Percent Moisture | % | 6.7 | 6.7 | 0 | 10 | |

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## REPORT OF LABORATORY ANALYSIS

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Green Bay, WI 54302
(920)469-2436

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

QC Batch: 236208 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40138259001, 40138259002, 40138259003, 40138259004, 40138259005, 40138259006, 40138259007, 40138259008, 40138259009, 40138259010, 40138259011

SAMPLE DUPLICATE: 1400617

| Parameter | Units | 40138247015 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Percent Moisture | % | 16.6 | 16.6 | 0 | 10 | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

QC Batch: 236248 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40138259012, 40138259013, 40138259014, 40138259015, 40138259016, 40138259017, 40138259018, 40138259019, 40138259023, 40138259024, 40138259025, 40138259026, 40138259027, 40138259028, 40138259029, 40138259030, 40138259031, 40138259032, 40138259033, 40138259034

SAMPLE DUPLICATE: 1400726

| Parameter | Units | 40138259015 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Percent Moisture | % | 14.0 | 13.9 | 0 | 10 | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

QC Batch: 236255 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40138259035, 40138259036, 40138259037

SAMPLE DUPLICATE: 1400743

| Parameter | Units | 40138259037 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Percent Moisture | % | 12.8 | 13.1 | 3 | 10 | |

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

## REPORT OF LABORATORY ANALYSIS

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

# QUALIFIERS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

## DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

## LABORATORIES

| | |
|---|---|
| PASI-G | Pace Analytical Services - Green Bay |

## ANALYTE QUALIFIERS

| | |
|---|---|
| S4 | Surrogate recovery not evaluated against control limits due to sample dilution. |
| W | Non-detect results are reported on a wet weight basis. |

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

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **40138259001** | **B-35 (6-7')** | EPA 5035/5030B | 235301 | EPA 8260 | 235305 |
| **40138259002** | **B-35 (9-10')** | EPA 5035/5030B | 235301 | EPA 8260 | 235305 |
| **40138259003** | **B-35 (12-13')** | EPA 5035/5030B | 235301 | EPA 8260 | 235305 |
| **40138259004** | **B-36 (6-7')** | EPA 5035/5030B | 235301 | EPA 8260 | 235305 |
| **40138259005** | **B-36 (9-10')** | EPA 5035/5030B | 235301 | EPA 8260 | 235305 |
| **40138259006** | **B-37 (2-4')** | EPA 5035/5030B | 235301 | EPA 8260 | 235305 |
| **40138259007** | **B-37 (6-8')** | EPA 5035/5030B | 235591 | EPA 8260 | 235593 |
| **40138259008** | **B-37 (9-10')** | EPA 5035/5030B | 235591 | EPA 8260 | 235593 |
| **40138259009** | **B-38 (2-4')** | EPA 5035/5030B | 235591 | EPA 8260 | 235593 |
| **40138259010** | **B-38 (6-8')** | EPA 5035/5030B | 235591 | EPA 8260 | 235593 |
| **40138259011** | **B-39 (3-5')** | EPA 5035/5030B | 235591 | EPA 8260 | 235593 |
| **40138259012** | **B-39 (9-10')** | EPA 5035/5030B | 235591 | EPA 8260 | 235593 |
| **40138259013** | **B-40 (2-4')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259014** | **B-40 (6-8')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259015** | **B-40 (9-10')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259016** | **B-41 (5-7')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259017** | **B-41 (9-10')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259018** | **B-42 (2-4')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259019** | **B-42 (6-8')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259020** | **B-43 (2-4')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259021** | **B-43 (6-8')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259022** | **B-43 (9-10')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259023** | **B-44 (8-10')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259024** | **B-45 (6-8')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259025** | **B-45 (9-10')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259026** | **B-45 (11-12')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259027** | **B-46 (2-4')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259028** | **B-46 (6-8')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259029** | **B-46 (9-10')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259030** | **B-47 (1-2')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259031** | **B-47 (5-7')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259032** | **B-48 (1-2')** | EPA 5035/5030B | 235660 | EPA 8260 | 235662 |
| **40138259033** | **B-48 (5-7')** | EPA 5035/5030B | 235777 | EPA 8260 | 235788 |
| **40138259034** | **B-49 (1-2')** | EPA 5035/5030B | 235777 | EPA 8260 | 235788 |
| **40138259035** | **B-49 (5-7')** | EPA 5035/5030B | 235777 | EPA 8260 | 235788 |
| **40138259036** | **B-50 (1-2')** | EPA 5035/5030B | 235777 | EPA 8260 | 235788 |
| **40138259037** | **B-50 (5-7')** | EPA 5035/5030B | 235777 | EPA 8260 | 235788 |
| **40138259038** | **MEOH TRIP BLANK** | EPA 5035/5030B | 235777 | EPA 8260 | 235788 |
| **40138259001** | **B-35 (6-7')** | ASTM D2974-87 | 236208 | | |
| **40138259002** | **B-35 (9-10')** | ASTM D2974-87 | 236208 | | |
| **40138259003** | **B-35 (12-13')** | ASTM D2974-87 | 236208 | | |
| **40138259004** | **B-36 (6-7')** | ASTM D2974-87 | 236208 | | |
| **40138259005** | **B-36 (9-10')** | ASTM D2974-87 | 236208 | | |
| **40138259006** | **B-37 (2-4')** | ASTM D2974-87 | 236208 | | |
| **40138259007** | **B-37 (6-8')** | ASTM D2974-87 | 236208 | | |
| **40138259008** | **B-37 (9-10')** | ASTM D2974-87 | 236208 | | |
| **40138259009** | **B-38 (2-4')** | ASTM D2974-87 | 236208 | | |

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138259

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **40138259010** | **B-38 (6-8')** | ASTM D2974-87 | 236208 | | |
| **40138259011** | **B-39 (3-5')** | ASTM D2974-87 | 236208 | | |
| **40138259012** | **B-39 (9-10')** | ASTM D2974-87 | 236248 | | |
| **40138259013** | **B-40 (2-4')** | ASTM D2974-87 | 236248 | | |
| **40138259014** | **B-40 (6-8')** | ASTM D2974-87 | 236248 | | |
| **40138259015** | **B-40 (9-10')** | ASTM D2974-87 | 236248 | | |
| **40138259016** | **B-41 (5-7')** | ASTM D2974-87 | 236248 | | |
| **40138259017** | **B-41 (9-10')** | ASTM D2974-87 | 236248 | | |
| **40138259018** | **B-42 (2-4')** | ASTM D2974-87 | 236248 | | |
| **40138259019** | **B-42 (6-8')** | ASTM D2974-87 | 236248 | | |
| **40138259020** | **B-43 (2-4')** | ASTM D2974-87 | 235580 | | |
| **40138259021** | **B-43 (6-8')** | ASTM D2974-87 | 235580 | | |
| **40138259022** | **B-43 (9-10')** | ASTM D2974-87 | 235580 | | |
| **40138259023** | **B-44 (8-10')** | ASTM D2974-87 | 236248 | | |
| **40138259024** | **B-45 (6-8')** | ASTM D2974-87 | 236248 | | |
| **40138259025** | **B-45 (9-10')** | ASTM D2974-87 | 236248 | | |
| **40138259026** | **B-45 (11-12')** | ASTM D2974-87 | 236248 | | |
| **40138259027** | **B-46 (2-4')** | ASTM D2974-87 | 236248 | | |
| **40138259028** | **B-46 (6-8')** | ASTM D2974-87 | 236248 | | |
| **40138259029** | **B-46 (9-10')** | ASTM D2974-87 | 236248 | | |
| **40138259030** | **B-47 (1-2')** | ASTM D2974-87 | 236248 | | |
| **40138259031** | **B-47 (5-7')** | ASTM D2974-87 | 236248 | | |
| **40138259032** | **B-48 (1-2')** | ASTM D2974-87 | 236248 | | |
| **40138259033** | **B-48 (5-7')** | ASTM D2974-87 | 236248 | | |
| **40138259034** | **B-49 (1-2')** | ASTM D2974-87 | 236248 | | |
| **40138259035** | **B-49 (5-7')** | ASTM D2974-87 | 236255 | | |
| **40138259036** | **B-50 (1-2')** | ASTM D2974-87 | 236255 | | |
| **40138259037** | **B-50 (5-7')** | ASTM D2974-87 | 236255 | | |

## REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

40138259

# CHAIN OF CUSTODY

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

| (Please Print Clearly) | |
|---|---|
| Company Name: | Ramboll Environ |
| Branch/Location: | Milwaukee |
| Project Contact: | Jeanne Tarvin |
| Phone: | 262-901-0085 |
| Project Number: | 21-41301A |
| Project Name: | Express Cleaners |
| Project State: | WI |
| Sampled By (Print): | Jonathan Fuqua |
| Sampled By (Sign): | |
| PO #: | Regulatory Program: |

| | |
|---|---|
| Quote #: | |
| Mail To Contact: | |
| Mail To Company: | |
| Mail To Address: | |
| Invoice To Contact: | Jeanne Tarvin |
| Invoice To Company: | Ramboll Environ |
| Invoice To Address: | 175 N Corporate Dr Suite 160 Brookfield, WI 53045 |
| Invoice To Phone: | 262-901-0085 |

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

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

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

| PACE LAB # | CLIENT FIELD ID | COLLECTION DATE | COLLECTION TIME | MATRIX | FILTERED? (YES/NO) Y/N | PRESERVATION (CODE)* Pick Letter | Analyses Requested: VOCs (8260) | CLIENT COMMENTS | LAB COMMENTS (Lab Use Only) | Profile # |
|---|---|---|---|---|---|---|---|---|---|---|
| 001 | B-35 (6-7') | 9/13/16 | 0800 | S | | F | X | | 1-40mlVF 1-4ozpA | |
| 002 | B-35 (9-10') | | 0803 | | | | | | | |
| 003 | B-35 (12-13') | | 0840 | | | | | | | |
| 004 | B-36 (6-7') | | 0905 | | | | | | | |
| 005 | B-36 (9-10') | | 0907 | | | | | | | |
| 006 | B-37 (2-4') | | 0935 | | | | | | | |
| 007 | B-37 (6-8') | | 0950 | | | | | | | |
| 008 | B-37 (9-10') | | 0955 | | | | | | | |
| 009 | B-38 (2-4') | | 1015 | | | | | | | |
| 010 | B-38 (6-8') | | 1020 | | | | | | | |
| 011 | B-39 (3-5') | | 1058 | | | | | | | |
| 012 | B-39 (9-10') | | 1102 | | | | | | | |
| 013 | B-40 (2-4') | | 1128 | | | | | | | |

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

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

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

| Relinquished By: | Date/Time: | Received By: | Date/Time: |
|---|---|---|---|
| | 9/14/16 10:20 | Mary Tarvin | 9/14/16 10:20 |
| Mary Tarvin | 9/14/16 1300 | Melissa Vereno Pace | 9-14-16 1300 |
| Melissa Vereno Pace | 9-14-16 1610 | Pace | 9/14/16 1610 |
| | | | |
| | | | |

PACE Project No.
40138259

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

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical®
www.pacelabs.com

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

# CHAIN OF CUSTODY

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

| (Please Print Clearly) | |
|---|---|
| Company Name: | Ramboll Environ |
| Branch/Location: | Milwaukee |
| Project Contact: | Jeanne Tarvin |
| Phone: | 262-901-0085 |
| Project Number: | 21-413014 |
| Project Name: | Express Cleaners |
| Project State: | WI |
| Sampled By (Print): | Jonathan Fuqua |
| Sampled By (Sign): | |
| PO #: | Regulatory Program: |

| Quote #: | |
|---|---|
| Mail To Contact: | |
| Mail To Company: | |
| Mail To Address: | |
| Invoice To Contact: | Jeanne Tarvin |
| Invoice To Company: | Ramboll Environ |
| Invoice To Address: | 175 N Corporate Dr Suite 160 Brookfield, WI 53045 |
| Invoice To Phone: | 262-901-0085 |

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

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

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

| PACE LAB # | CLIENT FIELD ID | COLLECTION DATE | COLLECTION TIME | MATRIX | FILTERED? (YES/NO) Y/N | PRESERVATION (CODE)* Pick Letter | Analyses Requested: VOCs (8260) | CLIENT COMMENTS | LAB COMMENTS (Lab Use Only) | Profile # |
|---|---|---|---|---|---|---|---|---|---|---|
| 014 | B-40 (6-8') | 9/13/16 | 1131 | S | | F | X | | 1-40mlVF 1-4ozpA | |
| 015 | B-40 (9-10') | | 1135 | | | | | | | |
| 016 | B-41 (5-7') | | 1250 | | | | | | | |
| 017 | B-41 (9-10') | | 1252 | | | | | | | |
| 018 | B-42 (2-4') | | 1305 | | | | | | | |
| 019 | B-42 (6-8') | | 1320 | | | | | | | |
| 020 | B-43 (2-4') | | 1345 | | | | | | | |
| 021 | B-43 (6-8') | | 1350 | | | | | | | |
| 022 | B-43 (9-10') | | 1400 | | | | | 1-40zpA | B 9/14/16 | |
| 023 | B-44 (8-10') | | 1420 | | | | | | | |
| 024 | B-45 (6-8') | | 1450 | | | | | | | |
| 025 | B-45 (9-10') | | 1455 | | | | | | | |
| 026 | B-45 (11-12') | | 1500 | | | | | | | |

