January 9, 2020

Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, Wisconsin 54313

Attention: Ms. Josie Schultz
Phone: 920.662.5424
Email: Josie.Schultz@wisconsin.gov

Re: **Technical Review Request: Supplemental Site Investigation and Remedial Action Plan Report**
Smoke-Out Cleaners
1631 Brookfield Avenue, Unit D-4
Howard, Wisconsin
BRRTS #02-05-552214
Terracon Project No. 58187103

Dear Ms. Schultz:

On behalf of Smoke-Out Cleaners, LTD (Smokeout), Terracon Consultants, Inc. (Terracon) is submitting the following enclosed documents for technical review:

- Technical Assistance Request (Form 4400-237)
- *Supplemental Site Investigation and Remedial Action Plan Report,* dated January 7, 2020
- A Wisconsin Pollution Discharge Elimination System (WPDES Permit) Application (as an Appendix to the aforementioned report)

These items have been uploaded on the RR Submittal Portal and a hard copy is being mailed to you.

A Technical Review Fee check for $1,050 is being sent under separate cover to the Northeast Region RR Program Associate, Denise Danelski.

If you have any questions or require additional information, please contact me at Scott.Hodgson@terracon.com or by phone at (414) 423-0255 (direct line 414-209-7640).

Sincerely,

Terracon

Scott A. Hodgson, P.G.
Senior Geologist

Copy to: Mark Woppert-Smoke-Out Cleaners, Ltd
Don Gallo-Axley Brynelson, LLP
Chris Dockry-Team Bay, LLC

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State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request

Notice: Use this form to request **a written response (on agency letterhead)** from the Department of Natural Resources (DNR) regarding technical assistance, a post-closure change to a site, a specialized agreement or liability clarification for Property with known or suspected environmental contamination. A fee will be required as is authorized by s. 292.55, Wis. Stats., and NR 749, Wis. Adm. Code., unless noted in the instructions below. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31 - 19.39, Wis. Stats.].

Definitions

"Property" refers to the subject Property that is perceived to have been or has been impacted by the discharge of hazardous substances.

"Liability Clarification" refers to a written determination by the Department provided in response to a request made on this form. The response clarifies whether a person is or may become liable for the environmental contamination of a Property, as provided in s. 292.55, Wis. Stats.

"Technical Assistance" refers to the Department's assistance or comments on the planning and implementation of an environmental investigation or environmental cleanup on a Property in response to a request made on this form as provided in s. 292.55, Wis. Stats.

"Post-closure modification" refers to changes to Property boundaries and/or continuing obligations for Properties or sites that received closure letters for which continuing obligations have been applied or where contamination remains. Many, but not all, of these sites are included on the GIS Registry layer of RR Sites Map to provide public notice of residual contamination and continuing obligations.

Select the Correct Form

This from should be used to request the following from the DNR:

- Technical Assistance
- Liability Clarification
- Post-Closure Modifications
- Specialized Agreements (tax cancellation, negotiated agreements, etc.)

Do not use this form if one of the following applies:

- Request for an **off-site liability exemption or clarification** for Property that has been or is perceived to be contaminated by one or more hazardous substances that originated on another Property containing the source of the contamination. Use DNR's Off-Site Liability Exemption and Liability Clarification Application Form 4400-201.
- Submittal of an Environmental Assessment for the **Lender Liability Exemption**, s 292.21, Wis. Stats., **if no response or review by DNR is requested**. Use the Lender Liability Exemption Environmental Assessment Tracking Form 4400-196.
- Request for an **exemption to develop on a historic fill site** or licensed landfill. Use DNR's Form 4400-226 or 4400-226A.
- **Request for closure** for Property where the investigation and cleanup actions are completed. Use DNR's Case Closure - GIS Registry Form 4400-202.

All forms, publications and additional information are available on the internet at: dnr.wi.gov/topic/Brownfields/Pubs.html.

Instructions

1. Complete sections 1, 2, 6 and 7 for all requests. Be sure to provide adequate and complete information.
2. Select the type of assistance requested: Section 3 for technical assistance or post-closure modifications, Section 4 for a written determination or clarification of environmental liabilities; or Section 5 for a specialized agreement.
3. Include the fee payment that is listed in Section 3, 4, or 5, unless you are a "Voluntary Party" enrolled in the Voluntary Party Liability Exemption Program **and** the questions in Section 2 direct otherwise. Information on to whom and where to send the fee is found in Section 8 of this form.
4. Send the completed request, supporting materials and the fee to the appropriate DNR regional office where the Property is located. See the map on the last page of this form. A paper copy of the signed form and all reports and supporting materials shall be sent with an electronic copy of the form and supporting materials on a compact disk. For electronic document submittal requirements see: http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf"

The time required for DNR's determination varies depending on the complexity of the site, and the clarity and completeness of the request and supporting documentation.

Section 1. Contact and Recipient Information

Requester Information

This is the person requesting technical assistance or a post-closure modification review, that his or her liability be clarified or a specialized agreement and is identified as the requester in Section 7. DNR will address its response letter to this person.

Last Name	First	MI	Organization/ Business Name		
Woppert	Mark		Smoke-Out Cleaners, LTD		
Mailing Address			City	State	ZIP Code
535 Half Mile Road			Verona	WI	53593
Phone # (include area code)	Fax # (include area code)		Email		
(608) 438-1746			mark.woppert@smoke-out.net		

The requester listed above: (select all that apply)

- ☒ Is currently the owner
- ☐ Is considering selling the Property
- ☐ Is renting or leasing the Property
- ☐ Is considering acquiring the Property
- ☐ Is a lender with a mortgagee interest in the Property
- ☐ Other. Explain the status of the Property with respect to the applicant:

Contact Information (to be contacted with questions about this request)

☐ Select if same as requester

Contact Last Name	First	MI	Organization/ Business Name		
Woppert	Mark		Smoke-Out Cleaners, LTD		
Mailing Address			City	State	ZIP Code
535 Half Mile Road			Verona	WI	53593
Phone # (include area code)	Fax # (include area code)		Email		
(608) 438-1746			mark.woppert@smoke-out.net		

Environmental Consultant (if applicable)

Contact Last Name	First	MI	Organization/ Business Name		
Hodgson	Scott	A	Terracon Consultants, Inc.		
Mailing Address			City	State	ZIP Code
9856 South 57th Street			Franklin	WI	53132
Phone # (include area code)	Fax # (include area code)		Email		
(414) 209-7640			Scott.Hodgson@terracon.com		

Attorney (if applicable)

Contact Last Name	First	MI	Organization/ Business Name		
Gallo	Don		Axley Brynelson, LLP		
Mailing Address			City	State	ZIP Code
N20 W22961 Watertown Road			Waukesha	WI	53183
Phone # (include area code)	Fax # (include area code)		Email		
(262) 409-2283			dgallo@axley.com		

Property Owner (if different from requester)

Contact Last Name	First	MI	Organization/ Business Name		
Morin	Al		Allen Lee Investments, LLC		
Mailing Address			City	State	ZIP Code
1651 Brookfield Avenue, Suite A			Howard	WI	54313
Phone # (include area code)	Fax # (include area code)		Email		
(920) 680-2878			atrailside@aol.com		

2. Is the "Requester" enrolled as a Voluntary Party in the Voluntary Party Liability Exemption (VPLE) program?

◉ No. **Include the fee that is required for your request in Section 3, 4 or 5.**

◯ Yes. **Do not include a separate fee.** This request will be billed separately through the VPLE Program.

Fill out the information in Section 3, 4 or 5 which corresponds with the type of request:
Section 3. Technical Assistance or Post-Closure Modifications;
Section 4. Liability Clarification; or Section 5. Specialized Agreement.

Section 3. Request for Technical Assistance or Post-Closure Modification

Select the type of technical assistance requested: [**Numbers in brackets are for WI DNR Use]**

☐ No Further Action Letter (NFA) (Immediate Actions) - NR 708.09, [183] - **Include a fee of $350.** Use for a written response to an immediate action after a discharge of a hazardous substance occurs. Generally, these are for a one-time spill event.

☐ Review of Site Investigation Work Plan - NR 716.09, [135] - **Include a fee of $700.**

☐ Review of Site Investigation Report - NR 716.15, [137] - **Include a fee of $1050.**

☐ Approval of a Site-Specific Soil Cleanup Standard - NR 720.10 or 12, [67] - **Include a fee of $1050.**

☐ Review of a Remedial Action Options Report - NR 722.13, [143] - **Include a fee of $1050.**

☐ Review of a Remedial Action Design Report - NR 724.09, [148] - **Include a fee of $1050.**

☐ Review of a Remedial Action Documentation Report - NR 724.15, [152] - **Include a fee of $350**

☐ Review of a Long-term Monitoring Plan - NR 724.17, [25] - **Include a fee of $425.**

☐ Review of an Operation and Maintenance Plan - NR 724.13, [192] - **Include a fee of $425.**

Other Technical Assistance - s. 292.55, Wis. Stats. [97] (For request to build on an abandoned landfill use Form 4400-226)

☐ Schedule a Technical Assistance Meeting - **Include a fee of $700.**

☐ Hazardous Waste Determination - **Include a fee of $700.**

☒ Other Technical Assistance - **Include a fee of $700.** Explain your request in an attachment.

Post-Closure Modifications - NR 727, [181]

☐ Post-Closure Modifications: Modification to Property boundaries and/or continuing obligations of a closed site or Property; sites may be on the GIS Registry. This also includes removal of a site or Property from the GIS Registry. **Include a fee of $1050, and:**

☐ Include a fee of $300 for sites with residual soil contamination; and

☐ Include a fee of $350 for sites with residual groundwater contamination, monitoring wells or for vapor intrusion continuing

Attach a description of the changes you are proposing, and documentation as to why the changes are needed (if the change to a Property, site or continuing obligation will result in revised maps, maintenance plans or photographs, those documents may be submitted later in the approval process, on a case-by-case basis).

Skip Sections 4 and 5 if the technical assistance you are requesting is listed above and complete Sections 6 and 7 of this form.

Section 4. Request for Liability Clarification

Select the type of liability clarification requested. Use the available space given or attach information, explanations, or specific questions that you need answered in DNR's reply. Complete Sections 6 and 7 of this form. **[Numbers in brackets are for DNR Use]**

☐ "Lender" liability exemption clarification - s. 292.21, Wis. Stats. [686]

❖ **Include a fee of $700.**

Provide the following documentation:

(1) ownership status of the real Property, and/or the personal Property and fixtures;

(2) an environmental assessment, in accordance with s. 292.21, Wis. Stats.;

(3) the date the environmental assessment was conducted by the lender;

(4) the date of the Property acquisition; for foreclosure actions, include a copy of the signed and dated court order confirming the sheriff's sale.

(5) documentation showing how the Property was acquired and the steps followed under the appropriate state statutes.

(6) a copy of the Property deed with the correct legal description; and,

(7) the Lender Liability Exemption Environmental Assessment Tracking Form (Form 4400-196).