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

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

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

| Relinquished By: | Date/Time: | Received By: | Date/Time: |
|---|---|---|---|
| | 9/14/16 10:20 | Mary Jannin | 9/14/16 10:20 |
| Mary Jannin | 9/14/16 1300 | Melissa Vanenpaas | 9-14-16 1300 |
| Melissa Vanenpaas | 9-14-16 1610 | pace | 9/14/16 1610 |
| | | | |
| | | | |

PACE Project No.: 40138259

Receipt Temp = 8.0 °C

Sample Receipt pH ~~OK / Adjusted~~

Cooler Custody Seal: Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical®
www.pacelabs.com

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

# CHAIN OF CUSTODY

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

| (Please Print Clearly) | |
|---|---|
| Company Name: | Ramboll Environ |
| Branch/Location: | Milwaukee |
| Project Contact: | Jeanne Jarvin |
| Phone: | 262-901-0085 |
| Project Number: | 21-41301A |
| Project Name: | Express Cleaners |
| Project State: | WI |
| Sampled By (Print): | Jonathan Fuqua |
| Sampled By (Sign): | |
| PO #: | Regulatory Program: |

| Quote #: | |
|---|---|
| Mail To Contact: | |
| Mail To Company: | |
| Mail To Address: | |
| Invoice To Contact: | Jeanne Jarvin |
| Invoice To Company: | Ramboll Environ |
| Invoice To Address: | 175 N Corporate Dr Suite 160 Brookfield, WI 53045 |
| Invoice To Phone: | 262-901-0085 |

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

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

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

| PACE LAB # | CLIENT FIELD ID | COLLECTION DATE | COLLECTION TIME | MATRIX | FILTERED? (YES/NO) Y/N | PRESERVATION (CODE)* Pick Letter | Analyses Requested: VOCs (8260) | CLIENT COMMENTS | LAB COMMENTS (Lab Use Only) |
|---|---|---|---|---|---|---|---|---|---|
| 027 | B-46 (2-4') | 9/13/16 | 1520 | S | | F | X | | 1-4ozpp 1-40mlVF |
| 028 | B-46 (6-8') | | 1525 | | | | | | |
| 029 | B-46 (9-10') | | 1530 | | | | | | |
| 030 | B-47 (1-2') | | 1530 | | | | | | |
| 031 | B-47 (5-7') | | 1535 | | | | | | |
| 032 | B-48 (1-2') | | 1600 | | | | | | |
| 033 | B-48 (5-7') | | 1605 | | | | | | |
| 034 | B-49 (1-2') | | 1620 | | | | | | |
| 035 | B-49 (5-7') | | 1625 | | | | | | |
| 036 | B-50 (1-2') | | 1635 | | | | | | |
| 037 | B-50 (5-7') | | 1640 | | | | | | 2-40mlVF |
| 038 | MEOH TRIP BLANK | | | | | | | | |

Profile #:

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

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

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

| Relinquished By: | Date/Time: | Received By: | Date/Time: |
|---|---|---|---|
| | 9/14/16 10:20 | Mary Jarvin | 9/14/16 10:20 |
| Mary Jarvin | 9/14/16 1300 | Melissa Vinemedace | 9-14-16 1300 |
| Melissa Vinemedace | 9-14-16 1610 | | 9/14/16 1610 |
| | | | |
| | | | |

PACE Project No.: 40138259

Receipt Temp = ROI °C

Sample Receipt pH ~~OK / Adjusted~~

Cooler Custody Seal
Present / ~~Not Present~~
Intact / ~~Not Intact~~

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

# Sample Condition Upon Receipt

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

Pace Analytical™

**Client Name:** Ramboll Env

Project #: **WO# : 40138259**

40138259

**Courier:** ☐ Fed Ex ☐ UPS ☐ Client ☑ Pace Other: _____

**Tracking #:** _____

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

**Custody Seal on Samples Present:** ☐ yes ☑ no Seals intact: ☐ yes ☐ no

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☑ None ☐ Other

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

**Cooler Temperature** Uncorr: ROT /Corr: _____ **Biological Tissue is Frozen:** ☐ yes ☐ no

**Temp Blank Present:** ☐ yes ☑ no

**Person examining contents:**
Date: 9/14/16
Initials: BH

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

| | | | Comments: |
|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No ☐N/A | 5. |
| - VOA Samples frozen upon receipt | ☐Yes | ☐No | Date/Time: |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes | ☑No ☐N/A | 7. |
| Sufficient Volume: yes BH 9/14/16 KF 9/14/16 | ☑Yes | ☐No ☐N/A | 8. ~~022 no dryweight vol/mc received~~ BH 9/14/16 |
| Correct Containers Used: | ☑Yes | ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes | ☐No ☐N/A | |
| -Pace IR Containers Used: | ☐Yes | ☐No ☑N/A | |
| Containers Intact: | ☑Yes | ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☐Yes | ☑No ☐N/A | 12. 017 collect time 1152 BH 9/14/16 |
| -Includes date/time/ID/Analysis Matrix: S | | | |
| All containers needing preservation have been checked. (Non-Compliance noted in 13.) | ☐Yes | ☐No ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct |
| All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12) | ☐Yes | ☐No ☑N/A | |
| exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER: | ☐Yes | ☑No | Initial when completed / Lab Std #ID of preservative / Date/ Time: |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No ☑N/A | 14. |
| Trip Blank Present: | ☐Yes | ☐No ☑N/A | 15. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): | | | |

**Client Notification/ Resolution:** If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** _____ **Date:** 9/15/16

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

September 27, 2016

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

RE: Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

Dear Jeanne Tarvin:
Enclosed are the analytical results for sample(s) received by the laboratory on September 17, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Steven Mleczko
steve.mleczko@pacelabs.com
Project Manager

Enclosures

cc: Jon Fuqua, Ramboll Environ
Jim Hutchens, Ramboll Environ
Jim Kane, Ramboll Environ
Snejana Karakis, Environ
David L. Markelz, Ramboll Environ
Michelle Murphy, Environ
Abigail M. Wedig, Environ International Corp

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

## CERTIFICATIONS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Green Bay Certification IDs**

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
Virginia VELAP ID: 460263
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Virginia VELAP Certification ID: 460263
Virginia VELAP ID: 460263
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, Inc.**
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Green Bay, WI 54302
(920)469-2436

## SAMPLE SUMMARY

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **40138497001** | **MW-9** | Water | 09/14/16 12:58 | 09/17/16 07:30 |
| **40138497002** | **MW-14** | Water | 09/14/16 13:50 | 09/17/16 07:30 |
| **40138497003** | **MW-14 DUP** | Water | 09/14/16 13:53 | 09/17/16 07:30 |
| **40138497004** | **MW-4** | Water | 09/14/16 14:35 | 09/17/16 07:30 |
| **40138497005** | **MW-2** | Water | 09/14/16 15:25 | 09/17/16 07:30 |
| **40138497006** | **MW-15** | Water | 09/14/16 16:05 | 09/17/16 07:30 |
| **40138497007** | **PZ-1** | Water | 09/15/16 09:25 | 09/17/16 07:30 |
| **40138497008** | **MW-1** | Water | 09/15/16 10:05 | 09/17/16 07:30 |
| **40138497009** | **MW-7** | Water | 09/15/16 10:50 | 09/17/16 07:30 |
| **40138497010** | **MW-12** | Water | 09/15/16 11:35 | 09/17/16 07:30 |
| **40138497011** | **MW-11** | Water | 09/15/16 12:15 | 09/17/16 07:30 |
| **40138497012** | **MW-11 DUP** | Water | 09/15/16 12:18 | 09/17/16 07:30 |
| **40138497013** | **MW-13** | Water | 09/15/16 13:00 | 09/17/16 07:30 |
| **40138497014** | **MW-6** | Water | 09/15/16 13:40 | 09/17/16 07:30 |
| **40138497015** | **MW-5** | Water | 09/15/16 15:10 | 09/17/16 07:30 |
| **40138497016** | **MW-10** | Water | 09/15/16 15:50 | 09/17/16 07:30 |
| **40138497017** | **MW-8** | Water | 09/15/16 16:45 | 09/17/16 07:30 |
| **40138497018** | **MW-3** | Water | 09/15/16 17:45 | 09/17/16 07:30 |
| **40138497019** | **TRIP BLANK** | Water | 09/15/16 00:00 | 09/17/16 07:30 |

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## SAMPLE ANALYTE COUNT

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **40138497001** | **MW-9** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497002** | **MW-14** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497003** | **MW-14 DUP** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497004** | **MW-4** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497005** | **MW-2** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497006** | **MW-15** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497007** | **PZ-1** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497008** | **MW-1** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497009** | **MW-7** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497010** | **MW-12** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497011** | **MW-11** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497012** | **MW-11 DUP** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497013** | **MW-13** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497014** | **MW-6** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497015** | **MW-5** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497016** | **MW-10** | EPA 8260 | HNW | 65 | PASI-G |
| **40138497017** | **MW-8** | EPA 8015B Modified | JSK | 3 | PASI-G |
| | | EPA 6010 | DLB | 1 | PASI-G |
| | | EPA 8260 | HNW | 65 | PASI-G |
| | | HACH 8146 | DEY | 1 | PASI-G |
| | | EPA 300.0 | HMB | 1 | PASI-G |
| | | EPA 353.2 | DAW | 1 | PASI-G |
| | | SM 5310C | TJJ | 1 | PASI-G |
| **40138497018** | **MW-3** | EPA 8015B Modified | JSK | 3 | PASI-G |
| | | EPA 6010 | DLB | 1 | PASI-G |
| | | EPA 8260 | HNW | 65 | PASI-G |
| | | HACH 8146 | DEY | 1 | PASI-G |
| | | EPA 300.0 | HMB | 1 | PASI-G |
| | | EPA 353.2 | DAW | 1 | PASI-G |
| | | SM 5310C | TJJ | 1 | PASI-G |
| **40138497019** | **TRIP BLANK** | EPA 8260 | HNW | 65 | PASI-G |

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## SUMMARY OF DETECTION

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

| Lab Sample ID / Method | Client Sample ID / Parameters | Result | Units | Report Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| **40138497001** | **MW-9** | | | | | |
| EPA 8260 | Tetrachloroethene | 0.88J | ug/L | 1.0 | 09/21/16 08:40 | |
| **40138497005** | **MW-2** | | | | | |
| EPA 8260 | Chloromethane | 0.52J | ug/L | 1.0 | 09/21/16 09:03 | |
| EPA 8260 | cis-1,2-Dichloroethene | 29.7 | ug/L | 1.0 | 09/21/16 09:03 | |
| EPA 8260 | trans-1,2-Dichloroethene | 1.6 | ug/L | 1.0 | 09/21/16 09:03 | |
| EPA 8260 | Tetrachloroethene | 47.1 | ug/L | 1.0 | 09/21/16 09:03 | |
| EPA 8260 | Trichloroethene | 14.0 | ug/L | 1.0 | 09/21/16 09:03 | |
| **40138497007** | **PZ-1** | | | | | |
| EPA 8260 | Tetrachloroethene | 5.7 | ug/L | 1.0 | 09/21/16 12:26 | |
| **40138497008** | **MW-1** | | | | | |
| EPA 8260 | cis-1,2-Dichloroethene | 96.3 | ug/L | 2.0 | 09/21/16 10:11 | |
| EPA 8260 | trans-1,2-Dichloroethene | 5.1 | ug/L | 2.0 | 09/21/16 10:11 | |
| EPA 8260 | Tetrachloroethene | 193 | ug/L | 2.0 | 09/21/16 10:11 | |
| EPA 8260 | Trichloroethene | 15.5 | ug/L | 2.0 | 09/21/16 10:11 | |
| **40138497009** | **MW-7** | | | | | |
| EPA 8260 | Chloromethane | 1.0 | ug/L | 1.0 | 09/21/16 12:49 | |
| **40138497010** | **MW-12** | | | | | |
| EPA 8260 | Chloromethane | 0.58J | ug/L | 1.0 | 09/21/16 09:25 | |
| EPA 8260 | cis-1,2-Dichloroethene | 92.8 | ug/L | 1.0 | 09/21/16 09:25 | |
| EPA 8260 | trans-1,2-Dichloroethene | 5.0 | ug/L | 1.0 | 09/21/16 09:25 | |
| EPA 8260 | Tetrachloroethene | 25.7 | ug/L | 1.0 | 09/21/16 09:25 | |
| EPA 8260 | Trichloroethene | 2.5 | ug/L | 1.0 | 09/21/16 09:25 | |
| **40138497011** | **MW-11** | | | | | |
| EPA 8260 | Chloromethane | 0.57J | ug/L | 1.0 | 09/21/16 13:12 | |
| **40138497013** | **MW-13** | | | | | |
| EPA 8260 | Chloromethane | 0.77J | ug/L | 1.0 | 09/21/16 13:34 | |
| EPA 8260 | cis-1,2-Dichloroethene | 4.7 | ug/L | 1.0 | 09/21/16 13:34 | |
| EPA 8260 | trans-1,2-Dichloroethene | 0.56J | ug/L | 1.0 | 09/21/16 13:34 | |
| **40138497014** | **MW-6** | | | | | |
| EPA 8260 | cis-1,2-Dichloroethene | 4.5 | ug/L | 1.0 | 09/21/16 13:57 | |
| EPA 8260 | trans-1,2-Dichloroethene | 0.53J | ug/L | 1.0 | 09/21/16 13:57 | |
| EPA 8260 | Tetrachloroethene | 7.8 | ug/L | 1.0 | 09/21/16 13:57 | |
| EPA 8260 | Trichloroethene | 2.9 | ug/L | 1.0 | 09/21/16 13:57 | |
| **40138497016** | **MW-10** | | | | | |
| EPA 8260 | Chloromethane | 0.79J | ug/L | 1.0 | 09/21/16 17:38 | |
| **40138497017** | **MW-8** | | | | | |
| EPA 6010 | Iron, Dissolved | 80.0J | ug/L | 100 | 09/22/16 13:19 | |
| EPA 8260 | cis-1,2-Dichloroethene | 71.4 | ug/L | 10.0 | 09/21/16 10:33 | |
| EPA 8260 | trans-1,2-Dichloroethene | 4.9J | ug/L | 10.0 | 09/21/16 10:33 | |
| EPA 8260 | Tetrachloroethene | 920 | ug/L | 10.0 | 09/21/16 10:33 | |
| EPA 8260 | Trichloroethene | 39.9 | ug/L | 10.0 | 09/21/16 10:33 | |

## REPORT OF LABORATORY ANALYSIS

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

## SUMMARY OF DETECTION

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

| Lab Sample ID / Method | Client Sample ID / Parameters | Result | Units | Report Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| **40138497017** | **MW-8** | | | | | |
| EPA 300.0 | Sulfate | 169 | mg/L | 40.0 | 09/27/16 00:36 | |
| EPA 353.2 | Nitrogen, NO2 plus NO3 | 7.6 | mg/L | 0.25 | 09/23/16 11:45 | |
| SM 5310C | Total Organic Carbon | 2.1 | mg/L | 0.84 | 09/23/16 11:40 | |
| **40138497018** | **MW-3** | | | | | |
| EPA 6010 | Iron, Dissolved | 115 | ug/L | 100 | 09/22/16 13:21 | |
| EPA 8260 | cis-1,2-Dichloroethene | 175 | ug/L | 10.0 | 09/21/16 10:56 | |
| EPA 8260 | trans-1,2-Dichloroethene | 9.4J | ug/L | 10.0 | 09/21/16 10:56 | |
| EPA 8260 | Tetrachloroethene | 437 | ug/L | 10.0 | 09/21/16 10:56 | |
| EPA 8260 | Trichloroethene | 34.5 | ug/L | 10.0 | 09/21/16 10:56 | |
| EPA 300.0 | Sulfate | 144 | mg/L | 40.0 | 09/27/16 00:47 | |
| EPA 353.2 | Nitrogen, NO2 plus NO3 | 0.20J | mg/L | 0.25 | 09/23/16 11:46 | |
| SM 5310C | Total Organic Carbon | 1.3 | mg/L | 0.84 | 09/23/16 12:36 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-9** **Lab ID: 40138497001** Collected: 09/14/16 12:58 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 08:40 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 08:40 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 08:40 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 08:40 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 08:40 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 08:40 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 08:40 | 67-66-3 | M1 |
| Chloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 08:40 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 08:40 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 08:40 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 08:40 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 08:40 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 08:40 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 08:40 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 08:40 | 75-35-4 | |
| cis-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 08:40 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 08:40 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 08:40 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 08:40 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 08:40 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 08:40 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 08:40 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 08:40 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 08:40 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 08:40 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 08:40 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 08:40 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-9** **Lab ID: 40138497001** Collected: 09/14/16 12:58 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 08:40 | 79-34-5 | |
| Tetrachloroethene | **0.88J** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 08:40 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 08:40 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 08:40 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 08:40 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 08:40 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 08:40 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 08:40 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 08:40 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 08:40 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 89 | % | 70-130 | | 1 | | 09/21/16 08:40 | 460-00-4 | |
| Dibromofluoromethane (S) | 117 | % | 70-130 | | 1 | | 09/21/16 08:40 | 1868-53-7 | |
| Toluene-d8 (S) | 92 | % | 70-130 | | 1 | | 09/21/16 08:40 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-14** **Lab ID: 40138497002** Collected: 09/14/16 13:50 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 16:30 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 16:30 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 16:30 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 16:30 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 16:30 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 16:30 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 16:30 | 67-66-3 | |
| Chloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 16:30 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 16:30 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 16:30 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 16:30 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 16:30 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 16:30 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 16:30 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 16:30 | 75-35-4 | |
| cis-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 16:30 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 16:30 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 16:30 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 16:30 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 16:30 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 16:30 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 16:30 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 16:30 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 16:30 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 16:30 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 16:30 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 16:30 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-14** **Lab ID: 40138497002** Collected: 09/14/16 13:50 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 16:30 | 79-34-5 | |
| Tetrachloroethene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 16:30 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 16:30 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 16:30 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 16:30 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 16:30 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 16:30 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 16:30 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 16:30 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:30 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 83 | % | 70-130 | | 1 | | 09/21/16 16:30 | 460-00-4 | |
| Dibromofluoromethane (S) | 103 | % | 70-130 | | 1 | | 09/21/16 16:30 | 1868-53-7 | |
| Toluene-d8 (S) | 100 | % | 70-130 | | 1 | | 09/21/16 16:30 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-14 DUP** **Lab ID: 40138497003** Collected: 09/14/16 13:53 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 16:52 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 16:52 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 16:52 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 16:52 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 16:52 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 16:52 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 16:52 | 67-66-3 | |
| Chloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 16:52 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 16:52 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 16:52 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 16:52 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 16:52 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 16:52 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 16:52 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 16:52 | 75-35-4 | |
| cis-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 16:52 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 16:52 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 16:52 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 16:52 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 16:52 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 16:52 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 16:52 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 16:52 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 16:52 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 16:52 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 16:52 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 16:52 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-14 DUP** **Lab ID: 40138497003** Collected: 09/14/16 13:53 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 16:52 | 79-34-5 | |
| Tetrachloroethene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 16:52 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 16:52 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 16:52 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 16:52 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 16:52 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 16:52 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 16:52 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 16:52 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 16:52 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 87 | % | 70-130 | | 1 | | 09/21/16 16:52 | 460-00-4 | |
| Dibromofluoromethane (S) | 107 | % | 70-130 | | 1 | | 09/21/16 16:52 | 1868-53-7 | |
| Toluene-d8 (S) | 101 | % | 70-130 | | 1 | | 09/21/16 16:52 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-4** **Lab ID: 40138497004** Collected: 09/14/16 14:35 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 11:18 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 11:18 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 11:18 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 11:18 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 11:18 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 11:18 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 11:18 | 67-66-3 | |
| Chloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 11:18 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 11:18 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 11:18 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 11:18 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 11:18 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 11:18 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 11:18 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 11:18 | 75-35-4 | |
| cis-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 11:18 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 11:18 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 11:18 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 11:18 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 11:18 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 11:18 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 11:18 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 11:18 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 11:18 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 11:18 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 11:18 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 11:18 | 630-20-6 | |

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## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-4** **Lab ID: 40138497004** Collected: 09/14/16 14:35 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 11:18 | 79-34-5 | |
| Tetrachloroethene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 11:18 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 11:18 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 11:18 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 11:18 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 11:18 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 11:18 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 11:18 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 11:18 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:18 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 91 | % | 70-130 | | 1 | | 09/21/16 11:18 | 460-00-4 | |
| Dibromofluoromethane (S) | 117 | % | 70-130 | | 1 | | 09/21/16 11:18 | 1868-53-7 | |
| Toluene-d8 (S) | 93 | % | 70-130 | | 1 | | 09/21/16 11:18 | 2037-26-5 | |

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## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-2** **Lab ID: 40138497005** Collected: 09/14/16 15:25 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 09:03 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 09:03 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 09:03 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 09:03 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 09:03 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 09:03 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 09:03 | 67-66-3 | |
| Chloromethane | **0.52J** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 09:03 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 09:03 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 09:03 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 09:03 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 09:03 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 09:03 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 09:03 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 09:03 | 75-35-4 | |
| cis-1,2-Dichloroethene | **29.7** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 09:03 | 156-59-2 | |
| trans-1,2-Dichloroethene | **1.6** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 09:03 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 09:03 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 09:03 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 09:03 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 09:03 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 09:03 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 09:03 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 09:03 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 09:03 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 09:03 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 09:03 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-2** **Lab ID: 40138497005** Collected: 09/14/16 15:25 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 09:03 | 79-34-5 | |
| Tetrachloroethene | **47.1** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 09:03 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 09:03 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 09:03 | 79-00-5 | |
| Trichloroethene | **14.0** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 09:03 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 09:03 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 09:03 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 09:03 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 09:03 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:03 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 88 | % | 70-130 | | 1 | | 09/21/16 09:03 | 460-00-4 | |
| Dibromofluoromethane (S) | 119 | % | 70-130 | | 1 | | 09/21/16 09:03 | 1868-53-7 | |
| Toluene-d8 (S) | 92 | % | 70-130 | | 1 | | 09/21/16 09:03 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-15** **Lab ID: 40138497006** Collected: 09/14/16 16:05 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 12:04 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 12:04 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 12:04 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 12:04 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:04 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 12:04 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 12:04 | 67-66-3 | |
| Chloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 12:04 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 12:04 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:04 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 12:04 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 12:04 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 12:04 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 12:04 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 12:04 | 75-35-4 | |
| cis-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 12:04 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 12:04 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 12:04 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 12:04 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 12:04 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 12:04 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 12:04 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 12:04 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 12:04 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 12:04 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 12:04 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:04 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-15** **Lab ID: 40138497006** Collected: 09/14/16 16:05 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 12:04 | 79-34-5 | |
| Tetrachloroethene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 12:04 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 12:04 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 12:04 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 12:04 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:04 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:04 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 12:04 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 12:04 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:04 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 89 | % | 70-130 | | 1 | | 09/21/16 12:04 | 460-00-4 | |
| Dibromofluoromethane (S) | 124 | % | 70-130 | | 1 | | 09/21/16 12:04 | 1868-53-7 | |
| Toluene-d8 (S) | 93 | % | 70-130 | | 1 | | 09/21/16 12:04 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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Green Bay, WI 54302
(920)469-2436

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: PZ-1** **Lab ID: 40138497007** Collected: 09/15/16 09:25 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 12:26 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 12:26 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 12:26 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 12:26 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:26 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 12:26 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 12:26 | 67-66-3 | |
| Chloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 12:26 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 12:26 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:26 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 12:26 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 12:26 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 12:26 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 12:26 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 12:26 | 75-35-4 | |
| cis-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 12:26 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 12:26 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 12:26 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 12:26 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 12:26 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 12:26 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 12:26 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 12:26 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 12:26 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 12:26 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 12:26 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:26 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: PZ-1** **Lab ID: 40138497007** Collected: 09/15/16 09:25 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 12:26 | 79-34-5 | |
| Tetrachloroethene | **5.7** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 12:26 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 12:26 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 12:26 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 12:26 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:26 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:26 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 12:26 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 12:26 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:26 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 88 | % | 70-130 | | 1 | | 09/21/16 12:26 | 460-00-4 | |
| Dibromofluoromethane (S) | 120 | % | 70-130 | | 1 | | 09/21/16 12:26 | 1868-53-7 | |
| Toluene-d8 (S) | 92 | % | 70-130 | | 1 | | 09/21/16 12:26 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-1** **Lab ID: 40138497008** Collected: 09/15/16 10:05 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 71-43-2 | |
| Bromobenzene | **<0.46** | ug/L | 2.0 | 0.46 | 2 | | 09/21/16 10:11 | 108-86-1 | |
| Bromochloromethane | **<0.68** | ug/L | 2.0 | 0.68 | 2 | | 09/21/16 10:11 | 74-97-5 | |
| Bromodichloromethane | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 75-27-4 | |
| Bromoform | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 75-25-2 | |
| Bromomethane | **<4.9** | ug/L | 10.0 | 4.9 | 2 | | 09/21/16 10:11 | 74-83-9 | |
| n-Butylbenzene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 104-51-8 | |
| sec-Butylbenzene | **<4.4** | ug/L | 10.0 | 4.4 | 2 | | 09/21/16 10:11 | 135-98-8 | |
| tert-Butylbenzene | **<0.36** | ug/L | 2.0 | 0.36 | 2 | | 09/21/16 10:11 | 98-06-6 | |
| Carbon tetrachloride | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 56-23-5 | |
| Chlorobenzene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 108-90-7 | |
| Chloroethane | **<0.75** | ug/L | 2.0 | 0.75 | 2 | | 09/21/16 10:11 | 75-00-3 | |
| Chloroform | **<5.0** | ug/L | 10.0 | 5.0 | 2 | | 09/21/16 10:11 | 67-66-3 | |
| Chloromethane | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 74-87-3 | |
| 2-Chlorotoluene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 95-49-8 | |
| 4-Chlorotoluene | **<0.43** | ug/L | 2.0 | 0.43 | 2 | | 09/21/16 10:11 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<4.3** | ug/L | 10.0 | 4.3 | 2 | | 09/21/16 10:11 | 96-12-8 | |
| Dibromochloromethane | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.36** | ug/L | 2.0 | 0.36 | 2 | | 09/21/16 10:11 | 106-93-4 | |
| Dibromomethane | **<0.85** | ug/L | 2.0 | 0.85 | 2 | | 09/21/16 10:11 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.45** | ug/L | 2.0 | 0.45 | 2 | | 09/21/16 10:11 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.48** | ug/L | 2.0 | 0.48 | 2 | | 09/21/16 10:11 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.34** | ug/L | 2.0 | 0.34 | 2 | | 09/21/16 10:11 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.82** | ug/L | 2.0 | 0.82 | 2 | | 09/21/16 10:11 | 75-35-4 | |
| cis-1,2-Dichloroethene | **96.3** | ug/L | 2.0 | 0.51 | 2 | | 09/21/16 10:11 | 156-59-2 | |
| trans-1,2-Dichloroethene | **5.1** | ug/L | 2.0 | 0.51 | 2 | | 09/21/16 10:11 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.47** | ug/L | 2.0 | 0.47 | 2 | | 09/21/16 10:11 | 78-87-5 | |
| 1,3-Dichloropropane | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.97** | ug/L | 2.0 | 0.97 | 2 | | 09/21/16 10:11 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.88** | ug/L | 2.0 | 0.88 | 2 | | 09/21/16 10:11 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.46** | ug/L | 2.0 | 0.46 | 2 | | 09/21/16 10:11 | 10061-02-6 | |
| Diisopropyl ether | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 108-20-3 | |
| Ethylbenzene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<4.2** | ug/L | 10.0 | 4.2 | 2 | | 09/21/16 10:11 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.29** | ug/L | 2.0 | 0.29 | 2 | | 09/21/16 10:11 | 98-82-8 | |
| p-Isopropyltoluene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 99-87-6 | |
| Methylene Chloride | **<0.47** | ug/L | 2.0 | 0.47 | 2 | | 09/21/16 10:11 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.35** | ug/L | 2.0 | 0.35 | 2 | | 09/21/16 10:11 | 1634-04-4 | |
| Naphthalene | **<5.0** | ug/L | 10.0 | 5.0 | 2 | | 09/21/16 10:11 | 91-20-3 | |
| n-Propylbenzene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 103-65-1 | |
| Styrene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.36** | ug/L | 2.0 | 0.36 | 2 | | 09/21/16 10:11 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-1** **Lab ID: 40138497008** Collected: 09/15/16 10:05 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.50** | ug/L | 2.0 | 0.50 | 2 | | 09/21/16 10:11 | 79-34-5 | |
| Tetrachloroethene | **193** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 127-18-4 | |
| Toluene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<4.3** | ug/L | 10.0 | 4.3 | 2 | | 09/21/16 10:11 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<4.4** | ug/L | 10.0 | 4.4 | 2 | | 09/21/16 10:11 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.39** | ug/L | 2.0 | 0.39 | 2 | | 09/21/16 10:11 | 79-00-5 | |
| Trichloroethene | **15.5** | ug/L | 2.0 | 0.66 | 2 | | 09/21/16 10:11 | 79-01-6 | |
| Trichlorofluoromethane | **<0.37** | ug/L | 2.0 | 0.37 | 2 | | 09/21/16 10:11 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 108-67-8 | |
| Vinyl chloride | **<0.35** | ug/L | 2.0 | 0.35 | 2 | | 09/21/16 10:11 | 75-01-4 | |
| Xylene (Total) | **<3.0** | ug/L | 6.0 | 3.0 | 2 | | 09/21/16 10:11 | 1330-20-7 | |
| m&p-Xylene | **<2.0** | ug/L | 4.0 | 2.0 | 2 | | 09/21/16 10:11 | 179601-23-1 | |
| o-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 2 | | 09/21/16 10:11 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 87 | % | 70-130 | | 2 | | 09/21/16 10:11 | 460-00-4 | |
| Dibromofluoromethane (S) | 126 | % | 70-130 | | 2 | | 09/21/16 10:11 | 1868-53-7 | |
| Toluene-d8 (S) | 90 | % | 70-130 | | 2 | | 09/21/16 10:11 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(920)469-2436