(8) If no sampling was done, please provide reasoning as to why it was **not** conducted. Include this either in the accompanying environmental assessment or as an attachment to this form, and cite language in s. 292. 21(1)(c)2.,h.-i., Wis. Stats.:

h. The collection and analysis of representative samples of soil or other materials in the ground that are suspected of being contaminated based on observations made during a visual inspection of the real Property or based on aerial photographs, or other information available to the lender, including stained or discolored soil or other materials in the ground and including soil or materials in the ground in areas with dead or distressed vegetation. The collection and analysis shall identify contaminants in the soil or other materials in the ground and shall quantify concentrations.

i. The collection and analysis of representative samples of unknown wastes or potentially hazardous substances found on the real Property and the determination of concentrations of hazardous waste and hazardous substances found in tanks, drums or other containers or in piles or lagoons on the real Property.

☐ "Representative" liability exemption clarification (e.g. trustees, receivers, etc.) - s. 292.21, Wis. Stats. [686]

❖ **Include a fee of $700.**

Provide the following documentation:

(1) ownership status of the Property;

(2) the date of Property acquisition by the representative;

(3) the means by which the Property was acquired;

(4) documentation that the representative has no beneficial interest in any entity that owns, possesses, or controls the Property;

(5) documentation that the representative has not caused any discharge of a hazardous substance on the Property; and

(6) a copy of the Property deed with the correct legal description.

☐ Clarification of local governmental unit (LGU) liability exemption at sites with: (select all that apply)

- ☐ hazardous substances spills - s. 292.11(9)(e), Wis. Stats. [649];
- ☐ Perceived environmental contamination - [649];
- ☐ hazardous waste - s. 292.24 (2), Wis. Stats. [649]; and/or
- ☐ solid waste - s. 292.23 (2), Wis. Stats. [649].

❖ **Include a fee of $700, a summary of the environmental liability clarification being requested, and the following:**

(1) clear supporting documentation showing the acquisition method used, and the steps followed under the appropriate state statute(s).

(2) current and proposed ownership status of the Property;

(3) date and means by which the Property was acquired by the LGU, where applicable;

(4) a map and the ¼, ¼ section location of the Property;

(5) summary of current uses of the Property;

(6) intended or potential use(s) of the Property;

(7) descriptions of other investigations that have taken place on the Property; and

(8) (for solid waste clarifications) a summary of the license history of the facility.

Section 4. Request for Liability Clarification (cont.)

☐ Lease liability clarification - s. 292.55, Wis. Stats. [646]

- ❖ **Include a fee of $700 for a single Property, or $1400 for multiple Properties and the information listed below:**

(1) a copy of the proposed lease;

(2) the name of the current owner of the Property and the person who will lease the Property;

(3) a description of the lease holder's association with any persons who have possession, control, or caused a discharge of a hazardous substance on the Property;

(4) map(s) showing the Property location and any suspected or known sources of contamination detected on the Property;

(5) a description of the intended use of the Property by the lease holder, with reference to the maps to indicate which areas will be used. Explain how the use will not interfere with any future investigation or cleanup at the Property; and

(6) all reports or investigations (e.g. Phase I and Phase II Environmental Assessments and/or Site Investigation Reports conducted under s. NR 716, Wis. Adm. Code) that identify areas of the Property where a discharge has occurred.

General or other environmental liability clarification - s. 292.55, Wis. Stats. [682] - Explain your request below.

- ❖ **Include a fee of $700 and an adequate summary of relevant environmental work to date.**

☐ No Action Required (NAR) - NR 716.05, [682]

- ❖ **Include a fee of $700.**

Use where an environmental discharge has or has not occurred, and applicant wants a DNR determination that no further assessment or clean-up work is required. Usually this is requested after a Phase I and Phase II environmental assessment has been conducted; the assessment reports should be submitted with this form. This is not a closure letter.

☐ Clarify the liability associated with a "closed" Property - s. 292.55, Wis. Stats. [682]

- ❖ **Include a fee of $700.**

- Include a copy of any closure documents if a state agency other than DNR approved the closure.

Use this space or attach additional sheets to provide necessary information, explanations or specific questions to be answered by the DNR.

Section 5. Request for a Specialized Agreement

Select the type of agreement needed. Include the appropriate draft agreements and supporting materials. Complete Sections 6 and 7 of this form. More information and model draft agreements are available at: dnr.wi.gov/topic/Brownfields/lgu.html#tabx4.

☐ Tax cancellation agreement - s. 75.105(2)(d), Wis. Stats. [654]

- ❖ **Include a fee of $700, and the information listed below:**

(1) Phase I and II Environmental Site Assessment Reports,

(2) a copy of the Property deed with the correct legal description.

☐ Agreement for assignment of tax foreclosure judgement - s.75.106, Wis. Stats. [666]

- ❖ **Include a fee of $700, and the information listed below:**

(1) Phase I and II Environmental Site Assessment Reports,

(2) a copy of the Property deed with the correct legal description.

☐ Negotiated agreement - Enforceable contract for non-emergency remediation - s. 292.11(7)(d) and (e), Wis. Stats. [630]

- ❖ **Include a fee of $1400, and the information listed below:**

(1) a draft schedule for remediation; and,
(2) the name, mailing address, phone and email for each party to the agreement.

Section 6. Other Information Submitted

Identify all materials that are included with this request.

Send both a paper copy of the signed form and all reports and supporting materials, and an electronic copy of the form and all reports, including Environmental Site Assessment Reports, and supporting materials on a compact disk.

Include one copy of any document from any state agency files that you want the Department to review as part of this request. The person submitting this request is responsible for contacting other state agencies to obtain appropriate reports or information.

- ☐ Phase I Environmental Site Assessment Report - Date: _____
- ☐ Phase II Environmental Site Assessment Report - Date: _____
- ☐ Legal Description of Property (required for all liability requests and specialized agreements)
- ☐ Map of the Property (required for all liability requests and specialized agreements)

Analytical results of the following sampled media: Select all that apply and include date of collection.

☐ Groundwater ☐ Soil ☐ Sediment ☐ Other medium - Describe: _____

Date of Collection: _____

- ☐ A copy of the closure letter and submittal materials
- ☐ Draft tax cancellation agreement
- ☐ Draft agreement for assignment of tax foreclosure judgment
- ☒ Other report(s) or information - Describe: Supplemental Site Investigation and Remedial Action Plan Report

For Property with newly identified discharges of hazardous substances only: Has a notification of a discharge of a hazardous substance been sent to the DNR as required by s. NR 706.05(1)(b), Wis. Adm. Code?

- ◯ Yes - Date (if known): _____
- ◯ No

Note: The Notification for Hazardous Substance Discharge (non-emergency) form is available at: dnr.wi.gov/files/PDF/forms/4400/4400-225.pdf.

Section 7. Certification by the Person who completed this form

- ☐ I am the person submitting this request (requester)
- ☒ I prepared this request for: Smoke-Out Cleaners, LTD

Requester Name

I certify that I am familiar with the information submitted on this request, and that the information on and included with this request is true, accurate and complete to the best of my knowledge. I also certify I have the legal authority and the applicant's permission to make this request.

Scott D. Hodgson
Signature

1/9/2020
Date Signed

Senior Project Manager
Title

(414) 209-7640
Telephone Number (include area code)

Section 8. DNR Contacts and Addresses for Request Submittals

Send or deliver one paper copy and one electronic copy on a compact disk of the completed request, supporting materials, and fee to the region where the property is located to the address below. Contact a DNR regional brownfields specialist with any questions about this form or a specific situation involving a contaminated property. For electronic document submittal requirements see: http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf.

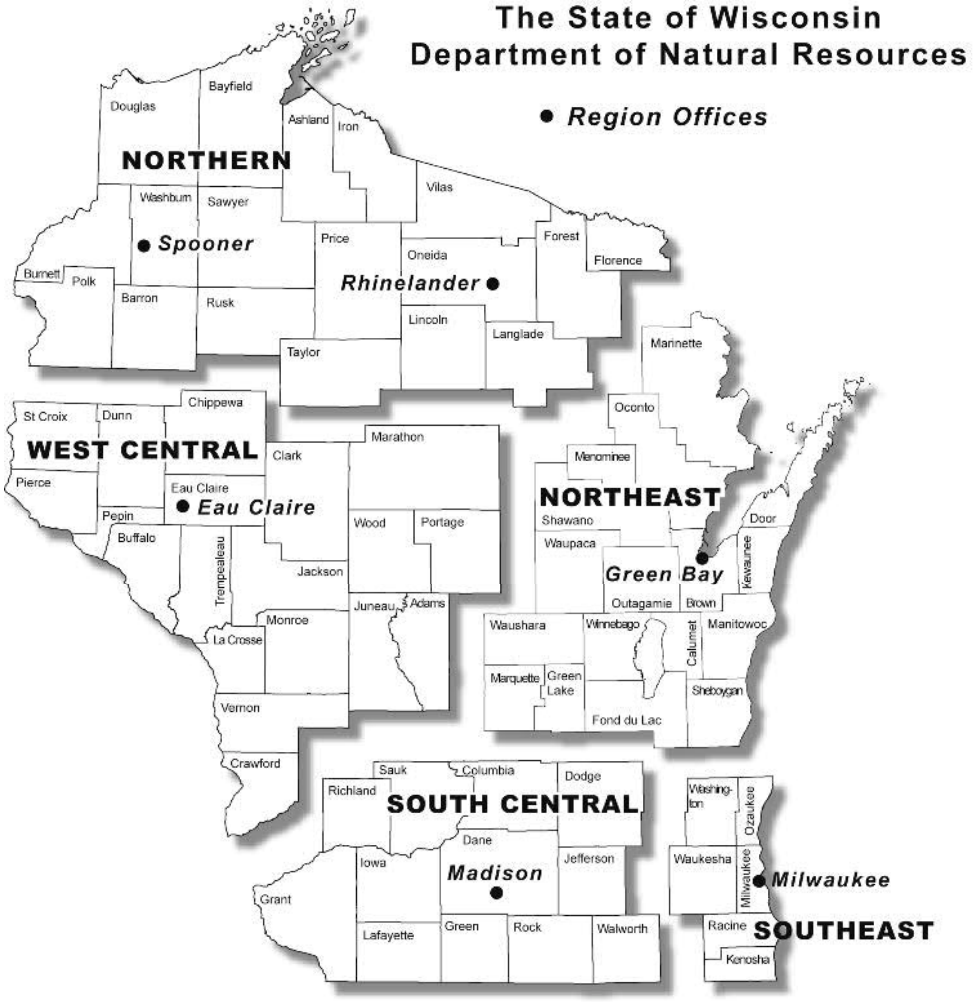
DNR NORTHERN REGION
Attn: RR Program Assistant
Department of Natural Resources
223 E Steinfest Rd Antigo, WI 54409

DNR NORTHEAST REGION
Attn: RR Program Assistant
Department of Natural Resources
2984 Shawano Avenue
Green Bay WI 54313

DNR SOUTH CENTRAL REGION
Attn: RR Program Assistant
Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg WI 53711

DNR SOUTHEAST REGION
Attn: RR Program Assistant
Department of Natural Resources
2300 North Martin Luther King Drive
Milwaukee WI 53212

DNR WEST CENTRAL REGION
Attn: RR Program Assistant
Department of Natural Resources
1300 Clairemont Ave.
Eau Claire WI 54702



Note: These are the Remediation and Redevelopment Program's designated regions. Other DNR program regional boundaries may be different.