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-7** **Lab ID: 40138497009** Collected: 09/15/16 10:50 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 12:49 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 12:49 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 12:49 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 12:49 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:49 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 12:49 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 12:49 | 67-66-3 | |
| Chloromethane | **1.0** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 12:49 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 12:49 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:49 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 12:49 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 12:49 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 12:49 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 12:49 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 12:49 | 75-35-4 | |
| cis-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 12:49 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 12:49 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 12:49 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 12:49 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 12:49 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 12:49 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 12:49 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 12:49 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 12:49 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 12:49 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 12:49 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:49 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-7** **Lab ID: 40138497009** Collected: 09/15/16 10:50 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 12:49 | 79-34-5 | |
| Tetrachloroethene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 12:49 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 12:49 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 12:49 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 12:49 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:49 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 12:49 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 12:49 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 12:49 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 12:49 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 88 | % | 70-130 | | 1 | | 09/21/16 12:49 | 460-00-4 | |
| Dibromofluoromethane (S) | 122 | % | 70-130 | | 1 | | 09/21/16 12:49 | 1868-53-7 | |
| Toluene-d8 (S) | 91 | % | 70-130 | | 1 | | 09/21/16 12:49 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-12** **Lab ID: 40138497010** Collected: 09/15/16 11:35 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 09:25 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 09:25 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 09:25 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 09:25 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 09:25 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 09:25 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 09:25 | 67-66-3 | |
| Chloromethane | **0.58J** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 09:25 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 09:25 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 09:25 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 09:25 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 09:25 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 09:25 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 09:25 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 09:25 | 75-35-4 | |
| cis-1,2-Dichloroethene | **92.8** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 09:25 | 156-59-2 | |
| trans-1,2-Dichloroethene | **5.0** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 09:25 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 09:25 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 09:25 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 09:25 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 09:25 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 09:25 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 09:25 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 09:25 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 09:25 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 09:25 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 09:25 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-12** **Lab ID: 40138497010** Collected: 09/15/16 11:35 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 09:25 | 79-34-5 | |
| Tetrachloroethene | **25.7** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 09:25 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 09:25 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 09:25 | 79-00-5 | |
| Trichloroethene | **2.5** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 09:25 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 09:25 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 09:25 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 09:25 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 09:25 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 09:25 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 89 | % | 70-130 | | 1 | | 09/21/16 09:25 | 460-00-4 | |
| Dibromofluoromethane (S) | 125 | % | 70-130 | | 1 | | 09/21/16 09:25 | 1868-53-7 | |
| Toluene-d8 (S) | 92 | % | 70-130 | | 1 | | 09/21/16 09:25 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-11** **Lab ID: 40138497011** Collected: 09/15/16 12:15 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 13:12 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 13:12 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 13:12 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 13:12 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:12 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 13:12 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 13:12 | 67-66-3 | |
| Chloromethane | **0.57J** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 13:12 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 13:12 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:12 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 13:12 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 13:12 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 13:12 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 13:12 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 13:12 | 75-35-4 | |
| cis-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 13:12 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 13:12 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 13:12 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 13:12 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 13:12 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 13:12 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 13:12 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 13:12 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 13:12 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 13:12 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 13:12 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:12 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-11** **Lab ID: 40138497011** Collected: 09/15/16 12:15 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 13:12 | 79-34-5 | |
| Tetrachloroethene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 13:12 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 13:12 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 13:12 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 13:12 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:12 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:12 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 13:12 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 13:12 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:12 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 90 | % | 70-130 | | 1 | | 09/21/16 13:12 | 460-00-4 | |
| Dibromofluoromethane (S) | 118 | % | 70-130 | | 1 | | 09/21/16 13:12 | 1868-53-7 | |
| Toluene-d8 (S) | 90 | % | 70-130 | | 1 | | 09/21/16 13:12 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-11 DUP** **Lab ID: 40138497012** Collected: 09/15/16 12:18 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 11:41 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 11:41 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 11:41 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 11:41 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 11:41 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 11:41 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 11:41 | 67-66-3 | |
| Chloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 11:41 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 11:41 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 11:41 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 11:41 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 11:41 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 11:41 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 11:41 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 11:41 | 75-35-4 | |
| cis-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 11:41 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 11:41 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 11:41 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 11:41 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 11:41 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 11:41 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 11:41 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 11:41 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 11:41 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 11:41 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 11:41 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 11:41 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-11 DUP** **Lab ID: 40138497012** Collected: 09/15/16 12:18 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 11:41 | 79-34-5 | |
| Tetrachloroethene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 11:41 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 11:41 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 11:41 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 11:41 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 11:41 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 11:41 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 11:41 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 11:41 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 11:41 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 90 | % | 70-130 | | 1 | | 09/21/16 11:41 | 460-00-4 | |
| Dibromofluoromethane (S) | 124 | % | 70-130 | | 1 | | 09/21/16 11:41 | 1868-53-7 | |
| Toluene-d8 (S) | 92 | % | 70-130 | | 1 | | 09/21/16 11:41 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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Green Bay, WI 54302
(920)469-2436

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-13** **Lab ID: 40138497013** Collected: 09/15/16 13:00 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 13:34 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 13:34 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 13:34 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 13:34 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:34 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 13:34 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 13:34 | 67-66-3 | |
| Chloromethane | **0.77J** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 13:34 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 13:34 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:34 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 13:34 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 13:34 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 13:34 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 13:34 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 13:34 | 75-35-4 | |
| cis-1,2-Dichloroethene | **4.7** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 13:34 | 156-59-2 | |
| trans-1,2-Dichloroethene | **0.56J** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 13:34 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 13:34 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 13:34 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 13:34 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 13:34 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 13:34 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 13:34 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 13:34 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 13:34 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 13:34 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:34 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-13** **Lab ID: 40138497013** Collected: 09/15/16 13:00 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 13:34 | 79-34-5 | |
| Tetrachloroethene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 13:34 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 13:34 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 13:34 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 13:34 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:34 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:34 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 13:34 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 13:34 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:34 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 88 | % | 70-130 | | 1 | | 09/21/16 13:34 | 460-00-4 | |
| Dibromofluoromethane (S) | 121 | % | 70-130 | | 1 | | 09/21/16 13:34 | 1868-53-7 | |
| Toluene-d8 (S) | 90 | % | 70-130 | | 1 | | 09/21/16 13:34 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-6** **Lab ID: 40138497014** Collected: 09/15/16 13:40 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 13:57 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 13:57 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 13:57 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 13:57 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:57 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 13:57 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 13:57 | 67-66-3 | |
| Chloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 13:57 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 13:57 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:57 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 13:57 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 13:57 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 13:57 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 13:57 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 13:57 | 75-35-4 | |
| cis-1,2-Dichloroethene | **4.5** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 13:57 | 156-59-2 | |
| trans-1,2-Dichloroethene | **0.53J** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 13:57 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 13:57 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 13:57 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 13:57 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 13:57 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 13:57 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 13:57 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 13:57 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 13:57 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 13:57 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:57 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, Inc.**
1241 Bellevue Street - Suite 9
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## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-6** **Lab ID: 40138497014** Collected: 09/15/16 13:40 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 13:57 | 79-34-5 | |
| Tetrachloroethene | **7.8** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 13:57 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 13:57 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 13:57 | 79-00-5 | |
| Trichloroethene | **2.9** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 13:57 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:57 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 13:57 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 13:57 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 13:57 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 13:57 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 91 | % | 70-130 | | 1 | | 09/21/16 13:57 | 460-00-4 | |
| Dibromofluoromethane (S) | 117 | % | 70-130 | | 1 | | 09/21/16 13:57 | 1868-53-7 | |
| Toluene-d8 (S) | 91 | % | 70-130 | | 1 | | 09/21/16 13:57 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-5** **Lab ID: 40138497015** Collected: 09/15/16 15:10 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 17:15 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 17:15 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 17:15 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 17:15 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 17:15 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 17:15 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 17:15 | 67-66-3 | |
| Chloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 17:15 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 17:15 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 17:15 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 17:15 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 17:15 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 17:15 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 17:15 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 17:15 | 75-35-4 | |
| cis-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 17:15 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 17:15 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 17:15 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 17:15 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 17:15 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 17:15 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 17:15 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 17:15 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 17:15 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 17:15 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 17:15 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 17:15 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-5** **Lab ID: 40138497015** Collected: 09/15/16 15:10 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 17:15 | 79-34-5 | |
| Tetrachloroethene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 17:15 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 17:15 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 17:15 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 17:15 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 17:15 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 17:15 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 17:15 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 17:15 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:15 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 82 | % | 70-130 | | 1 | | 09/21/16 17:15 | 460-00-4 | |
| Dibromofluoromethane (S) | 111 | % | 70-130 | | 1 | | 09/21/16 17:15 | 1868-53-7 | |
| Toluene-d8 (S) | 99 | % | 70-130 | | 1 | | 09/21/16 17:15 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-10** **Lab ID: 40138497016** Collected: 09/15/16 15:50 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 17:38 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 17:38 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 17:38 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 17:38 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 17:38 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 17:38 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 17:38 | 67-66-3 | |
| Chloromethane | **0.79J** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 17:38 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 17:38 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 17:38 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 17:38 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 17:38 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 17:38 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 17:38 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 17:38 | 75-35-4 | |
| cis-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 17:38 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 17:38 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 17:38 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 17:38 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 17:38 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 17:38 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 17:38 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 17:38 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 17:38 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 17:38 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 17:38 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 17:38 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, Inc.**
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Green Bay, WI 54302
(920)469-2436