DNR Use Only			
Date Received	Date Assigned	BRRTS Activity Code	BRRTS No. (if used)
DNR Reviewer	Comments		
Fee Enclosed? ◯ Yes ◯ No	Fee Amount $	Date Additional Information Requested	Date Requested for DNR Response Letter
Date Approved	Final Determination		

Supplemental Site Investigation And Remedial Action Plan Report

Smoke-Out Cleaners
1631 Brookfield Avenue, Unit D-4
Howard, Wisconsin

January 9, 2020
Terracon Project No. 58187103
WDNR BRRTS No. 02-05-552214

Prepared for:
Smoke-Out Cleaners
Howard, Wisconsin

Prepared by:
Terracon Consultants, Inc.
Franklin, Wisconsin

January 9, 2020

Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, Wisconsin 54313

Attention: Ms. Josie Schultz
Phone: 920.662.5424
Email: Josie.Schultz@wisconsin.gov

Re: **Supplemental Site Investigation and Remedial Action Plan Report**
Smoke-Out Cleaners
1631 Brookfield Avenue, Unit D-4
Howard, Wisconsin
BRRTS #02-05-552214
Terracon Project No. 58187103

Dear Ms. Schultz:

Terracon Consultants, Inc. (Terracon) prepared this *Supplemental Site Investigation and Remedial Action Plan Report* for the Smoke-Out Cleaners site at 1631 Brookfield Avenue, Unit D-4, Howard, Wisconsin.

The extent of chlorinated volatile organic compound (CVOC) impacted soil and groundwater is defined, the vapor pathway has been investigated, and additional site investigation (SI) activities are not warranted. Based on the SI results, a conceptual site model was prepared to evaluate appropriate remedial action options and develop a remedial action plan (RAP) in accordance with Chapter NR 722, Wisconsin Administrative Code (WAC). The recommended RAP is the installation of a sub-slab depressurization system (SSDS) and in-situ amendment injection in the contaminant source area, followed by groundwater monitoring to demonstrate remedy effectiveness. To allow the injection, a Wisconsin Pollution Discharge Elimination System (WPDES) permit application is attached as an appendix.

Implementing this RAP is intended to reduce the dissolved phase contaminant mass and correspondingly reduce the time necessary for the CVOC plume to attenuate below the NR 140, WAC, groundwater quality enforcement standards. After demonstrating natural attenuation is occurring, we intend to seek case closure in accordance with Chapter NR 726, WAC.

On behalf of Smoke-Out, Terracon respectfully requests concurrence from the Wisconsin Department of Natural Resources that the SI is complete and approval of the RAP. A completed "Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request" (WDNR form 4400-237) and the associated fee are attached.

We appreciate your assistance with this project. If you have any questions or comments regarding this report or require additional information, please contact us at (414) 423-0255.

Sincerely,
Terracon

Timothy P. Welch, P.G.
Environmental Department Manager

Scott A. Hodgson, P.G.
Senior Geologist

Copy to: Mark Woppert-Smoke-Out Cleaners, Ltd
Don Gallo-Axley Brynelson, LLP
Chris Dockry-Team Bay, LLC

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APPENDICES

SUPPLEMENTAL SITE INVESTIGATION AND REMEDIAL ACTION PLAN REPORT
SMOKE-OUT CLEANERS
1631 BROOKFIELD AVENUE, UNIT D-4
HOWARD, WISCONSIN 54303
BRRTS #02-05-552214

Terracon Project No. 58187103
January 9, 2020

1.0 INTRODUCTION

Smoke-Out Cleaners LTD (Smoke-Out) retained Terracon Consultants, Inc. (Terracon) to provide environmental consulting services at the Smoke-Out Cleaners facility located at 1631 Brookfield Avenue, Unit D-4, Howard, Wisconsin (Site). The Wisconsin Department of Natural Resources (WDNR) requested that supplemental site investigation (SSI) be performed to further evaluate chlorinated volatile organic compounds (CVOC) that were previously identified within onsite soil and groundwater.

The SSI scope of services included collecting soil samples from two soil borings, and installation and sampling of a groundwater observation well and piezometer constructed according to the requirements of NR 141, Wisconsin Administrative Code (WAC). The information presented herein was used to develop a conceptual site model. Remedial action options were identified and evaluated in general accordance with NR 722, WAC, using the conceptual site model. Based on the results of the remedial action options evaluation, a Remedial Action Plan (RAP) was developed for the site to address the identified impacts in soil and groundwater. An outline of the project and the proposed RAP are provided in the following sections.

2.0 PROPERTY LOCATION, DESCRIPTION, AND CONTACTS

The site is located in part of the southeast quarter of the northwest quarter of Section 3, Township 24 North, Range 20 East, Village of Howard, Brown County, Wisconsin (Figure 1, Appendix A).

The following information is provided in accordance with NR 716.15:

Site Name:	Smoke-Out Cleaners: BRRTS #02-05-552214
Site Location:	Village of Howard, Brown County, Wisconsin SE¼ of the NW¼ of Section 3, Township 24 North, Range 20 East WTM: X=67401 Y=458863 Latitude/Longitude: 44.586323º N, - 88.0598306º W
Responsible Party:	Mark Woppert

535 Half Mile Road
Verona, Wisconsin 53593
(608) 438-1746
mark.woppert@smoke-out.net

Agent: Chris Dockry
2105 Springcrest Place
Green Bay, Wisconsin 54304
(920) 680-1374
chris@teamselfstorage.com

Environmental Consultant: Scott A. Hodgson, P.G.
Terracon Consultants, Inc.
9856 South 57th Street
Franklin, Wisconsin 53213
(414) 423-0255
scott.hodgson@terracon.com

The site lies within a commercial business park, which is in an area of mixed industrial, commercial, and residential use. Beginning in 2005, Smoke-Out operated from a leased space within the western multi-tenant building on the property. The building is slab-on-grade construction with single story offices along the eastern part of the building, and with two-story work space in the western part of the building. A dry-cleaning machine (DCM) is located in the south-central part of the work area. Black Diamond Builders occupies the lease space adjacent north of Smoke-Out, and Badger Scale adjoins Smoke-Out to the south. Badger Scale was included in the investigation area due to its proximity to the DCM. The dry-cleaning solvent tetrachloroethene (a.k.a. perchloroethene, perc, or PCE), which is a chlorinated volatile organic compound (CVOC) was previously used at the Site and was stored in the DCM. Asphalt-paved parking areas exist to the east and west of the building.

3.0 PREVIOUS SITE INVESTIGATION

A Preliminary Site Assessment (PEA) was completed at the site by Giles Engineering Associates (Giles) in August 2008. The PEA included two interior soil borings (HP-1 and HP-2) near the DCM and one exterior hand boring (GP-1) near the rear (west) service door. The PEA identified CVOCs in both soil and groundwater. As a result, a Notification of Release was submitted to the WDNR on August 21, 2008. The WDNR issued a Responsible Party (RP) letter on August 29, 2008, that named Mark Woppert of Smoke-Out as the RP and required a site investigation be performed to determine the magnitude and extent of contamination.

Giles performed the subsequent site investigation during multiple phases from 2008 through 2017. Giles advanced a total of 12 additional direct-push soil borings from July 2011 through March 2017, to investigate the nature and extent of soil and groundwater contamination. Nine shallow, small-diameter prepacked observation wells (MW-1 through MW-9) and one piezometer (PZ-1) were installed. Four observation wells (MW-1 through MW-4) were installed in the building's interior. A total of eight sub-slab vapor sampling points (VP-1 through VP-8) were installed during the course of the site investigation, including five within the Smoke-Out space, and three in the south adjacent Badger Scale space. Soil, sub-slab vapor, and groundwater samples were collected and analyzed for volatile organic compounds (VOC). Giles also collected groundwater samples from the four potable wells that serve the occupied buildings in the business park. The site investigation results indicated that soil and groundwater had been impacted above applicable standards by CVOCs, and that indoor air may be impacted based on sub-slab vapor results that exceeded small commercial vapor risk screening levels (VRSLs). The site investigation indicated that shallow soils were primarily fine to medium-grained sand with varying amounts of silty to depths of approximately 10-12 feet below grade. The sand is underlain by clay, silt, and silty clay to the terminus of the deepest boring at approximately 30 feet below grade. Groundwater at the site is shallow, typically ranging from approximately 2.5 to 4.5 feet below grade, but seasonally may be as shallow as 1.5 feet below grade in some parts of the site. Shallow groundwater flow is generally to the east. Historical groundwater elevations are presented in Table 1, Appendix B.

The site investigation results were documented in Giles' *Site Investigation Report* dated August 31, 2017. The soil, groundwater, and vapor sampling locations are shown on Figure 2. Soil, groundwater, and sub-slab vapor samples were collected and analyzed for volatile organic compounds (VOC). The laboratory analytical results for soil, groundwater, and vapor are summarized in Tables 2 through 4, Appendix B, respectively.

Specifically, the soil to groundwater pathway residual contaminant level for soil was exceeded for one or more CVOCs including cis-1,2-dichloroethene (cis-DCE), methylene chloride, PCE, and trichloroethene (TCE) at interior borings HP-1, HP-2, MW-2, MW-3, and MW-4, and exterior boring GP-1. The highest concentration detected in soil was 2,500 micrograms per kilogram (µg/kg) at 2 to 3 feet below grade at interior soil boring MW-3, located near the DCM.

During the groundwater sampling event conducted in March 2017, the CVOCs cis-DCE, PCE, TCE, and vinyl chloride (VC) were detected at concentrations above their respective WAC, Chapter NR 140 Enforcement Standard (ES) at one or more interior observation wells, including MW-1, MW-3, and MW-4.

The sub-slab vapor sampling results indicated that PCE and/or TCE were detected at concentrations above their respective small commercial vapor risk screening levels (VRSLs) at

sub-slab vapor monitoring points VP-1, VP-4, VP-5, and VP-8 located within the Smoke-Out space, and at VP-2 and VP-7 located within the south adjoining Badger Scale space.

Based on review of the initial *Site Investigation Report*, the WDNR requested an additional round of sub-slab vapor sampling in conjunction with indoor ambient air sampling. The field work was performed on October 25, 2017. Two, 8-hour indoor ambient air samples were collected. One was from the office area of Smoke-Out (IA-1) and the other from the office area of Badger Scale to the south. The results were documented in Giles' *Site Investigation Report Addendum*, dated December 6, 2017.

The results indicated that PCE concentrations in indoor ambient air sample IA-1 was above the WDNR small commercial vapor action limit (VAL). The sub-slab vapor sampling results confirmed that PCE and/or TCE concentrations remained above their respective small commercial VRSLs at sub-slab vapor monitoring points VP-1, VP-4, VP-5, and VP-8 located within the Smoke-Out space, and at VP-2 and VP-7 located within the south adjoining Badger Scale space.