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-10** **Lab ID: 40138497016** Collected: 09/15/16 15:50 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 17:38 | 79-34-5 | |
| Tetrachloroethene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 17:38 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 17:38 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 17:38 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 17:38 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 17:38 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 17:38 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 17:38 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 17:38 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 17:38 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 83 | % | 70-130 | | 1 | | 09/21/16 17:38 | 460-00-4 | |
| Dibromofluoromethane (S) | 110 | % | 70-130 | | 1 | | 09/21/16 17:38 | 1868-53-7 | |
| Toluene-d8 (S) | 99 | % | 70-130 | | 1 | | 09/21/16 17:38 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-8** **Lab ID: 40138497017** Collected: 09/15/16 16:45 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **Methane, Ethane, Ethene GCV** | Analytical Method: EPA 8015B Modified | | | | | | | | |
| Ethane | **<0.58** | ug/L | 5.6 | 0.58 | 1 | | 09/22/16 12:46 | 74-84-0 | |
| Ethene | **<0.52** | ug/L | 5.0 | 0.52 | 1 | | 09/22/16 12:46 | 74-85-1 | |
| Methane | **<1.4** | ug/L | 2.8 | 1.4 | 1 | | 09/22/16 12:46 | 74-82-8 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 | | | | | | | | |
| Iron, Dissolved | **80.0J** | ug/L | 100 | 12.9 | 1 | | 09/22/16 13:19 | 7439-89-6 | |
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 71-43-2 | |
| Bromobenzene | **<2.3** | ug/L | 10.0 | 2.3 | 10 | | 09/21/16 10:33 | 108-86-1 | |
| Bromochloromethane | **<3.4** | ug/L | 10.0 | 3.4 | 10 | | 09/21/16 10:33 | 74-97-5 | |
| Bromodichloromethane | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 75-27-4 | |
| Bromoform | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 75-25-2 | |
| Bromomethane | **<24.3** | ug/L | 50.0 | 24.3 | 10 | | 09/21/16 10:33 | 74-83-9 | |
| n-Butylbenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 104-51-8 | |
| sec-Butylbenzene | **<21.9** | ug/L | 50.0 | 21.9 | 10 | | 09/21/16 10:33 | 135-98-8 | |
| tert-Butylbenzene | **<1.8** | ug/L | 10.0 | 1.8 | 10 | | 09/21/16 10:33 | 98-06-6 | |
| Carbon tetrachloride | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 56-23-5 | |
| Chlorobenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 108-90-7 | |
| Chloroethane | **<3.7** | ug/L | 10.0 | 3.7 | 10 | | 09/21/16 10:33 | 75-00-3 | |
| Chloroform | **<25.0** | ug/L | 50.0 | 25.0 | 10 | | 09/21/16 10:33 | 67-66-3 | |
| Chloromethane | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 74-87-3 | |
| 2-Chlorotoluene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 95-49-8 | |
| 4-Chlorotoluene | **<2.1** | ug/L | 10.0 | 2.1 | 10 | | 09/21/16 10:33 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<21.6** | ug/L | 50.0 | 21.6 | 10 | | 09/21/16 10:33 | 96-12-8 | |
| Dibromochloromethane | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<1.8** | ug/L | 10.0 | 1.8 | 10 | | 09/21/16 10:33 | 106-93-4 | |
| Dibromomethane | **<4.3** | ug/L | 10.0 | 4.3 | 10 | | 09/21/16 10:33 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 106-46-7 | |
| Dichlorodifluoromethane | **<2.2** | ug/L | 10.0 | 2.2 | 10 | | 09/21/16 10:33 | 75-71-8 | |
| 1,1-Dichloroethane | **<2.4** | ug/L | 10.0 | 2.4 | 10 | | 09/21/16 10:33 | 75-34-3 | |
| 1,2-Dichloroethane | **<1.7** | ug/L | 10.0 | 1.7 | 10 | | 09/21/16 10:33 | 107-06-2 | |
| 1,1-Dichloroethene | **<4.1** | ug/L | 10.0 | 4.1 | 10 | | 09/21/16 10:33 | 75-35-4 | |
| cis-1,2-Dichloroethene | **71.4** | ug/L | 10.0 | 2.6 | 10 | | 09/21/16 10:33 | 156-59-2 | |
| trans-1,2-Dichloroethene | **4.9J** | ug/L | 10.0 | 2.6 | 10 | | 09/21/16 10:33 | 156-60-5 | |
| 1,2-Dichloropropane | **<2.3** | ug/L | 10.0 | 2.3 | 10 | | 09/21/16 10:33 | 78-87-5 | |
| 1,3-Dichloropropane | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 142-28-9 | |
| 2,2-Dichloropropane | **<4.8** | ug/L | 10.0 | 4.8 | 10 | | 09/21/16 10:33 | 594-20-7 | |
| 1,1-Dichloropropene | **<4.4** | ug/L | 10.0 | 4.4 | 10 | | 09/21/16 10:33 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<2.3** | ug/L | 10.0 | 2.3 | 10 | | 09/21/16 10:33 | 10061-02-6 | |
| Diisopropyl ether | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 108-20-3 | |
| Ethylbenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<21.1** | ug/L | 50.0 | 21.1 | 10 | | 09/21/16 10:33 | 87-68-3 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-8** **Lab ID: 40138497017** Collected: 09/15/16 16:45 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Isopropylbenzene (Cumene) | **<1.4** | ug/L | 10.0 | 1.4 | 10 | | 09/21/16 10:33 | 98-82-8 | |
| p-Isopropyltoluene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 99-87-6 | |
| Methylene Chloride | **<2.3** | ug/L | 10.0 | 2.3 | 10 | | 09/21/16 10:33 | 75-09-2 | |
| Methyl-tert-butyl ether | **<1.7** | ug/L | 10.0 | 1.7 | 10 | | 09/21/16 10:33 | 1634-04-4 | |
| Naphthalene | **<25.0** | ug/L | 50.0 | 25.0 | 10 | | 09/21/16 10:33 | 91-20-3 | |
| n-Propylbenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 103-65-1 | |
| Styrene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<1.8** | ug/L | 10.0 | 1.8 | 10 | | 09/21/16 10:33 | 630-20-6 | |
| 1,1,2,2-Tetrachloroethane | **<2.5** | ug/L | 10.0 | 2.5 | 10 | | 09/21/16 10:33 | 79-34-5 | |
| Tetrachloroethene | **920** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 127-18-4 | |
| Toluene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<21.3** | ug/L | 50.0 | 21.3 | 10 | | 09/21/16 10:33 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<22.1** | ug/L | 50.0 | 22.1 | 10 | | 09/21/16 10:33 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<2.0** | ug/L | 10.0 | 2.0 | 10 | | 09/21/16 10:33 | 79-00-5 | |
| Trichloroethene | **39.9** | ug/L | 10.0 | 3.3 | 10 | | 09/21/16 10:33 | 79-01-6 | |
| Trichlorofluoromethane | **<1.8** | ug/L | 10.0 | 1.8 | 10 | | 09/21/16 10:33 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 108-67-8 | |
| Vinyl chloride | **<1.8** | ug/L | 10.0 | 1.8 | 10 | | 09/21/16 10:33 | 75-01-4 | |
| Xylene (Total) | **<15.0** | ug/L | 30.0 | 15.0 | 10 | | 09/21/16 10:33 | 1330-20-7 | |
| m&p-Xylene | **<10.0** | ug/L | 20.0 | 10.0 | 10 | | 09/21/16 10:33 | 179601-23-1 | |
| o-Xylene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:33 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 88 | % | 70-130 | | 10 | | 09/21/16 10:33 | 460-00-4 | |
| Dibromofluoromethane (S) | 122 | % | 70-130 | | 10 | | 09/21/16 10:33 | 1868-53-7 | |
| Toluene-d8 (S) | 91 | % | 70-130 | | 10 | | 09/21/16 10:33 | 2037-26-5 | |
| **Iron, Ferrous** | Analytical Method: HACH 8146 | | | | | | | | |
| Iron, Ferrous | **<0.028** | mg/L | 0.093 | 0.028 | 1 | | 09/21/16 10:27 | | H6,M0 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Sulfate | **169** | mg/L | 40.0 | 20.0 | 10 | | 09/27/16 00:36 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 pres.** | Analytical Method: EPA 353.2 | | | | | | | | |
| Nitrogen, NO2 plus NO3 | **7.6** | mg/L | 0.25 | 0.095 | 1 | | 09/23/16 11:45 | | |
| **5310C TOC** | Analytical Method: SM 5310C | | | | | | | | |
| Total Organic Carbon | **2.1** | mg/L | 0.84 | 0.25 | 1 | | 09/23/16 11:40 | 7440-44-0 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-3** **Lab ID: 40138497018** Collected: 09/15/16 17:45 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **Methane, Ethane, Ethene GCV** | Analytical Method: EPA 8015B Modified | | | | | | | | |
| Ethane | **<0.58** | ug/L | 5.6 | 0.58 | 1 | | 09/22/16 12:53 | 74-84-0 | |
| Ethene | **<0.52** | ug/L | 5.0 | 0.52 | 1 | | 09/22/16 12:53 | 74-85-1 | |
| Methane | **<1.4** | ug/L | 2.8 | 1.4 | 1 | | 09/22/16 12:53 | 74-82-8 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 | | | | | | | | |
| Iron, Dissolved | **115** | ug/L | 100 | 12.9 | 1 | | 09/22/16 13:21 | 7439-89-6 | |
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 71-43-2 | |
| Bromobenzene | **<2.3** | ug/L | 10.0 | 2.3 | 10 | | 09/21/16 10:56 | 108-86-1 | |
| Bromochloromethane | **<3.4** | ug/L | 10.0 | 3.4 | 10 | | 09/21/16 10:56 | 74-97-5 | |
| Bromodichloromethane | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 75-27-4 | |
| Bromoform | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 75-25-2 | |
| Bromomethane | **<24.3** | ug/L | 50.0 | 24.3 | 10 | | 09/21/16 10:56 | 74-83-9 | |
| n-Butylbenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 104-51-8 | |
| sec-Butylbenzene | **<21.9** | ug/L | 50.0 | 21.9 | 10 | | 09/21/16 10:56 | 135-98-8 | |
| tert-Butylbenzene | **<1.8** | ug/L | 10.0 | 1.8 | 10 | | 09/21/16 10:56 | 98-06-6 | |
| Carbon tetrachloride | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 56-23-5 | |
| Chlorobenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 108-90-7 | |
| Chloroethane | **<3.7** | ug/L | 10.0 | 3.7 | 10 | | 09/21/16 10:56 | 75-00-3 | |
| Chloroform | **<25.0** | ug/L | 50.0 | 25.0 | 10 | | 09/21/16 10:56 | 67-66-3 | |
| Chloromethane | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 74-87-3 | |
| 2-Chlorotoluene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 95-49-8 | |
| 4-Chlorotoluene | **<2.1** | ug/L | 10.0 | 2.1 | 10 | | 09/21/16 10:56 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<21.6** | ug/L | 50.0 | 21.6 | 10 | | 09/21/16 10:56 | 96-12-8 | |
| Dibromochloromethane | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<1.8** | ug/L | 10.0 | 1.8 | 10 | | 09/21/16 10:56 | 106-93-4 | |
| Dibromomethane | **<4.3** | ug/L | 10.0 | 4.3 | 10 | | 09/21/16 10:56 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 106-46-7 | |
| Dichlorodifluoromethane | **<2.2** | ug/L | 10.0 | 2.2 | 10 | | 09/21/16 10:56 | 75-71-8 | |
| 1,1-Dichloroethane | **<2.4** | ug/L | 10.0 | 2.4 | 10 | | 09/21/16 10:56 | 75-34-3 | |
| 1,2-Dichloroethane | **<1.7** | ug/L | 10.0 | 1.7 | 10 | | 09/21/16 10:56 | 107-06-2 | |
| 1,1-Dichloroethene | **<4.1** | ug/L | 10.0 | 4.1 | 10 | | 09/21/16 10:56 | 75-35-4 | |
| cis-1,2-Dichloroethene | **175** | ug/L | 10.0 | 2.6 | 10 | | 09/21/16 10:56 | 156-59-2 | |
| trans-1,2-Dichloroethene | **9.4J** | ug/L | 10.0 | 2.6 | 10 | | 09/21/16 10:56 | 156-60-5 | |
| 1,2-Dichloropropane | **<2.3** | ug/L | 10.0 | 2.3 | 10 | | 09/21/16 10:56 | 78-87-5 | |
| 1,3-Dichloropropane | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 142-28-9 | |
| 2,2-Dichloropropane | **<4.8** | ug/L | 10.0 | 4.8 | 10 | | 09/21/16 10:56 | 594-20-7 | |
| 1,1-Dichloropropene | **<4.4** | ug/L | 10.0 | 4.4 | 10 | | 09/21/16 10:56 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<2.3** | ug/L | 10.0 | 2.3 | 10 | | 09/21/16 10:56 | 10061-02-6 | |
| Diisopropyl ether | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 108-20-3 | |
| Ethylbenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<21.1** | ug/L | 50.0 | 21.1 | 10 | | 09/21/16 10:56 | 87-68-3 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: MW-3** **Lab ID: 40138497018** Collected: 09/15/16 17:45 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Isopropylbenzene (Cumene) | **<1.4** | ug/L | 10.0 | 1.4 | 10 | | 09/21/16 10:56 | 98-82-8 | |
| p-Isopropyltoluene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 99-87-6 | |
| Methylene Chloride | **<2.3** | ug/L | 10.0 | 2.3 | 10 | | 09/21/16 10:56 | 75-09-2 | |
| Methyl-tert-butyl ether | **<1.7** | ug/L | 10.0 | 1.7 | 10 | | 09/21/16 10:56 | 1634-04-4 | |
| Naphthalene | **<25.0** | ug/L | 50.0 | 25.0 | 10 | | 09/21/16 10:56 | 91-20-3 | |
| n-Propylbenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 103-65-1 | |
| Styrene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<1.8** | ug/L | 10.0 | 1.8 | 10 | | 09/21/16 10:56 | 630-20-6 | |
| 1,1,2,2-Tetrachloroethane | **<2.5** | ug/L | 10.0 | 2.5 | 10 | | 09/21/16 10:56 | 79-34-5 | |
| Tetrachloroethene | **437** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 127-18-4 | |
| Toluene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<21.3** | ug/L | 50.0 | 21.3 | 10 | | 09/21/16 10:56 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<22.1** | ug/L | 50.0 | 22.1 | 10 | | 09/21/16 10:56 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<2.0** | ug/L | 10.0 | 2.0 | 10 | | 09/21/16 10:56 | 79-00-5 | |
| Trichloroethene | **34.5** | ug/L | 10.0 | 3.3 | 10 | | 09/21/16 10:56 | 79-01-6 | |
| Trichlorofluoromethane | **<1.8** | ug/L | 10.0 | 1.8 | 10 | | 09/21/16 10:56 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 108-67-8 | |
| Vinyl chloride | **<1.8** | ug/L | 10.0 | 1.8 | 10 | | 09/21/16 10:56 | 75-01-4 | |
| Xylene (Total) | **<15.0** | ug/L | 30.0 | 15.0 | 10 | | 09/21/16 10:56 | 1330-20-7 | |
| m&p-Xylene | **<10.0** | ug/L | 20.0 | 10.0 | 10 | | 09/21/16 10:56 | 179601-23-1 | |
| o-Xylene | **<5.0** | ug/L | 10.0 | 5.0 | 10 | | 09/21/16 10:56 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 85 | % | 70-130 | | 10 | | 09/21/16 10:56 | 460-00-4 | |
| Dibromofluoromethane (S) | 117 | % | 70-130 | | 10 | | 09/21/16 10:56 | 1868-53-7 | |
| Toluene-d8 (S) | 92 | % | 70-130 | | 10 | | 09/21/16 10:56 | 2037-26-5 | |
| **Iron, Ferrous** | Analytical Method: HACH 8146 | | | | | | | | |
| Iron, Ferrous | **<0.028** | mg/L | 0.093 | 0.028 | 1 | | 09/21/16 10:32 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Sulfate | **144** | mg/L | 40.0 | 20.0 | 10 | | 09/27/16 00:47 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 pres.** | Analytical Method: EPA 353.2 | | | | | | | | |
| Nitrogen, NO2 plus NO3 | **0.20J** | mg/L | 0.25 | 0.095 | 1 | | 09/23/16 11:46 | | |
| **5310C TOC** | Analytical Method: SM 5310C | | | | | | | | |
| Total Organic Carbon | **1.3** | mg/L | 0.84 | 0.25 | 1 | | 09/23/16 12:36 | 7440-44-0 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: TRIP BLANK** **Lab ID: 40138497019** Collected: 09/15/16 00:00 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| Benzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 71-43-2 | |
| Bromobenzene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 15:45 | 108-86-1 | |
| Bromochloromethane | **<0.34** | ug/L | 1.0 | 0.34 | 1 | | 09/21/16 15:45 | 74-97-5 | |
| Bromodichloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 75-27-4 | |
| Bromoform | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 75-25-2 | |
| Bromomethane | **<2.4** | ug/L | 5.0 | 2.4 | 1 | | 09/21/16 15:45 | 74-83-9 | |
| n-Butylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 104-51-8 | |
| sec-Butylbenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 15:45 | 135-98-8 | |
| tert-Butylbenzene | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 15:45 | 98-06-6 | |
| Carbon tetrachloride | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 56-23-5 | |
| Chlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 108-90-7 | |
| Chloroethane | **<0.37** | ug/L | 1.0 | 0.37 | 1 | | 09/21/16 15:45 | 75-00-3 | |
| Chloroform | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 15:45 | 67-66-3 | |
| Chloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 74-87-3 | |
| 2-Chlorotoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 95-49-8 | |
| 4-Chlorotoluene | **<0.21** | ug/L | 1.0 | 0.21 | 1 | | 09/21/16 15:45 | 106-43-4 | |
| 1,2-Dibromo-3-chloropropane | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 15:45 | 96-12-8 | |
| Dibromochloromethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 15:45 | 106-93-4 | |
| Dibromomethane | **<0.43** | ug/L | 1.0 | 0.43 | 1 | | 09/21/16 15:45 | 74-95-3 | |
| 1,2-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 95-50-1 | |
| 1,3-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 541-73-1 | |
| 1,4-Dichlorobenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 106-46-7 | |
| Dichlorodifluoromethane | **<0.22** | ug/L | 1.0 | 0.22 | 1 | | 09/21/16 15:45 | 75-71-8 | |
| 1,1-Dichloroethane | **<0.24** | ug/L | 1.0 | 0.24 | 1 | | 09/21/16 15:45 | 75-34-3 | |
| 1,2-Dichloroethane | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 15:45 | 107-06-2 | |
| 1,1-Dichloroethene | **<0.41** | ug/L | 1.0 | 0.41 | 1 | | 09/21/16 15:45 | 75-35-4 | |
| cis-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 15:45 | 156-59-2 | |
| trans-1,2-Dichloroethene | **<0.26** | ug/L | 1.0 | 0.26 | 1 | | 09/21/16 15:45 | 156-60-5 | |
| 1,2-Dichloropropane | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 15:45 | 78-87-5 | |
| 1,3-Dichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 142-28-9 | |
| 2,2-Dichloropropane | **<0.48** | ug/L | 1.0 | 0.48 | 1 | | 09/21/16 15:45 | 594-20-7 | |
| 1,1-Dichloropropene | **<0.44** | ug/L | 1.0 | 0.44 | 1 | | 09/21/16 15:45 | 563-58-6 | |
| cis-1,3-Dichloropropene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 10061-01-5 | |
| trans-1,3-Dichloropropene | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 15:45 | 10061-02-6 | |
| Diisopropyl ether | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 108-20-3 | |
| Ethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 100-41-4 | |
| Hexachloro-1,3-butadiene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 15:45 | 87-68-3 | |
| Isopropylbenzene (Cumene) | **<0.14** | ug/L | 1.0 | 0.14 | 1 | | 09/21/16 15:45 | 98-82-8 | |
| p-Isopropyltoluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 99-87-6 | |
| Methylene Chloride | **<0.23** | ug/L | 1.0 | 0.23 | 1 | | 09/21/16 15:45 | 75-09-2 | |
| Methyl-tert-butyl ether | **<0.17** | ug/L | 1.0 | 0.17 | 1 | | 09/21/16 15:45 | 1634-04-4 | |
| Naphthalene | **<2.5** | ug/L | 5.0 | 2.5 | 1 | | 09/21/16 15:45 | 91-20-3 | |
| n-Propylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 103-65-1 | |
| Styrene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 15:45 | 630-20-6 | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

**Sample: TRIP BLANK** **Lab ID: 40138497019** Collected: 09/15/16 00:00 Received: 09/17/16 07:30 Matrix: Water

| Parameters | Results | Units | LOQ | LOD | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 8260 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | **<0.25** | ug/L | 1.0 | 0.25 | 1 | | 09/21/16 15:45 | 79-34-5 | |
| Tetrachloroethene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 127-18-4 | |
| Toluene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 108-88-3 | |
| 1,2,3-Trichlorobenzene | **<2.1** | ug/L | 5.0 | 2.1 | 1 | | 09/21/16 15:45 | 87-61-6 | |
| 1,2,4-Trichlorobenzene | **<2.2** | ug/L | 5.0 | 2.2 | 1 | | 09/21/16 15:45 | 120-82-1 | |
| 1,1,1-Trichloroethane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 71-55-6 | |
| 1,1,2-Trichloroethane | **<0.20** | ug/L | 1.0 | 0.20 | 1 | | 09/21/16 15:45 | 79-00-5 | |
| Trichloroethene | **<0.33** | ug/L | 1.0 | 0.33 | 1 | | 09/21/16 15:45 | 79-01-6 | |
| Trichlorofluoromethane | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 15:45 | 75-69-4 | |
| 1,2,3-Trichloropropane | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 96-18-4 | |
| 1,2,4-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 108-67-8 | |
| Vinyl chloride | **<0.18** | ug/L | 1.0 | 0.18 | 1 | | 09/21/16 15:45 | 75-01-4 | |
| Xylene (Total) | **<1.5** | ug/L | 3.0 | 1.5 | 1 | | 09/21/16 15:45 | 1330-20-7 | |
| m&p-Xylene | **<1.0** | ug/L | 2.0 | 1.0 | 1 | | 09/21/16 15:45 | 179601-23-1 | |
| o-Xylene | **<0.50** | ug/L | 1.0 | 0.50 | 1 | | 09/21/16 15:45 | 95-47-6 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 86 | % | 70-130 | | 1 | | 09/21/16 15:45 | 460-00-4 | |
| Dibromofluoromethane (S) | 108 | % | 70-130 | | 1 | | 09/21/16 15:45 | 1868-53-7 | |
| Toluene-d8 (S) | 106 | % | 70-130 | | 1 | | 09/21/16 15:45 | 2037-26-5 | |

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

QC Batch: 235707 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 8015B Modified Analysis Description: Methane, Ethane, Ethene GCV
Associated Lab Samples: 40138497017, 40138497018

METHOD BLANK: 1397414 Matrix: Water
Associated Lab Samples: 40138497017, 40138497018

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Ethane | ug/L | <0.58 | 5.6 | 09/22/16 12:25 | |
| Ethene | ug/L | <0.52 | 5.0 | 09/22/16 12:25 | |
| Methane | ug/L | <1.4 | 2.8 | 09/22/16 12:25 | |

LABORATORY CONTROL SAMPLE & LCSD: 1397415 1397416

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Ethane | ug/L | 53.6 | 52.4 | 52.3 | 98 | 98 | 76-120 | 0 | 20 | |
| Ethene | ug/L | 50 | 48.7 | 48.4 | 97 | 97 | 75-120 | 1 | 20 | |
| Methane | ug/L | 28.6 | 27.0 | 26.7 | 94 | 93 | 73-122 | 1 | 20 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1397916 1397917

| Parameter | Units | 40138497017 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethane | ug/L | <0.58 | 53.6 | 53.6 | 49.0 | 50.0 | 91 | 93 | 73-120 | 2 | 20 | |
| Ethene | ug/L | <0.52 | 50 | 50 | 45.6 | 46.6 | 91 | 93 | 72-120 | 2 | 20 | |
| Methane | ug/L | <1.4 | 28.6 | 28.6 | 24.7 | 25.4 | 87 | 89 | 15-187 | 3 | 20 | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

QC Batch: 235685 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40138497017, 40138497018

METHOD BLANK: 1397038 Matrix: Water
Associated Lab Samples: 40138497017, 40138497018

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Iron, Dissolved | ug/L | <12.9 | 100 | 09/22/16 12:51 | |

LABORATORY CONTROL SAMPLE: 1397039

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Iron, Dissolved | ug/L | 5000 | 4860 | 97 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1397040 1397041

| Parameter | Units | 40138490030 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron, Dissolved | ug/L | 289 | 5000 | 5000 | 5130 | 5160 | 97 | 97 | 75-125 | 1 | 20 | |

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## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

QC Batch: 235351 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40138497001, 40138497002, 40138497003, 40138497004, 40138497005, 40138497006, 40138497007, 40138497008, 40138497009, 40138497010, 40138497011, 40138497012, 40138497013, 40138497014, 40138497015, 40138497016, 40138497017, 40138497018, 40138497019

METHOD BLANK: 1394992 Matrix: Water
Associated Lab Samples: 40138497001, 40138497002, 40138497003, 40138497004, 40138497005, 40138497006, 40138497007, 40138497008, 40138497009, 40138497010, 40138497011, 40138497012, 40138497013, 40138497014, 40138497015, 40138497016, 40138497017, 40138497018, 40138497019

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/L | <0.18 | 1.0 | 09/21/16 06:48 | |
| 1,1,1-Trichloroethane | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| 1,1,2,2-Tetrachloroethane | ug/L | <0.25 | 1.0 | 09/21/16 06:48 | |
| 1,1,2-Trichloroethane | ug/L | <0.20 | 1.0 | 09/21/16 06:48 | |
| 1,1-Dichloroethane | ug/L | <0.24 | 1.0 | 09/21/16 06:48 | |
| 1,1-Dichloroethene | ug/L | <0.41 | 1.0 | 09/21/16 06:48 | |
| 1,1-Dichloropropene | ug/L | <0.44 | 1.0 | 09/21/16 06:48 | |
| 1,2,3-Trichlorobenzene | ug/L | <2.1 | 5.0 | 09/21/16 06:48 | |
| 1,2,3-Trichloropropane | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| 1,2,4-Trichlorobenzene | ug/L | <2.2 | 5.0 | 09/21/16 06:48 | |
| 1,2,4-Trimethylbenzene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| 1,2-Dibromo-3-chloropropane | ug/L | <2.2 | 5.0 | 09/21/16 06:48 | |
| 1,2-Dibromoethane (EDB) | ug/L | <0.18 | 1.0 | 09/21/16 06:48 | |
| 1,2-Dichlorobenzene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| 1,2-Dichloroethane | ug/L | <0.17 | 1.0 | 09/21/16 06:48 | |
| 1,2-Dichloropropane | ug/L | <0.23 | 1.0 | 09/21/16 06:48 | |
| 1,3,5-Trimethylbenzene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| 1,3-Dichlorobenzene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| 1,3-Dichloropropane | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| 1,4-Dichlorobenzene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| 2,2-Dichloropropane | ug/L | <0.48 | 1.0 | 09/21/16 06:48 | |
| 2-Chlorotoluene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| 4-Chlorotoluene | ug/L | <0.21 | 1.0 | 09/21/16 06:48 | |
| Benzene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| Bromobenzene | ug/L | <0.23 | 1.0 | 09/21/16 06:48 | |
| Bromochloromethane | ug/L | <0.34 | 1.0 | 09/21/16 06:48 | |
| Bromodichloromethane | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| Bromoform | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| Bromomethane | ug/L | <2.4 | 5.0 | 09/21/16 06:48 | |
| Carbon tetrachloride | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| Chlorobenzene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| Chloroethane | ug/L | <0.37 | 1.0 | 09/21/16 06:48 | |
| Chloroform | ug/L | <2.5 | 5.0 | 09/21/16 06:48 | |
| Chloromethane | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| cis-1,2-Dichloroethene | ug/L | <0.26 | 1.0 | 09/21/16 06:48 | |
| cis-1,3-Dichloropropene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| Dibromochloromethane | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| Dibromomethane | ug/L | <0.43 | 1.0 | 09/21/16 06:48 | |