The October 2017 sampling and December 2017 reporting were Giles' final activities at the site. No work was completed during 2018 as the site information was being reviewed by the WDNR and competitive bids were being sought by the Department for site remediation. Ultimately, Terracon was selected to oversee site remediation activities in 2018, and the WDNR requested supplemental investigation prior to the start of remedial activities.

4.0 SUPPLEMENTAL SITE INVESTIGATION PROCEDURES

The SSI was initiated in accordance with Terracon's December 4, 2018, *Supplemental Site Investigation Work Plan,* and included advancing two soil borings (GP-4 and PZ-2), constructing two NR 141, WAC-compliant, groundwater monitoring wells (observation well MW-10 and piezometer PZ-2) Access permits were obtained from the property owner and the adjacent occupant (Badger Scale) prior to drilling. The groundwater monitoring well network was also sampled to assess current groundwater quality conditions. Site features, soil boring, and groundwater monitoring well locations are presented on Figure 2, Appendix A.

4.1 Health and Safety

Terracon is committed to the safety of all its employees. As such, and in accordance with our *Incident and Injury Free*® safety goals, Terracon prepared a site safety plan to be used by our personnel during field services. Prior to commencement of each phase of on-site activities, Terracon held a brief health and safety meeting to review health and safety needs for this specific project. A USEPA Level D work uniform consisting of hard hats, safety glasses, protective gloves, and steel toed boots was sufficient to perform the field activities. Diggers Hotline was contacted

to locate utilities in the work area prior to drilling activities. Additionally, a private utility locator was utilized prior to drilling activities.

4.2 Soil Investigation

4.2.1 Soil Borings

On March 19, 2019, Terracon supervised Geiss Soil & Samples LLC (Geiss) during the installation of soil borings GP-4 and PZ-2. The borings were advanced using a drill rig capable of collecting soil samples using direct-push methods and turning hollow-stem augers. Soil boring GP-4 was advanced inside the Smoke-Out facility north of observation well MW-2, and boring PZ-2 was advanced outside of the facility northeast of monitoring well MW-2. Due to the shallow groundwater depth, 1 to 4 feet below ground surface (bgs), soil boring GP-4 was terminated at 4 feet bgs and was abandoned following soil sampling. Boring PZ-2 was extended to approximately 27 feet bgs and was converted to a piezometer after soil sampling was complete. Decontamination procedures were used during all boring activities, which consisted of cleaning drilling equipment using a high-pressure washer prior to beginning the project and before beginning each boring and/or monitoring well. Non-dedicated sampling equipment was cleaned using an Alconox® detergent wash and potable water rinse prior to commencement of the project and between uses.

Soil samples were collected using either a 4- or 5-foot long core-barrel sampler, which was equipped with disposable liners. Soil samples were collected continuously to the boring terminus. Soil samples were classified in general accordance with the Unified Soil Classification System. The soil characteristics (stratigraphy, color, and odors) and pavement thickness (if applicable) in each boring were noted on soil boring logs. The samples were inspected and field screened with a photoionization detector (PID). Prior to use, the PID was calibrated per the manufacturer's specifications utilizing isobutylene calibration gas at a concentration of 100 parts per million volume (ppmv). The PID results are recorded in Table 2, Appendix B, and the soil boring logs are included within Appendix C.

4.2.2 Soil Sampling

One unsaturated soil sample was collected from 1 foot bgs in each boring. Soil samples were collected in laboratory-supplied containers, placed in an ice chest to cool to approximately 4 degrees Celsius (4°C), and transported under chain-of-custody (COC) protocol to Pace Analytical Services, Inc. (Pace) of Green Bay, Wisconsin for analysis. Soil samples were analyzed for VOCs using United States Environmental Protection Agency (US EPA) Method 8260B.

4.3 Groundwater Investigation

4.3.1 Groundwater Monitoring Well Construction

On March 19, 2019, Terracon supervised construction of observation well MW-10 and piezometer PZ-2. These monitoring wells were nested together downgradient to the northeast approximately 60 feet from the dry-cleaning machine. Groundwater monitoring wells were constructed with 2-inch inside diameter polyvinyl chloride (PVC) riser pipe and screen. Observation well MW-10 was constructed in accordance with the variance included in the December 4, 2018, *Supplemental Site Investigation Work Plan* that the WDNR approved. The 2-inch diameter, 5-foot long, 0.006-inch slot well screen was set at 6.5 feet bgs. Piezometer PZ-2 was constructed with 2-inch inside diameter PVC riser pipe coupled to a 5-foot long, 0.010-inch slot, PVC well screen set at 26 feet bgs. A sand filter pack was placed around the screens to a depth of approximately 0.5 foot above the top of the screen in observation well MW-10, and to a depth of approximately 1.5 feet above the top of the screen in PZ-2. The remainder of the borehole was filled with bentonite to near the ground surface. The groundwater monitoring wells were each completed in a concrete pad with a steel, bolt-down, flush-mount protective cover assembly. The locations of the monitoring wells are depicted on Figure 2. The groundwater monitoring well construction logs and a *Groundwater Monitoring Well Information* form (WDNR Form 4400-89) are included in Appendix C.

4.3.2 Groundwater Monitoring Well Development and Repair

The goal of well development is to produce groundwater samples representative of the screened interval that are free of sediments. On March 19, 2019, Terracon personnel developed monitoring wells MW-10 and PZ-2 with disposable bailers in general accordance with NR 141, WAC. Observation well MW-10 could not be purged dry, and 10 gallons were purged. Piezometer PZ-2 could be purged dry, and approximately 8 gallons was purged. Purge water was placed in labeled 55-gallon drums which were staged onsite pending disposal. Groundwater monitoring well development forms are included in Appendix C.

Terracon also inspected the condition and integrity of the existing monitoring wells during the soil boring and well construction activities. Exterior wells MW-5, MW-7, MW-8, and MW-9 were either missing the flush mount lid or the entire flush mount protector. These wells were repaired, and the well top-of-casing resurveyed as part of the surveying program for new wells MW-10 and PZ-2.

4.3.3 Baseline Groundwater Sampling

On March 27, 2019, Terracon personnel collected groundwater samples from the 10 observation wells and two piezometers located on the site. The monitoring wells' expandable caps were

opened, and groundwater elevations were allowed to equilibrate prior to measuring static water levels. Groundwater elevations are summarized in Table 1.

The monitoring wells were purged and sampled using low-flow methods with a peristaltic pump and dedicated polyethylene drop tubing for each well. Field measurements of dissolved oxygen (DO), temperature, pH, specific conductivity, and oxidation-reduction potential (ORP) were recorded with a water quality meter during the low-flow sampling procedure until stable measurements were obtained. Generally, a goal of three consecutive readings within 10% taken a minimum of 2 minutes apart during purging is indicative that groundwater in the well has stabilized. After groundwater conditions stabilized, groundwater samples were collected in laboratory-supplied sample containers, placed on ice, and submitted under COC control to Pace for the laboratory analysis of VOCs by USEPA Method 8260B.

Blind duplicate samples BD-1 and BD-2 were also collected from piezometer PZ-2 and observation well MW-7, respectively, and analyzed for VOCs. Samples from observation wells MW-1, MW-2, MW-3, MW-4, and MW-7 were also analyzed for the geochemical indicator parameters methane/ethane/ethene (MEE), total organic carbon (TOC), and dissolved iron for use in evaluating aquifer characteristics.

4.3.4 Groundwater Monitoring Well Surveying

On April 28, 2019, the elevation of the ground surface and top-of-well casing of each monitoring well were measured using standard surveying techniques and referenced to an arbitrary local benchmark (top of concrete at the north side overhead Smoke-out door). The top of casing and ground surface elevations were surveyed to an accuracy of 0.01 foot.

4.3.5 Investigation-Derived Waste Management

The soil cuttings and purge water generated from soil boring/groundwater monitoring well construction, development, and sampling were placed into labeled 55-gallon steel drums staged onsite.

5.0 SUPPLEMENTAL SITE INVESTIGATION RESULTS

5.1 Subsurface Conditions

5.1.1 Site Stratigraphy

Surficial material consisting of approximately 6 inches of concrete and base course gravel at soil boring GP-4, and approximately 6 inches of asphalt and base course gravel at soil boring PZ-2/MW-10 were underlain by very fine-medium grained sand to approximately 3 feet bgs. A silty

clay unit is present at both borings beneath the sand at depths ranging from 1.5 to 3 feet bgs. In general, sand, silty sand, and clayey sand are present beneath the silty clay to depths of approximately 22 feet bgs. Silty clay was encountered at PZ-2/MW-10 at depths ranging from 22 to 26 feet bgs, the maximum depth explored.

5.1.2 Site Hydrogeology

On March 27, 2019, static groundwater levels were measured at each well within the monitoring well network. Static groundwater levels ranged from a high of 0.62 (MW-9) to a low of 2.12 (MW-2) feet below the top of PVC casing in observation wells MW-1 through MW-10, with groundwater flow to the north. Static groundwater levels in piezometer PZ-1 and PZ-2 were 1.77 and 1.79 feet below top of casing, respectively.

The average horizontal hydraulic gradient of approximately 0.010 foot per foot (ft/ft) was calculated. Groundwater elevation data for well nests MW-8/PZ-1 and MW-10/PZ-2 were compared to determine the vertical hydraulic gradient. These data indicate that a slight downward vertical gradient exists at MW-8/PZ-1 and MW-10/PZ-2 at 0.010 ft/ft and 0.011 ft/ft, respectively. By convention, the vertical gradient was evaluated using the difference in groundwater elevations divided by the difference in the midpoint elevation of the saturated screen in the observation well and the midpoint elevation of the screen in the piezometer. Water level data is summarized in Table 1. A groundwater table contour map based on March 27, 2019, static groundwater levels is included as Figure 3, Appendix A.

5.2 Soil Findings

5.2.1 Regulatory Criteria for Soil

The WDNR has established guidance for the calculation of soil RCLs for direct-contact exposure and the protection of groundwater. The guidance document, *Soil Residual Contaminant Level Determinations using the US EPA Regional Screening Level Web Calculator*, PUB-RR-890, dated January 2014 (with WDNR spreadsheet input parameters updated December 2018) was used to establish RCLs for this site.

5.2.2 Soil Analytical Results

VOCs were not detected at concentrations above the analytical limit of detection (LOD) in the two soil samples submitted for laboratory analysis. A soil analytical test results summary table is included as Table 2, Appendix B. Laboratory reports and the COC documentation are included in Appendix D.

5.3 Groundwater Findings

5.3.1 Regulatory Criteria for Groundwater

The WDNR has established groundwater quality standards, which are set forth in NR 140, WAC (February 2017). For each regulated compound, two standards have been established, the ES and the PAL. In general, if the regulated contaminant exceeds the PAL, but is below the ES, the WDNR may require additional investigation/continued monitoring. If the regulated contaminant is above its ES, the WDNR may require additional investigation, continued monitoring, and/or remediation.