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## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

METHOD BLANK: 1394992 Matrix: Water

Associated Lab Samples: 40138497001, 40138497002, 40138497003, 40138497004, 40138497005, 40138497006, 40138497007, 40138497008, 40138497009, 40138497010, 40138497011, 40138497012, 40138497013, 40138497014, 40138497015, 40138497016, 40138497017, 40138497018, 40138497019

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | ug/L | <0.22 | 1.0 | 09/21/16 06:48 | |
| Diisopropyl ether | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| Ethylbenzene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| Hexachloro-1,3-butadiene | ug/L | <2.1 | 5.0 | 09/21/16 06:48 | |
| Isopropylbenzene (Cumene) | ug/L | <0.14 | 1.0 | 09/21/16 06:48 | |
| m&p-Xylene | ug/L | <1.0 | 2.0 | 09/21/16 06:48 | |
| Methyl-tert-butyl ether | ug/L | <0.17 | 1.0 | 09/21/16 06:48 | |
| Methylene Chloride | ug/L | <0.23 | 1.0 | 09/21/16 06:48 | |
| n-Butylbenzene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| n-Propylbenzene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| Naphthalene | ug/L | <2.5 | 5.0 | 09/21/16 06:48 | |
| o-Xylene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| p-Isopropyltoluene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| sec-Butylbenzene | ug/L | <2.2 | 5.0 | 09/21/16 06:48 | |
| Styrene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| tert-Butylbenzene | ug/L | <0.18 | 1.0 | 09/21/16 06:48 | |
| Tetrachloroethene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| Toluene | ug/L | <0.50 | 1.0 | 09/21/16 06:48 | |
| trans-1,2-Dichloroethene | ug/L | <0.26 | 1.0 | 09/21/16 06:48 | |
| trans-1,3-Dichloropropene | ug/L | <0.23 | 1.0 | 09/21/16 06:48 | |
| Trichloroethene | ug/L | <0.33 | 1.0 | 09/21/16 06:48 | |
| Trichlorofluoromethane | ug/L | <0.18 | 1.0 | 09/21/16 06:48 | |
| Vinyl chloride | ug/L | <0.18 | 1.0 | 09/21/16 06:48 | |
| Xylene (Total) | ug/L | <1.5 | 3.0 | 09/21/16 06:48 | |
| 4-Bromofluorobenzene (S) | % | 92 | 70-130 | 09/21/16 06:48 | |
| Dibromofluoromethane (S) | % | 115 | 70-130 | 09/21/16 06:48 | |
| Toluene-d8 (S) | % | 96 | 70-130 | 09/21/16 06:48 | |

LABORATORY CONTROL SAMPLE: 1394993

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/L | 50 | 60.5 | 121 | 70-131 | |
| 1,1,2,2-Tetrachloroethane | ug/L | 50 | 48.3 | 97 | 67-130 | |
| 1,1,2-Trichloroethane | ug/L | 50 | 50.2 | 100 | 70-130 | |
| 1,1-Dichloroethane | ug/L | 50 | 63.2 | 126 | 70-133 | |
| 1,1-Dichloroethene | ug/L | 50 | 52.9 | 106 | 70-130 | |
| 1,2,4-Trichlorobenzene | ug/L | 50 | 39.3 | 79 | 70-130 | |
| 1,2-Dibromo-3-chloropropane | ug/L | 50 | 45.1 | 90 | 50-150 | |
| 1,2-Dibromoethane (EDB) | ug/L | 50 | 47.8 | 96 | 70-130 | |
| 1,2-Dichlorobenzene | ug/L | 50 | 47.4 | 95 | 70-130 | |
| 1,2-Dichloroethane | ug/L | 50 | 63.7 | 127 | 70-130 | |
| 1,2-Dichloropropane | ug/L | 50 | 55.0 | 110 | 70-130 | |

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## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

LABORATORY CONTROL SAMPLE: 1394993

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,3-Dichlorobenzene | ug/L | 50 | 45.6 | 91 | 70-130 | |
| 1,4-Dichlorobenzene | ug/L | 50 | 45.7 | 91 | 70-130 | |
| Benzene | ug/L | 50 | 65.0 | 130 | 60-135 | |
| Bromodichloromethane | ug/L | 50 | 57.0 | 114 | 70-130 | |
| Bromoform | ug/L | 50 | 44.3 | 89 | 70-130 | |
| Bromomethane | ug/L | 50 | 48.9 | 98 | 33-130 | |
| Carbon tetrachloride | ug/L | 50 | 56.2 | 112 | 70-138 | |
| Chlorobenzene | ug/L | 50 | 49.5 | 99 | 70-130 | |
| Chloroethane | ug/L | 50 | 53.0 | 106 | 51-130 | |
| Chloroform | ug/L | 50 | 61.0 | 122 | 70-130 | |
| Chloromethane | ug/L | 50 | 47.1 | 94 | 25-132 | |
| cis-1,2-Dichloroethene | ug/L | 50 | 59.1 | 118 | 69-130 | |
| cis-1,3-Dichloropropene | ug/L | 50 | 54.1 | 108 | 70-130 | |
| Dibromochloromethane | ug/L | 50 | 49.9 | 100 | 70-130 | |
| Dichlorodifluoromethane | ug/L | 50 | 54.0 | 108 | 23-130 | |
| Ethylbenzene | ug/L | 50 | 51.4 | 103 | 70-136 | |
| Isopropylbenzene (Cumene) | ug/L | 50 | 53.0 | 106 | 70-140 | |
| m&p-Xylene | ug/L | 100 | 104 | 104 | 70-138 | |
| Methyl-tert-butyl ether | ug/L | 50 | 62.8 | 126 | 66-138 | |
| Methylene Chloride | ug/L | 50 | 56.8 | 114 | 70-130 | |
| o-Xylene | ug/L | 50 | 48.7 | 97 | 70-134 | |
| Styrene | ug/L | 50 | 53.2 | 106 | 70-133 | |
| Tetrachloroethene | ug/L | 50 | 43.9 | 88 | 70-138 | |
| Toluene | ug/L | 50 | 50.1 | 100 | 70-130 | |
| trans-1,2-Dichloroethene | ug/L | 50 | 57.5 | 115 | 70-131 | |
| trans-1,3-Dichloropropene | ug/L | 50 | 48.4 | 97 | 69-130 | |
| Trichloroethene | ug/L | 50 | 53.7 | 107 | 70-130 | |
| Trichlorofluoromethane | ug/L | 50 | 58.3 | 117 | 50-150 | |
| Vinyl chloride | ug/L | 50 | 59.4 | 119 | 49-130 | |
| Xylene (Total) | ug/L | 150 | 153 | 102 | 70-135 | |
| 4-Bromofluorobenzene (S) | % | | | 101 | 70-130 | |
| Dibromofluoromethane (S) | % | | | 117 | 70-130 | |
| Toluene-d8 (S) | % | | | 95 | 70-130 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396011 1396012

| Parameter | Units | 40138497001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/L | <0.50 | 125 | 125 | 142 | 157 | 114 | 125 | 70-134 | 9 | 20 | |
| 1,1,2,2-Tetrachloroethane | ug/L | <0.25 | 125 | 125 | 117 | 121 | 93 | 96 | 67-130 | 3 | 20 | |
| 1,1,2-Trichloroethane | ug/L | <0.20 | 125 | 125 | 114 | 124 | 92 | 99 | 70-130 | 8 | 20 | |
| 1,1-Dichloroethane | ug/L | <0.24 | 125 | 125 | 156 | 166 | 125 | 133 | 70-134 | 7 | 20 | |
| 1,1-Dichloroethene | ug/L | <0.41 | 125 | 125 | 128 | 141 | 103 | 112 | 68-136 | 9 | 20 | |
| 1,2,4-Trichlorobenzene | ug/L | <2.2 | 125 | 125 | 100 | 108 | 80 | 86 | 62-139 | 7 | 20 | |

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## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, Inc.**
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Green Bay, WI 54302
(920)469-2436

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396011 1396012

| Parameter | Units | 40138497001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | ug/L | <2.2 | 125 | 125 | 101 | 105 | 81 | 84 | 50-150 | 4 | 20 | |
| 1,2-Dibromoethane (EDB) | ug/L | <0.18 | 125 | 125 | 111 | 116 | 89 | 93 | 70-130 | 4 | 20 | |
| 1,2-Dichlorobenzene | ug/L | <0.50 | 125 | 125 | 115 | 119 | 92 | 95 | 70-130 | 4 | 20 | |
| 1,2-Dichloroethane | ug/L | <0.17 | 125 | 125 | 156 | 163 | 125 | 130 | 70-130 | 4 | 20 | |
| 1,2-Dichloropropane | ug/L | <0.23 | 125 | 125 | 135 | 137 | 108 | 110 | 70-130 | 2 | 20 | |
| 1,3-Dichlorobenzene | ug/L | <0.50 | 125 | 125 | 109 | 115 | 87 | 92 | 70-131 | 5 | 20 | |
| 1,4-Dichlorobenzene | ug/L | <0.50 | 125 | 125 | 114 | 120 | 91 | 96 | 70-130 | 5 | 20 | |
| Benzene | ug/L | <0.50 | 125 | 125 | 153 | 170 | 123 | 136 | 57-138 | 10 | 20 | |
| Bromodichloromethane | ug/L | <0.50 | 125 | 125 | 133 | 139 | 107 | 111 | 70-130 | 4 | 20 | |
| Bromoform | ug/L | <0.50 | 125 | 125 | 102 | 104 | 82 | 83 | 70-130 | 2 | 20 | |
| Bromomethane | ug/L | <2.4 | 125 | 125 | 120 | 127 | 96 | 102 | 33-130 | 6 | 27 | |
| Carbon tetrachloride | ug/L | <0.50 | 125 | 125 | 136 | 151 | 109 | 121 | 70-138 | 11 | 20 | |
| Chlorobenzene | ug/L | <0.50 | 125 | 125 | 116 | 123 | 93 | 98 | 70-130 | 6 | 20 | |
| Chloroethane | ug/L | <0.37 | 125 | 125 | 121 | 132 | 97 | 106 | 51-130 | 9 | 20 | |
| Chloroform | ug/L | <2.5 | 125 | 125 | 148 | 166 | 119 | 133 | 70-130 | 11 | 20 | M1 |
| Chloromethane | ug/L | <0.50 | 125 | 125 | 116 | 125 | 92 | 100 | 25-132 | 8 | 20 | |
| cis-1,2-Dichloroethene | ug/L | <0.26 | 125 | 125 | 139 | 156 | 111 | 125 | 61-140 | 11 | 20 | |
| cis-1,3-Dichloropropene | ug/L | <0.50 | 125 | 125 | 132 | 135 | 105 | 108 | 70-130 | 3 | 20 | |
| Dibromochloromethane | ug/L | <0.50 | 125 | 125 | 113 | 121 | 90 | 97 | 70-130 | 7 | 20 | |
| Dichlorodifluoromethane | ug/L | <0.22 | 125 | 125 | 132 | 141 | 105 | 112 | 23-130 | 7 | 20 | |
| Ethylbenzene | ug/L | <0.50 | 125 | 125 | 120 | 128 | 96 | 102 | 70-138 | 7 | 20 | |
| Isopropylbenzene (Cumene) | ug/L | <0.14 | 125 | 125 | 121 | 131 | 97 | 105 | 70-152 | 8 | 20 | |
| m&p-Xylene | ug/L | <1.0 | 250 | 250 | 247 | 259 | 99 | 104 | 70-140 | 5 | 20 | |
| Methyl-tert-butyl ether | ug/L | <0.17 | 125 | 125 | 148 | 161 | 118 | 129 | 66-139 | 9 | 20 | |
| Methylene Chloride | ug/L | <0.23 | 125 | 125 | 135 | 148 | 108 | 118 | 70-130 | 9 | 20 | |
| o-Xylene | ug/L | <0.50 | 125 | 125 | 115 | 124 | 92 | 99 | 70-134 | 7 | 20 | |
| Styrene | ug/L | <0.50 | 125 | 125 | 122 | 130 | 97 | 104 | 70-138 | 7 | 20 | |
| Tetrachloroethene | ug/L | 0.88J | 125 | 125 | 103 | 111 | 82 | 88 | 70-148 | 8 | 20 | |
| Toluene | ug/L | <0.50 | 125 | 125 | 116 | 123 | 93 | 98 | 70-130 | 6 | 20 | |
| trans-1,2-Dichloroethene | ug/L | <0.26 | 125 | 125 | 137 | 151 | 109 | 120 | 70-133 | 10 | 20 | |
| trans-1,3-Dichloropropene | ug/L | <0.23 | 125 | 125 | 108 | 118 | 86 | 94 | 69-130 | 9 | 20 | |
| Trichloroethene | ug/L | <0.33 | 125 | 125 | 129 | 136 | 103 | 109 | 70-131 | 5 | 20 | |
| Trichlorofluoromethane | ug/L | <0.18 | 125 | 125 | 141 | 158 | 113 | 126 | 50-150 | 12 | 20 | |
| Vinyl chloride | ug/L | <0.18 | 125 | 125 | 140 | 150 | 112 | 120 | 49-133 | 7 | 20 | |
| Xylene (Total) | ug/L | <1.5 | 375 | 375 | 362 | 383 | 96 | 102 | 70-135 | 6 | 20 | |
| 4-Bromofluorobenzene (S) | % | | | | | | 99 | 98 | 70-130 | | | |
| Dibromofluoromethane (S) | % | | | | | | 117 | 117 | 70-130 | | | |
| Toluene-d8 (S) | % | | | | | | 91 | 91 | 70-130 | | | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