5.3.2 Groundwater Analytical Results

Six VOCs were detected at concentrations above their LODs in the groundwater samples collected on March 28, 2019. PCE and its degradation daughter compounds, TCE, cis-DCE, trans-DCE, and VC were detected at concentrations above their PALs and/or ESs. Interior monitoring wells MW-3 and MW-4 exhibited PCE, TCE, cis-DCE, and VC concentrations that exceed their respective ESs. Trans-DCE was detected in groundwater from MW-3 and MW-4; however, the concentrations were below PALs. Groundwater from MW-1 contained PCE, TCE, and VC at concentrations above their respective ESs, and cis-DCE at a concentration above its PAL. Although concentrations remain above the NR 140 ES in the three interior wells, PCE and TCE levels have generally declined from historical highs while cis-DCE and VC concentrations have increased. Groundwater from piezometers PZ-1 and PZ-2 did not contain VOCs at concentrations above LODs.

Toluene was detected in groundwater from wells MW-5, MW-8 and MW-9; however, the detected concentrations were well below the PAL. A groundwater analytical test results summary table is included as Table 3. A groundwater quality map is included as Figure 5, Appendix A. Laboratory reports, COC documentation are included in Appendix D.

5.4 Field Measurements and Geochemical Analysis

The WDNR guidance document *Understanding Chlorinated Hydrocarbon Behavior in Groundwater* (*RR-699,* April 2003) presents geochemical parameters that should be considered when sampling sites impacted with chlorinated hydrocarbons. Reference values are provided for field measurements and geochemical analytical parameters to assess aquifer characteristics.

As discussed in Section 4.6, during the March 27, 2019, groundwater sampling event, field measurements of temperature, specific conductance, DO, and ORP were recorded, and geochemical laboratory analysis of TOC, MEE, and dissolved iron was performed for interior observation wells MW-1 through MW-4, and exterior observation well MW-7, to evaluate

groundwater geochemistry with respect to the reductive dechlorination of PCE. The following is a general summary associated with the geochemical parameters and field measurements.

Specific conductivity results were relatively similar in the interior wells located within the dissolved phase CVOC plume, ranging in concentrations from 552 millisiemens per centimeter (ms/cm) to 965 ms/cm. Observation wells MW-7 and MW-10, located outside the CVOC plume, had concentrations of 1,536 ms/cm and 1,539 ms/cm, respectively. Positive ORP readings, ranging from 23.4 millivolts (mV) in observation well MW-1 to 177.4 mV in observation well MW-4 were recorded, with 50 mV and lower being the standard for reductive dechlorination support. DO readings ranged from 0.52 milligrams per liter (mg/L) in observation well MW-5 to 11.71 mg/L in observation well MW-7, with <0.5 mg/L being indicative of conditions supporting reductive dechlorination.

Methane was detected at concentrations above LODs in four of the five groundwater samples. Methane was detected in observation wells MW-1, MW-2, MW-3, and MW-4 at concentrations of 1,070, 52.8, 1,830, and 15.9 micrograms per liter (µg/L), respectively. Groundwater from observation well MW-7, which is located outside the CVOC plume, and indicative of background conditions, did not contain methane at concentrations above the LOD. Ethene was detected at concentrations of 3.1 and 8.5 µg/L in observation wells MW-1 and MW-3, respectively. Ethane was not detected at concentrations above LODs in groundwater from the five wells. Ethene is a daughter product of the reductive dechlorination of VC. TOC concentrations ranged from 0.26 mg/L in observation well MW-7 to 4.5 mg/L in observation well MW-1. Concentrations above 20 mg/L are considered necessary for reductive dechlorination to proceed. Dissolved iron was detected in each of the five wells at concentrations ranging from 103 to 1,690 µg/L. The data is provided in Table 5, Appendix B. Groundwater sampling summary sheets, laboratory reports, and COC documentation are provided in Appendix D.

Taken together, these results indicate that reducing conditions are present at the site, especially in the central area beneath the facility floor, and reductive dechlorination is occurring.

6.0 SITE INVESTIGATION SUMMARY/CONCEPTUAL SITE MODEL

Based upon the results of the site investigation, the extent of the soil, groundwater, and soil vapor impacts have been delineated such that a remedial action plan to address the impacts can be selected.

The apparent source area of PCE-impacted soil is located in the shallow soil in the building's interior near the DCM at concentrations above its soil to groundwater pathway RCL. CVOCs are not present in soils at concentrations above non-industrial, direct-contact RCLs. The PCE has leached to groundwater creating a dissolved-phase CVOC plume in groundwater at concentrations exceeding NR 140, WAC, ESs. Groundwater is present at elevations ranging from

approximately 0.60 to 2 feet bgs in the sands, with flow to the north. Geochemical evidence supports that the shallow, sandy, unconsolidated aquifer is anaerobic, and the presence of PCE daughter products and methane supports that reductive dechlorination is occurring. However, the low concentrations of TOC suggest reductive dechlorination may be stalled/limited at this point. PCE and its breakdown product, TCE, were identified in sub-slab soil vapor beneath the building, at concentrations above both small and large commercial/industrial building VRSLs.

6.1 Extent of Impacted Soil

The apparent source area of CVOC-impacted soil (predominantly PCE) is located in the shallow soil beneath the building near the DCM. PCE, cis-DCE, and methylene chloride were detected at concentrations which exceed their respective soil to groundwater pathway RCLs. The area includes the south half of the Smoke-Out Cleaners space and north part of the Badger Scale space. This area encompasses hand probes HP-1 and HP-2, observation wells MW-1 through MW-4, and soil boring GP-1. The highest PCE concentration was detected 2 to 3 feet below floor grade at well MW-3 near the DCM at a concentration of 2,500 micrograms per kilogram (µg/kg). The impacted area is primarily beneath the Smoke-Out and Badger Scale tenant spaces and is approximately 50 feet wide (north-south) by 60 (west-east). A soil quality map which depicts the estimated lateral extent of CVOC impacted soil at concentrations above soil to groundwater pathway RCLs is presented as Figure 4, Appendix A.

6.2 Extent of Impacted Groundwater

The dissolved-phase CVOC plume originates near the DCM, coinciding with the area with the highest concentrations of CVOCs in soil in the area near observation well MW-3. The CVOC contaminant plume lies entirely beneath the building in the vicinity of the DCM, and encompasses wells MW-1, MW-3, and MW-4. The contaminant plume extends southward beneath the adjacent Badger Scale space. At each observation well within the contaminant plume, one or more CVOCs including PCE, TCE, cis-DCE, and VC exceeded their respective NR 140, WAC, ESs in the March 2019 groundwater sampling event.

Groundwater at the site is present at depths ranging from approximately 0.60 to 2 feet bgs in the sands, with flow to the north. VOCs have not been detected in piezometers PZ-1 and PZ-2 at concentrations above their LOD, defining the vertical extent of groundwater contamination.

The dissolved-phase CVOC plume at concentrations above its NR 140, WAC, ES has been delineated, is estimated to be 40 feet long (north-south) and 45 feet wide (west-east). The approximate extent of the dissolved phase CVOC plume at concentrations above its NR 140, WAC, ES is presented on Figure 5, Appendix A.

6.3 Extent of Sub-Slab Vapor Impacts

PCE and TCE concentrations in sub-slab vapor points beneath both the Smoke-out Cleaners and Badger Scale spaces exceed the small commercial and large commercial/industrial buildings sub-slab VRSLs. Sub-slab vapor points VP-1, VP-4, VP-5, and VP-8 are located in the Smoke-Out Cleaners tenant space, while vapor points VP-2 and VP-7 are located within the Badger Scale tenant space. The highest PCE vapor concentration detected in October 2017 (the most recent sampling event) was 564,000 micrograms per cubic meter (µg/m^3). The elliptically-shaped area which exceeds the large commercial building VRSLs beneath the building's interior is approximately 80 feet (north-south) by 60 feet (west-east). A sub-slab vapor quality results map that depicts the CVOC analytical results is presented as Figure 6, Appendix A. Although PCE is used at the site and would contribute to indoor air PCE concentrations, the shallow PCE-contaminated groundwater also provides a source to complete the sub-slab to indoor air pathway. The sub-slab vapor source should be addressed to eliminate or interrupt that potential pathway.

7.0 REMEDIAL ACTION OPTIONS EVALUATION

The primary contaminant of concern at the site is PCE, although additional CVOC biodegradation daughter products of PCE have been detected. The media contaminated by CVOCs include: 1) soil with CVOCs at concentrations greater than their soil to groundwater pathway RCLs, 2) groundwater with CVOCs at concentrations greater than their ESs, and 3) sub-slab vapor with CVOCs at concentrations above applicable VRSLs. Terracon considered several remedial action options (RAO) in general accordance with NR 722, WAC, to address the CVOC-impacted soil, groundwater, and soil vapor. Potential exposure pathways via soil, groundwater, surface water, and vapor were considered. The results were subsequently used to develop a remedial action plan (RAP) for the site, discussed below.

7.1 Site Limitations

In addition to the information presented in the conceptual site model, the following site characteristics were also taken into consideration by the RAO evaluation, as these characteristics may limit the feasibility of some of the RAOs:

- Groundwater in the CVOC-impacted source zone sands surrounding the DCM and observations well MW-3 is approximately 2 feet bgs;
- Impacts beneath the building are a structural impediment; and
- The high PCE vapor concentrations that exceed the small commercial sub-slab VRSLs in this same area.

7.2 Remedial Action Objectives

Based upon the subsurface investigation and conceptual site model, the remedial action objectives include:

- Reducing groundwater contamination to concentrations below the ESs within a reasonable period of time,
- Reducing the contaminant mass to allow for natural attenuation to be an effective compliment to in-situ remediation and position the site for closure, and
- Reducing sub-slab vapors beneath the building and reducing the potential for vapor intrusion.

7.3 Remedial Action Options Evaluation

The following RAOs were considered in accordance with NR 722.07(2), WAC:

- Natural attenuation;
- Institutional controls;
- *In situ* chemical oxidation (ISCO);
- Soil excavation and off-site landfill disposal; and
- Enhanced reductive dechlorination (ERD).

7.3.1 Natural Attenuation

Natural attenuation is the use of natural processes (i.e., dilution, dispersion, advection, biodegradation), to reduce the toxicity, concentration, and mobility of contaminants over time. This RAO is typically implemented in two phases. In the first phase, monitored natural attenuation (MNA) is conducted, whereby groundwater samples are collected over time to evaluate trends in groundwater quality to determine whether the plume is stable and concentrations are decreasing. If it appears that contaminant concentrations will decrease to below their ESs in a reasonable period of time following MNA, regulatory closure can be obtained under NR 726, WAC, without continued monitoring.