QC Batch: 235553 Analysis Method: HACH 8146
QC Batch Method: HACH 8146 Analysis Description: Iron, Ferrous
Associated Lab Samples: 40138497017, 40138497018

METHOD BLANK: 1396128 Matrix: Water
Associated Lab Samples: 40138497017, 40138497018

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Iron, Ferrous | mg/L | <0.028 | 0.093 | 09/21/16 10:25 | |

LABORATORY CONTROL SAMPLE: 1396129

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Iron, Ferrous | mg/L | .6 | 0.62 | 104 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396130 1396131

| Parameter | Units | 40138497017 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron, Ferrous | mg/L | <0.028 | .6 | .6 | 0.90 | 0.87 | 151 | 144 | 80-120 | 4 | 20 | M0 |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

QC Batch: 235570 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40138497017, 40138497018

METHOD BLANK: 1396278 Matrix: Water
Associated Lab Samples: 40138497017, 40138497018

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Sulfate | mg/L | <2.0 | 4.0 | 09/26/16 10:31 | |

LABORATORY CONTROL SAMPLE: 1396279

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Sulfate | mg/L | 20 | 19.7 | 99 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396280 1396281

| Parameter | Units | 40138569002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | mg/L | 228 | 400 | 400 | 637 | 637 | 102 | 102 | 90-110 | 0 | 15 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396282 1396283

| Parameter | Units | 40138562004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | mg/L | 15.4 | 20 | 20 | 37.1 | 37.7 | 108 | 111 | 90-110 | 2 | 15 | M0 |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

QC Batch: 235901 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 40138497017, 40138497018

METHOD BLANK: 1398598 Matrix: Water
Associated Lab Samples: 40138497017, 40138497018

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Nitrogen, NO2 plus NO3 | mg/L | <0.095 | 0.25 | 09/23/16 11:06 | |

LABORATORY CONTROL SAMPLE: 1398599

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Nitrogen, NO2 plus NO3 | mg/L | 2.5 | 2.7 | 110 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398600 1398601

| Parameter | Units | 40138620004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, NO2 plus NO3 | mg/L | <0.095 | 2.5 | 2.5 | 2.8 | 2.5 | 111 | 100 | 90-110 | 10 | 20 | M0 |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398602 1398603

| Parameter | Units | 40138497018 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, NO2 plus NO3 | mg/L | 0.20J | 2.5 | 2.5 | 2.7 | 2.8 | 102 | 102 | 90-110 | 1 | 20 | |

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

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

QC Batch: 235878 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Associated Lab Samples: 40138497017, 40138497018

METHOD BLANK: 1398442 Matrix: Water
Associated Lab Samples: 40138497017, 40138497018

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Organic Carbon | mg/L | <0.25 | 0.84 | 09/23/16 11:02 | |

LABORATORY CONTROL SAMPLE: 1398443

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Organic Carbon | mg/L | 2.5 | 2.6 | 104 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398444 1398445

| Parameter | Units | 40138497017 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | mg/L | 2.1 | 1 | 1 | 3.2 | 3.2 | 113 | 114 | 80-120 | 0 | 10 | |

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

## REPORT OF LABORATORY ANALYSIS

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

# QUALIFIERS

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

## DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

## LABORATORIES

| | |
|---|---|
| PASI-G | Pace Analytical Services - Green Bay |

## ANALYTE QUALIFIERS

| | |
|---|---|
| H6 | Analysis initiated outside of the 15 minute EPA required holding time. |
| M0 | Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits. |
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |

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

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 21-41301A EXPRESS CLEANERS
Pace Project No.: 40138497

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **40138497017** | **MW-8** | EPA 8015B Modified | 235707 | | |
| **40138497018** | **MW-3** | EPA 8015B Modified | 235707 | | |
| **40138497017** | **MW-8** | EPA 6010 | 235685 | | |
| **40138497018** | **MW-3** | EPA 6010 | 235685 | | |
| **40138497001** | **MW-9** | EPA 8260 | 235351 | | |
| **40138497002** | **MW-14** | EPA 8260 | 235351 | | |
| **40138497003** | **MW-14 DUP** | EPA 8260 | 235351 | | |
| **40138497004** | **MW-4** | EPA 8260 | 235351 | | |
| **40138497005** | **MW-2** | EPA 8260 | 235351 | | |
| **40138497006** | **MW-15** | EPA 8260 | 235351 | | |
| **40138497007** | **PZ-1** | EPA 8260 | 235351 | | |
| **40138497008** | **MW-1** | EPA 8260 | 235351 | | |
| **40138497009** | **MW-7** | EPA 8260 | 235351 | | |
| **40138497010** | **MW-12** | EPA 8260 | 235351 | | |
| **40138497011** | **MW-11** | EPA 8260 | 235351 | | |
| **40138497012** | **MW-11 DUP** | EPA 8260 | 235351 | | |
| **40138497013** | **MW-13** | EPA 8260 | 235351 | | |
| **40138497014** | **MW-6** | EPA 8260 | 235351 | | |
| **40138497015** | **MW-5** | EPA 8260 | 235351 | | |
| **40138497016** | **MW-10** | EPA 8260 | 235351 | | |
| **40138497017** | **MW-8** | EPA 8260 | 235351 | | |
| **40138497018** | **MW-3** | EPA 8260 | 235351 | | |
| **40138497019** | **TRIP BLANK** | EPA 8260 | 235351 | | |
| **40138497017** | **MW-8** | HACH 8146 | 235553 | | |
| **40138497018** | **MW-3** | HACH 8146 | 235553 | | |
| **40138497017** | **MW-8** | EPA 300.0 | 235570 | | |
| **40138497018** | **MW-3** | EPA 300.0 | 235570 | | |
| **40138497017** | **MW-8** | EPA 353.2 | 235901 | | |
| **40138497018** | **MW-3** | EPA 353.2 | 235901 | | |
| **40138497017** | **MW-8** | SM 5310C | 235878 | | |
| **40138497018** | **MW-3** | SM 5310C | 235878 | | |

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www.pacelabs.com

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

# CHAIN OF CUSTODY

40138497

| (Please Print Clearly) | |
|---|---|
| Company Name: | Ramboll Environ |
| Branch/Location: | Milwaukee |
| Project Contact: | Jeanne Tarvin |
| Phone: | 262-901-0085 |
| Project Number: | 21-41301A |
| Project Name: | Express Cleaners |
| Project State: | WI |
| Sampled By (Print): | Jonathan Fuqua |
| Sampled By (Sign): | |
| PO #: | Regulatory Program: |

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

| Quote #: | |
|---|---|
| Mail To Contact: | |
| Mail To Company: | |
| Mail To Address: | |
| Invoice To Contact: | Jeanne Tarvin |
| Invoice To Company: | Ramboll Environ |
| Invoice To Address: | 175 N Corporate Dr Suite 160 Brookfield, WI 53045 |
| Invoice To Phone: | 262-901-0085 |

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

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

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

| PACE LAB # | CLIENT FIELD ID | COLLECTION DATE | COLLECTION TIME | MATRIX | FILTERED? (YES/NO) Y/N | PRESERVATION (CODE)* Pick Letter | Analyses Requested: VOCs (8260) | CLIENT COMMENTS | LAB COMMENTS (Lab Use Only) | Profile # |
|---|---|---|---|---|---|---|---|---|---|---|
| 001 | MW-9 | 9/14/16 | 1258 | GW | N | B | X | | 3-40mlvB | |
| 002 | MW-14 | 9/14/16 | 1350 | | | | | | | |
| 003 | MW-14 DUP | 9/14/16 | 1353 | | | | | | | |
| 004 | MW-4 | 9/14/16 | 1435 | | | | | | | |
| 005 | MW-2 | 9/14/16 | 1525 | | | | | | | |
| 006 | MW-15 | 9/14/16 | 1605 | | | | | | | |
| 007 | PZ-1 | 9/15/16 | 0925 | | | | | | | |
| 008 | MW-1 | | 1005 | | | | | | | |
| 009 | MW-7 | | 1050 | | | | | | | |
| 010 | MW-12 | | 1135 | | | | | | | |
| 011 | MW-11 | | 1215 | | | | | | | |
| 012 | MW-11 DUP | | 1218 | | | | | | | |
| 013 | MW-13 | | 1300 | | | | | | | |

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed: 10-DAY

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

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

| Relinquished By: | Date/Time: | Received By: | Date/Time: |
|---|---|---|---|
| | 9-16-16 1400 | Mary Fannin | 9/16/16 1400 |
| Mary Fannin | 9/16/16 1600 | | |
| CS Logistics | 9/17/16 0730 | Zak Johnson Pace | 9/17/16 0730 |
| | | | |
| | | | |

PACE Project No.: 40138497

Receipt Temp = R01 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal: Present / Not Present; Intact / Not Intact

Version 4.0 06/14/06

C019a(27Jun2006)

ORIGINAL

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

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# CHAIN OF CUSTODY

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

| (Please Print Clearly) | |
|---|---|
| Company Name: | Ramboll Environ |
| Branch/Location: | Milwaukee |
| Project Contact: | Jeanne Tarvin |
| Phone: | 262-901-0085 |
| Project Number: | 21-43301A |
| Project Name: | Express Cleaners |
| Project State: | WI |
| Sampled By (Print): | Jonathan Fuqua |
| Sampled By (Sign): | |
| PO #: | Regulatory Program: |

| Quote #: | |
|---|---|
| Mail To Contact: | |
| Mail To Company: | |
| Mail To Address: | |
| Invoice To Contact: | Jeanne Tarvin |
| Invoice To Company: | Ramboll Environ |
| Invoice To Address: | 175 N Corporate Dr Suite 160 Brookfield, WI 53045 |
| Invoice To Phone: | 262-901-0085 |

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

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

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

| PACE LAB # | CLIENT FIELD ID | COLLECTION DATE | COLLECTION TIME | MATRIX | FILTERED? (YES/NO) Y/N | PRESERVATION (CODE)* Pick Letter | VOCs (8260) | Ethene, Ethane, Methane (8015) | Dissolved Iron (8146) | Total organic Carbon (5310) | Sulfate (300) | $NO_2 + NO_3$ (353.2) | CLIENT COMMENTS | LAB COMMENTS (Lab Use Only) | Profile # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | N | B | X | | | | | | | 3-40mlVB | |
| 014 | MW-6 | 9/15/16 | 1340 | GW | | | | | | | | | | | |
| 015 | MW-5 | | 1510 | | | | | | | | | | | | |
| 016 | MW-10 | | 1550 | | | | | | | | | | | | |
| 017 | MW-8 | | 1645 | | N | D | | X | X | X | X | X | | 1a-40mlVB 1-125mlbg 3-250mlP | FCD |
| 018 | MW-3 | | 1745 | | | | | X | X | X | X | X | | | |
| 019 | TRIP BLANK | | | | N | B | X | | | | | | | 2-40mlVB | |

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed: 10-DAY

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

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

| Relinquished By: | Date/Time: | Received By: | Date/Time: |
|---|---|---|---|
| | 9-16-16 1400 | Mary Fannin | 9/16/16 1400 |
| Mary Fannin | 9/16/16 1600 | | |
| GLS Logistics | 9/17/16 0730 | | |
| | | | |
| | | | |

PACE Project No.: 40138497
Receipt Temp = R01 °C
Sample Receipt pH OK / Adjusted
Cooler Custody Seal: (Present) / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

# Sample Condition Upon Receipt

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

Project #: WO#: 40138497

**Client Name:** Ramboll

**Courier:** ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: CSLogistics

**Tracking #:**

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

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

**Packing Material:** ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other

**Thermometer Used** SR-58 **Type of Ice:** Wet Blue Dry None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** Uncorr: 4.5 /Corr: 5.5 **Biological Tissue is Frozen:** ☐ yes ☐ no

**Temp Blank Present:** ☐ yes ☐ no

Person examining contents:
Date: 9/19/16
Initials: CAS

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| - VOA Samples frozen upon receipt | ☐Yes ☐No | Date/Time: |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| -Pace IR Containers Used: | ☐Yes ☐No ☑N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: W | | |
| All containers needing preservation have been checked. (Non-Compliance noted in 13.) | ☑Yes ☐No ☐N/A | 13. ☐ HNO3 ☑ H2SO4 ☐ NaOH ☐ NaOH +ZnAct |
| All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12) | ☑Yes ☐No ☐N/A | |
| exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER: | ☑Yes ☐No | Initial when completed: CAS / Lab Std #ID of preservative / Date/ Time: |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☑No ☐N/A | 14. |
| Trip Blank Present: | ☑Yes ☐No ☐N/A | 15. |
| Trip Blank Custody Seals Present | ☑Yes ☐No ☐N/A | |
| Pace Trip Blank Lot # (if purchased): 369 | | |

**Client Notification/ Resolution:** If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

**Project Manager Review:** **Date:** 9/19/16