Technical Feasibility: Natural attenuation can be an effective long-term remedy for managing contaminants in soil and groundwater. The groundwater monitoring results identified the presence of PCE biodegradation daughter products in wells down-gradient of the source, indicating that biodegradation is occurring. However, natural attenuation is not effective in the short term, as the attenuation processes are typically slow, and source zone soil remediation is needed to reduce contaminant mass.

Natural attenuation could be easily implemented at the site, as a network of groundwater monitoring wells already exists, including a down-gradient monitoring well to serve as a sentinel well. If implemented, groundwater samples would be collected from the monitoring well network periodically to evaluate trends and confirm the plume is stable.

The restoration timeframe using natural attenuation cannot be estimated at this time, based on current trends in groundwater quality. The MNA phase may require 10 or more years to confirm groundwater trends, and it may take 30 years (likely more) for groundwater concentrations to decrease to below the ESs, which may not be considered a reasonable period of time.

Summary of Evaluation: The long timeframe required for addressing source area contaminant concentrations and corresponding high total cost for the MNA phase make ***natural attenuation unsuitable as a sole remedy for the site***. Natural attenuation is a common RAO for addressing low or residual concentrations of contaminants in soil and groundwater. Based on the presence of ongoing biodegradation and the soil permeability, natural attenuation could be a suitable long-term remedy when implemented in conjunction with a RAO that reduces source area concentrations.

7.3.2 Institutional Controls

Institutional controls are restrictions or obligations placed on a site to reduce the potential for exposure. This RAO includes administrative measures such as a groundwater use restriction or recording a site on the WDNR's database at the time of closure, and continuing obligations such as a cap maintenance plan or vapor mitigation system maintenance plan.

Technical Feasibility: Institutional controls can be an effective long-term remedy for managing the exposure risk posed by contaminants in soil and groundwater. Their effectiveness is affected by 1) notification provided to subsequent property owners that the institutional controls exist, and 2) continued implementation of continuing obligations for as long as the RAO addressed by the continuing obligation is required.

This RAO provides immediate protection as the affected parties are immediately made aware of their existence, particularly at the time of regulatory closure as submittal of notifications to the affected parties is a requirement of closure.

Institutional controls can be easily implemented. The WDNR has developed templates for cap maintenance plans and vapor mitigation system maintenance plans. Recording of the site on the WDNR's data base occurs at the time of regulatory closure.

The restoration timeframe for institutional controls is the same as the underlying RAOs associated with the institutional controls. If no active remediation is conducted, the restoration timeframe

would be equal to the timeframe for natural attenuation, which could be well beyond 30 years. Unlike natural attenuation, where active monitoring is terminated after the MNA phase, implementation of the institutional controls would be required throughout the natural attenuation phase until contaminant concentrations decrease to levels that do not pose a risk.

Summary of Evaluation: ***Institutional controls would not be sufficient as the sole site remedy*** but would be implemented in conjunction with RAOs requiring continuing obligations. The site would be recorded on the WDNR soil and groundwater data base at the time of regulatory closure.

7.3.3 In-Situ Chemical Oxidation (ISCO)

In-situ chemical oxidation (ISCO) consists of the injection of a chemical oxidant into the contaminated soil and groundwater to oxidize contaminants into innocuous end products. Permanganates, persulfates, and Fenton's reagent are common reagents. A series of injection wells (either temporary or permanent wells) are installed within the extent of contamination, and above-grade equipment is used to inject the reagent.

Technical Feasibility: The long-term effectiveness of ISCO is strongly influenced by site-specific chemical conditions present in the aquifer. If the aquifer is anaerobic or only slightly aerobic, a substantial amount of chemical oxidant is needed to overcome those conditions. As indicated in the conceptual site model, the aquifer is anaerobic, as it exhibits relatively low concentrations of oxygen.

Implementing ISCO at the site would be moderately difficult. While direct-push drilling techniques could be used to install the ISCO injection wells, multiple injection events would likely be required. The presence of biodegradation daughter products of PCE down-gradient of the source suggest that aquifer conditions at the site are reductive; ISCO creates the opposite condition. ISCO could also reduce the effectiveness of natural attenuation. Reagents oxidize all organic matter, including microorganisms, resulting in the short-term sterilization of the soil. Eliminating these microorganisms would reduce the rate of biodegradation.

The restoration timeframe for ISCO would be relatively short. An individual injection event could likely be completed in 1 week. Two or more quarters of groundwater monitoring would be needed to evaluate the effectiveness of the injections and detect rebound. ISCO reagents do not persist in the environmental, particularly in reducing (anaerobic) conditions such as those present at the site. As a result, post-remediation monitoring could be implemented more quickly than for a persistent reagent. Assuming three injection events are required the restoration timeframe for this RAO would be approximately 3 to 5 years. Post-treatment monitoring would be required to evaluate effectiveness and could be completed as an MNA phase.

Summary of Evaluation: The presence of naturally occurring biodegradation suggests that site conditions are more conducive to reductive technologies than technologies that rely on oxidation. ISCO reagents chemically oxidize organic material in the subsurface, including microorganisms. Reductions in the microbial community could adversely affect the use of natural attenuation as a component of the site remedy. Based on these factors, ***ISCO is not recommended*** for further consideration.

7.3.4 Soil Excavation and Off-Site Disposal

Excavation consists of physically removing contaminated soil and transporting the soil to a licensed disposal facility. Groundwater is present in this area at 2 feet bgs; therefore, extensive dewatering would need to be performed prior to and during excavation to expose CVOC-impacted soils in the smear zone. Also, the amount of soil accessible to excavation would be severely limited because backhoe size (and therefore reach) is limited by what size rig can be accommodated by the loading dock overhead door and maneuverability inside the building. Also, due to the very shallow groundwater and sandy soils, the volume of contaminated soil that could be safely excavated is limited by the necessary sidewall sloping due to the proximity of bearing walls and support columns to the contaminated areas. As such, most of the contaminant mass in saturated soil would remain inaccessible. In addition, there is limited area on the property available for ex-situ soil treatment onsite, so excavated soil would need to be hauled to a landfill for disposal. However, hauling contaminated soil to a landfill for disposal is not the best green/sustainable option. Thus, this option is quite limited even if feasible due to the contaminant mass that would remain on the site, making it less desirable and economically unviable.

Technical Feasibility: Excavation and off-site disposal would be effective in the both the long and short term, as it would result in the immediate removal of the highest concentrations of CVOCs in soil, and the thus significant mass of contamination. The reduction in contaminant mass should result in a long-term reduction in groundwater and soil gas CVOC concentrations. However, given the shallow depth to groundwater, building constraints, and the extensive dewatering necessary to expose the most highly impacted, smear zone soils, excavation isn't practical.

Summary of Evaluation: Based on the costs associated with groundwater dewatering/treatment and site limitations, ***soil excavation and off-site disposal is not recommended*** for further consideration.

7.3.5 Enhanced Reductive Dechlorination (ERD)

Enhanced Reductive Dechlorination (ERD) consists of the injection of a carbon source into contaminated groundwater to enhance a reducing environment that stimulates the reductive dechlorination of contaminants into innocuous end products. Molasses, whey, edible oil substrate, and several other proprietary reagents are available; these are all sources of carbon intended to

encourage microbial growth and associated biodegradation of the CVOCs. A series of injection wells (either temporary or permanent wells) are installed within the desired area of treatment within the dissolved phase CVOC plume, and above-grade equipment is used to inject the carbon source.

Technical Feasibility: ERD would enhance the natural reducing conditions that are present at the site. As with ISCO, the long-term effectiveness of ERD is strongly influenced by site geology. ERD reagents tend to persist for longer time periods than ISCO reagents, and MNA is usually performed to evaluate its effectiveness. The groundwater monitoring results indicate the presence of TCE, cis-1,2-DCE, VC, methane, ethane, and ethene. These are biodegradation daughter products of PCE and indicate that biodegradation is occurring. This naturally occurring process could be enhanced through the application of an electron donor reagent. The short-term effectiveness of ERD is affected by hydrogeologic conditions. As noted in the conceptual site model, the native soil at the site consists of high permeability sands. If sufficiently reducing conditions are not created, the sequential biodegradation of CVOCs can stall, resulting in an increase in concentrations of daughter products such as VC. These daughter products can increase short-term risk as the NR 140, WAC, ES for VC is much lower than for PCE. Since ERD reagents can create strong reducing conditions, formation of methane can be an issue due to its combustibility.

Similar to the ISCO RAO, direct-push drilling techniques could be used to install the ERD injection wells for treating the area of highest PCE soil concentrations in the impacted area surrounding the DCM. An individual injection event could likely be completed in 1 week. Assuming one injection event is required, four quarters of post-treatment groundwater monitoring would be required at a minimum (but up to eight or may be necessary) to document effectiveness.

Summary of Evaluation: Based on the existing anaerobic aquifer conditions, ***ERD is the recommended*** RAO. In conjunction with this RAO, Terracon recommends controlling sub-slab vapors and potentially methane generated by the degradation process, with a sub-slab depressurization system (SSDS).

8.0 REMEDIAL ACTION PLAN

Terracon considered multiple options for remediating contamination in site soil and groundwater. By addressing the soil and groundwater contamination, vapor intrusion issues will also be addressed.

Based on the hydrogeologic setting, the physical restrictions that exist at this property, and the magnitude and extent of CVOCs in groundwater, Terracon recommends in-situ groundwater treatment via injection to reduce source area concentrations. Specifically, Terracon recommends injection of 3DMe®, BDI Plus®, and S-MicroZVI™ to treat the soil and groundwater in the source

area via ERD. This alternative is technically feasible, economically viable, and able to achieve the remedial objective of reducing contaminant mass within the identified CVOC source area. Following mass reduction via ERD, MNA is an appropriate alternative to further reduce groundwater contaminant mass. In addition to the in-situ groundwater treatment to promote reductive dechlorination, a sub-slab depressurization system (SSDS) will be installed to help control and remove potential vapors from beneath the floor in both the Smoke-Out and Badger Scale spaces. The following sections provide details of the proposed remedial action.

8.1 Enhanced Reductive Dechlorination

To enhance reductive dechlorination of dissolved-phase PCE and daughter products, Terracon recommends injecting Regenesis products 3DMe®, BDI Plus®, and S-MicroZVI™ via an array of 10 injection points (based on the limited size of the CVOC contaminant source area). The targeted injection area is shown on the attached Figure 7, Appendix A. The actual locations of the injection points will be determined in the field during the injection process to avoid obstructions while creating adequate coverage within the treatment area.

Application of these Regenesis products is intended to create a strongly reducing environment for anaerobic biodegradation of CVOCs. According to Regenesis, “the molecular structure of the main 3DMe® component allows it to distribute in the subsurface via micellar movement.” Regenesis asserts this feature allows for migration of 3DMe® beyond the initial injection points and, as a result, remediation will occur over a larger area following initial injection. Ideally, this remediation measure will result in complete reductive dechlorination. General information and specifications for the 3DMe®, BDI Plus®, and S-MicroZVI™ are in Appendix E.

Details of the proposed remedial action include the following:

- Because the target injection area is small, Terracon recommends forgoing a pilot test and proceeding with full implementation of the remedy in the source area.
- The source (injection) area is approximately 28 feet by 36 feet (about 1,000 square feet).
- Approximately 800 pounds of 3DMe®, 18 liters of BDI Plus®, and 600 pounds of S-MicroZVI™ in a solution with approximately 1,800 gallons of water will be injected via 10 injection points within the source area (Figure 7 and Regenesis’ Summary Sheet in Appendix E).
- Injection will occur from approximately 2 feet to 8 feet below the floor grade at each point.
- A source able to supply approximately 1,200 gallons of water is required for injection.
- Approximately 215 gallons of amendment (all three Regenesis products) will be injected per point via a bottom up delivery method in the target treatment interval.

8.1.1 Permits

NR 812 Injection Prohibition
Terracon believes that the prohibition of injection into groundwater presented in NR 812.05, WAC, does not apply in this case because the proposed injection is for the purposes of groundwater remediation. As such, Terracon, on behalf of Smoke-Out requests a determination by WDNR that NR 812.05, WAC, does not apply to the proposed injection at the Smoke-Out site.

NR 140 Exemption
The need to obtain a temporary exemption for the injection of a remedial material for which a groundwater quality standard has not been established is required under NR 140.28 (1) (d), WAC. Based on the information presented in this RAP, Smoke-Out requests an NR 140, WAC, temporary exemption to inject 3DME®, S-MicroZVI, and 18 liters of BDI Plus® into the groundwater at the Smoke-Out site.

Monitoring of lower explosive limit (LEL) and organic vapors via PID readings will be performed at several groundwater monitoring wells during injection.

Wisconsin Pollution Discharge Elimination System (WPDES) Permit
Since 3DME®, and S-MicroZVI will be injected into the groundwater, Terracon on behalf of Smoke-Out, requests coverage under the general WPDES permit WI-0046566-06 for Discharge of Contaminated Groundwater from Remedial Action Operations. The WPDES permit request for coverage is included in Appendix F.

8.1.2 Sub-Slab Depressurization System (SSDS) Installation

Terracon inspected the building and floor slab condition to determine whether any cracks, sumps, or drains needed to be considered or addressed as part of the SSDS design. In addition, the areas where interior injection borings will be installed were inspected and assessed. Terracon contacted a local radon abatement contractor and obtained a preliminary SSDS design. The preliminary design includes two suction drop-points consisting of 4-inch diameter PVC pipe for control over the area of concern. One drop-point will be placed in or near the Smoke-Out Cleaners office area (east side of the space) and one will be placed near the south wall by the DCM. It is assumed no subsurface obstructions will inhibit the ability to control sub-slab vapors beneath the adjacent Badger Scale space.

Cracks and penetrations in the floor slab in the area will be sealed. A blower will be placed inline of the exhaust stack, and because of the distance to an exterior wall, the exhaust stack will likely go vertically through the roof. A u-tube manometer (or similar direct-read vacuum measuring device) will be placed on each drop-point riser. A sample port will be placed on the riser pipe to allow air screening for VOC vapors (with a PID) and methane measurement of the lower explosive

limit (LEL) with a 4-gas meter. An array of small-diameter holes spaced throughout the area of concern will be drilled through the concrete to be used as 1) vacuum monitoring points to verify the area of vacuum influence and 2) points from which to measure the LEL to evaluate methane conditions. These will be used in addition to the existing sub-slab vapor monitoring points. The vacuum monitoring points will be capped when not in use. If necessary, one or more additional drop-points could be installed based on vacuum monitoring results.

8.1.3 Injection Field Activities

Terracon will engage an injection contractor and a direct-push driller to perform the fieldwork. Prior to injection Terracon will complete pre-injection monitoring as required by the WPDES permit and exemptions. The March 2019 pre-injection baseline groundwater monitoring round will serve as comparison with post-injection results. The WPDES permit may also require pre-injection baseline vapor monitoring (percent LEL and VOCs via PID) at observation wells within and/or near the injection area, and at other nearby floor slab penetrations. In addition, baseline water levels and field parameters (DO, ORP, pH, temperature, and specific conductance) will be measured at interior wells MW-1, MW-3, and MW-4 prior to commencement of the injection activities.

The injection will be performed using a trailer equipped with pumps, a mixing tank, a delivery manifold, injection heads with flow and pressure gauges, a safety bypass valve, and a first aid station. A direct-push boring subcontractor will advance injection rods to approximately 8 feet below floor grade at the initial injection point and will leave them in the ground and then move to the second and third injection locations where the rods will also be left in place. Two to three injection points will be connected by a header to allow injection at multiple points at a time. The rods will be raised as needed at each injection point until the injection is complete throughout the target interval at each injection point. Upon completion of injection activities, the borings will be abandoned in conformance with Chapter NR 141, WAC.

During injection, Terracon will periodically monitor the water level and DO, ORP, pH, temperature, and specific conductance in observation wells MW-1, MW-3, and MW-4 using a water quality meter. Parameters may also be periodically monitored at additional nearby monitoring points. Changes in these parameters compared to pre-injection readings and water level measurements in these monitoring points will be used as initial evidence of potential successful injection in the targeted areas. Terracon will also periodically perform vapor monitoring prior to, and during, the injection process as may be required by the WPDES /Injection permits. This may include floor drains and other penetrations through the floor slab. Vapor monitoring will be performed using an LEL meter and PID.

8.2 Post-Injection Monitoring

Groundwater monitoring will be required to document the efficacy of the injection to induce reductive dechlorination and confirm groundwater contaminant concentrations are declining. Up to 8 quarterly groundwater sampling events will be performed following injection. The first quarterly event will be performed approximately one month after injection (or as specified in the WPDES permit) with subsequent events approximately every 90 days thereafter. Quarterly monitoring rounds 4 and 8 (if necessary) will be annual monitoring events as described below.

8.2.1 Groundwater and Vacuum Monitoring

Groundwater monitoring will largely be limited to a few select wells during most sampling events. Quarterly sampling events #1 through #3 and #5 through #7 will include sampling observation wells MW-1, MW-3, and MW-4 for VOCs and a suite of natural attenuation geochemical parameters including TOC, MEE, and dissolved iron. In addition, the static groundwater level at each well in the monitoring well network will be measured to determine groundwater flow. Groundwater sampling will be completed using low-flow purge and sample techniques and field parameters will also be recorded for the sampled monitoring wells.

Concurrent with the quarterly groundwater monitoring events, Terracon will also perform at least three vacuum monitoring events that will include measuring the vacuum using a magnehelic gauge at the 10 vacuum monitoring points (see Section 8.1.2), sub-slab vapor monitoring points, and at observation wells MW-1, MW-3, and MW-4 to verify the SSDS area of influence.

8.2.2 Annual Groundwater Monitoring

Quarterly sampling events #4 and #8 will be annual sampling rounds and will include measuring static groundwater levels and collecting samples from the 10 wells (MW-1 through MW-10) and two piezometers (PZ-1 and PZ-2) in the monitoring well network. Field parameters will be measured and recorded at each sampling location. In addition, samples from monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-7 will be analyzed for the geochemical parameters, including TOC, MEE, and dissolved iron. A water sample will be collected from on-site potable well PW-4 for laboratory analysis of VOCs.

8.2.3 Vapor Monitoring

Approximately 18 months after the first quarterly groundwater monitoring event (post-injection event #7), vapor monitoring will be completed to evaluate sub-slab CVOC vapor concentrations and the continuing necessity of the SSDS, especially assuming CVOC mass reduction has occurred in soil and groundwater due to the injection treatment. After the SSDS is shut down and sub-slab conditions have been allowed to equilibrate for at least 30 days, Terracon will collect

30-minute vapor grab samples from sub-slab vapor monitoring points VP-4, VP-5, VP-7, and VP-8. Leak testing will be performed at each vapor point. Samples will be collected in 6-Liter Summa Canisters and submitted to a Wisconsin-certified lab for analysis of PCE and associated CVOCs only by EPA Method TO-15.

If the results indicate the VRSLs continue to be exceeded, the system will be restarted. If there are no VRSL exceedances, the system will remain off and one to two additional sub-slab vapor sampling events will be performed (including at least one event during the non-heating season) to evaluate conditions and verify the system can remain off permanently. Each verification vapor sampling event will be conducted as described above for the initial vapor monitoring event.

8.3 Sustainable Remedial Action

Terracon evaluated the criteria listed in NR 722.09(m) regarding sustainable remedial action as part of the remedial action plan development.

8.3.1 Strategies within Terracon

Terracon is committed to implementing green remediation technologies to help optimize efficiency and increases the net benefit of cleanup actions without compromising remediation goals. We are focused on specific and general remediation needs as technologies, applications, and cleanup goals continue to evolve.

Terracon is a member of the U.S. Green Building Council and actively promotes recycling, reducing fuel/energy consumption, and reducing greenhouse gas emissions through the life of the projects including:

- Increasing and promoting sustainable and environmentally friendly practices.
- Developing and designing sustainable practices for remediation applications.

Terracon is committed to the principles and practices of sustainability. In very practical terms, this means conducting our business and meeting the needs of our clients and employees in an environmentally, socially and economically responsive manner.

Terracon incorporates sustainability into the designs and solutions developed for our projects. Within the firm, we continuously define, promote and implement sustainable practices. We educate and encourage employees to adopt sustainable practices both inside and outside the firm. Our employee's commitments towards sustainability are strengthened by being an employee-owned firm. For our clients and within the firm, we place particular emphasis on (1) increasing the efficient use of energy, water and materials, and (2) reducing and remediating impacts on human health and the environment produced over the life-cycle of buildings,

infrastructure, and related systems.

As a large company, changing and improving daily operations can have large impacts on reducing the environmental footprint of each project for which Terracon is involved. We continue to take measureable steps to address sustainability in our daily operations and the impacts that our actions have on the environment. The basic principles of sustainability are an integral part of our corporate culture and have a rich performance history of sustainability on many projects. Examples of Terracon's sustainability efforts include:

- Reducing the size of our concrete test cylinders from 6"x12" to 4"x8", which effectively reduced the waste concrete we generate from our materials testing laboratory annually by two-thirds (our single, largest waste stream).
- Collecting and recycling paper, cardboard, aluminum, plastic, batteries and other metal wastes from office and project operations.
- Electronic delivery of our reports to the client either for draft review or as final documents to eliminate paper use and for electronic storage (at client's discretion).
- Developed a web based program where reports can be stored electronically through Terracon's servers and accessed by the client or their designees.
- Use of WebEx and Microsoft Link® conferencing to conduct presentations with clients and reduce travel and labor requirements
- Utilize Lease Plan USA fleet management and GPS units to track vehicle fuel use, idling time, and vehicle maintenance to help ensure our vehicles are operating efficiently and to reduce downtime due to vehicle breakdowns.
- Local offices joining with communities to reduce emissions such as our Fort Collins, Colorado, office joining ClimateWise in Fort Collins to help the community meet greenhouse gas reduction goals set in the Fort Collins Climate Action Plan, achieving Silver status in 2013 with a goal of achieving Gold status in 2014
- Beginning a program to calculate local office Greenhouse Gas Emissions and developing a reduction goal

8.3.2 Project Footprint Site Green and Sustainable Best Management Practices

In addition to general Terracon green principles and practices, the USEPA's "Principles of Greener Cleanups" (USEPA, 2009) outlines the USEPA policy for evaluating and minimizing the environmental impact during cleanup of contaminated sites.

There are several green and sustainable Best Management Practices (BMP) that can be followed during the site remediation. The purpose of these BMPs is to:

- Minimize energy consumption.
- Minimize water use and impacts to water resources.

- Reduce, reuse, and recycle wastes whenever possible.
- Minimize air pollutants and greenhouse gases.
- Protect the Environment.

During the course of the project Terracon will implement the following BMPs to the extent practicable:

Energy Consumption

- Electronic networks have been established, and teleconferencing, file sharing and screen sharing capabilities have been enacted to minimize travel and reduce fuel used on the project.
- Project team members will carpool whenever possible for the project to reduce fuel use and emissions.
- Personnel and equipment mobilizations will be planned to minimize travel to and from the site.
- As noted above Terracon utilizes Lease Plan USA fleet management and GPS units to track vehicle fuel use, idling time, and vehicle maintenance to help ensure our vehicles are operating efficiently and to reduce downtime due to vehicle breakdowns.
- Terracon's subcontractors will be encouraged to develop their own BMPs.
- Rechargeable batteries will be used whenever possible to minimize battery consumption.
- Excavated soil will be hauled to the nearest available landfill for disposal to minimize fuel use.

Reduce, Reuse, and Recycle

- Report drafts and data will be forwarded electronically whenever possible to minimize paper use.
- Paper copies of draft and final reports will be kept to a minimum.

Air Pollutants and Greenhouse Gases

- In-place management of contaminants will reduce the potential for volatilization.

9.0 RECOMMENDATIONS

The objective of the supplemental site investigation was to further delineate the extent of CVOC-impacted soil and groundwater that was previously identified during performance of the SI and assess vapor intrusion in the site building. The information from the investigation was

subsequently used to develop a conceptual site model. Remedial action options were identified and evaluated in general accordance with NR 722, WAC, using the conceptual site model. Based on the results of the remedial action options evaluation, a RAP was developed to address the identified impacts in soil, groundwater, and sub-slab vapor and facilitate a path towards case closure. The recommended RAP includes installation of a SSDS, in-situ amendment injection in the contaminant source area to stimulate ERD, followed by quarterly groundwater monitoring to demonstrate remedy effectiveness.

Terracon recommends submitting this *Supplemental Site Investigation and Remedial Action Plan Report* along with a Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request" (WDNR form 4400-237) and the associated fee to the WDNR for concurrence that the SI is complete, and the RAP is approved.

10.0 SCOPE AND REPORT LIMITATIONS

The findings, conclusions, and recommendations presented in this report are based solely upon the data and information obtained and reviewed through the agreed-on scope of services as outlined herein and in previous documents. Such information is subject to change over time and Terracon cannot represent any site conditions beyond those specifically identified through Terracon's Scope of Services. Terracon makes no warranties, express or implied, with regard to professional services, associated findings, or any third party information used in connection with this project. These limitations must be considered when the user of this report formulates opinions as to risks in connection with the site, or uses the report for any other purpose.

This report is prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted environmental engineering practices. No warranties, express or implied are intended or made. In the event any changes in the nature or location of suspected sources of contamination as outlined in this report are observed, the conclusions and recommendations contained in this report shall not be valid unless these changes are reviewed and the opinions of this report are modified or verified in writing by Terracon

11.0 CERTIFICATIONS

I, Edmund A. Buc, P.E., hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

E-32096
Signature and P.E. number

Senior Project Engineer
Title

I, Scott A. Hodgson, P.G., 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.

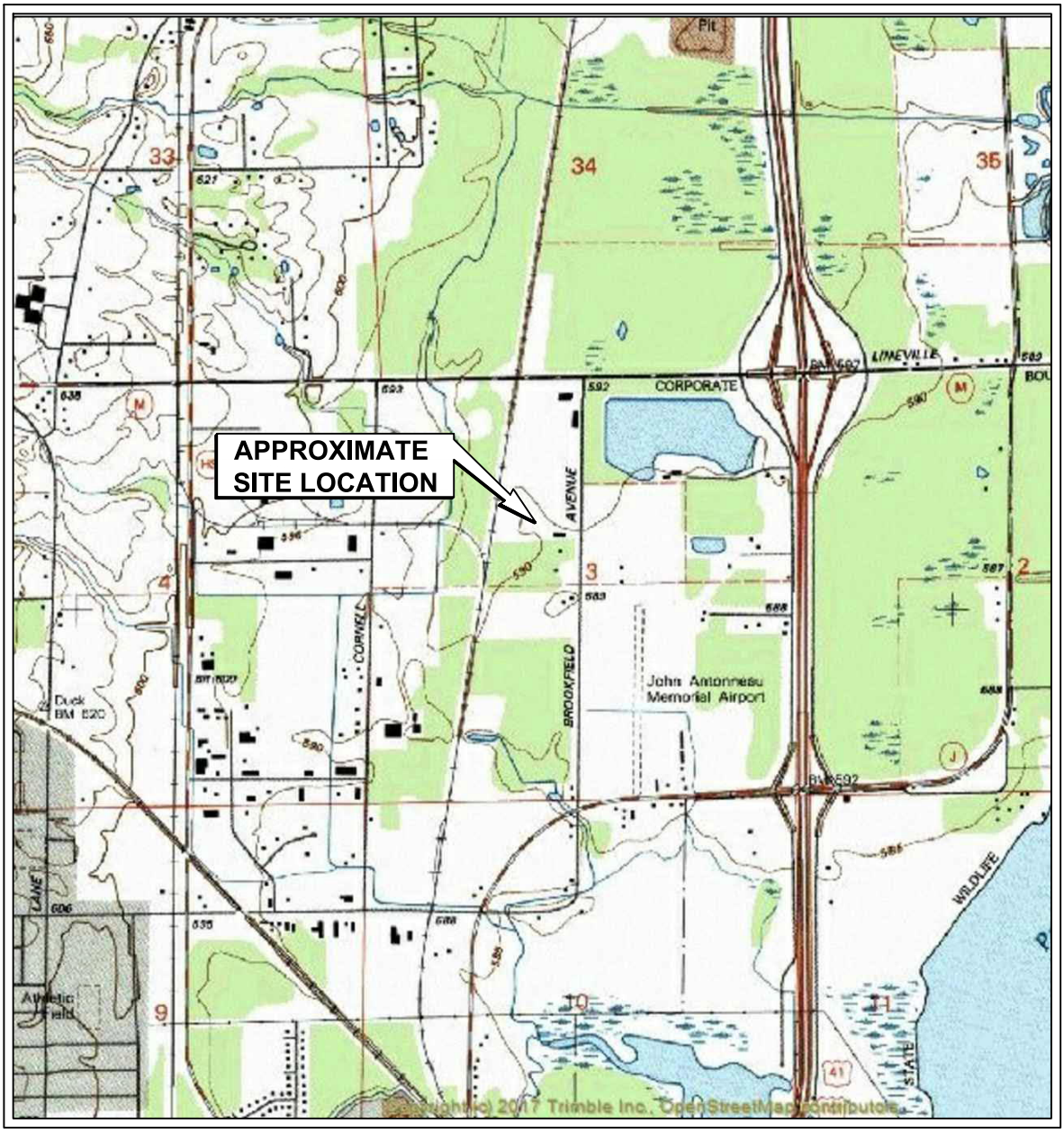
PG-1229 — 1/9/2020
Signature and P.G. number — Date

Senior Geologist
Title

APPENDIX A

FIGURES 1-7

UNITED STATES – DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY



SCALE 1:24 000

1 .5 0 KILOMETERS 1 2

1000 0 METERS 1000 2000

1 .5 0 1

MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 10 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1929

GREEN BAY WEST QUADRANGLE
BROWN COUNTY ~ WISCONSIN
1992
7.5 MINUTE SERIES (TOPOGRAPHIC)

DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	SAH
Drawn By:	JLM (41)
Checked By:	EPK
Approved By:	SAH

Project No.	58187103
Scale:	AS SHOWN
File No.	58187103C1
Date:	4/2019

Terracon
Consulting Engineers and Scientists
9856 SOUTH 57th STREET FRANKLIN, WI 53132
PH. (414) 423-0255 FAX. (414) 423-0566

SITE LOCATION MAP

SMOKE-OUT CLEANERS
1631 BROOKFIELD AVENUE, UNIT D-4
HOWARD, WISCONSIN

FIGURE
1
PDF EDITS
(EX1 TOPO)

BLACK DIAMOND BUILDERS

MULTI-TENANT COMMERCIAL BUILDING (1631 BROOKFIELD AVE)

MULTI-TENANT COMMERCIAL BUILDING (1651 BROOKFIELD AVE)

ASPHALT

CONC. FIRE LANE

OH DOOR

OH DOOR

OH DOOR

OH DOOR

SMOKE-OUT CLEANERS (SUITE D-4)

STORAGE

DOOR

DOOR

OFFICE

STORAGE

LANDSCAPE

DRY CLEANING MACHINE

PIPE

ELECTRIC BOXES

BADGER SCALE

OFFICE AREA

TRANSFORMER

POTABLE WELL (PW-4)

GREAT OUTDOORS GARAGE DOOR CO.

VP-1
VP-2
VP-3
VP-4
VP-5
VP-6
VP-7
VP-8

GP-1
GP-2
GP-3
GP-4

HP-1
HP-2

MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10

PZ-1
PZ-2

UE
ST

NOTE:
1) BUIILDING LAYOUT AND SAMPLE LOCATIONS ARE APPROXIMATE AND WHERE REFERENCED BY GILES ENGINEERING AND PROVIDED BY CLIENT
2) AERIAL BACKGROUND SOURCE: GOOGLE EARTH PRO; DATED: 5/17/18
3) DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

N

20 0 20

APPROXIMATE SCALE: 1" = 20'

LEGEND

TERRACON SAMPLE LOCATIONS
- OBSERVATION WELL
- PIEZOMETER
- DIRECT-PUSH SOIL BORING

GILES ENGINEERING SAMPLE LOCATIONS
- OBSERVATION WELL
- PIEZOMETER
- HAND PROBE SOIL BORING
- DIRECT-PUSH SOIL BORING/TEMPORARY WELL
- DIRECT-PUSH SOIL BORING

- SOIL VAPOR POINT
- FORMER SOIL VAPOR POINT
- POTABLE WELL
- MANHOLE
- UE — UNDERGROUND ELECTRIC LINE
- ST — STORM SEWER LINE

Project Mngr:	SAH
Drawn By:	JLM (41)
Checked By:	EPK
Approved By:	SAH

Project No.	58187103
Scale:	AS SHOWN
File No.	58187103C1
Date:	10/2019

Terracon
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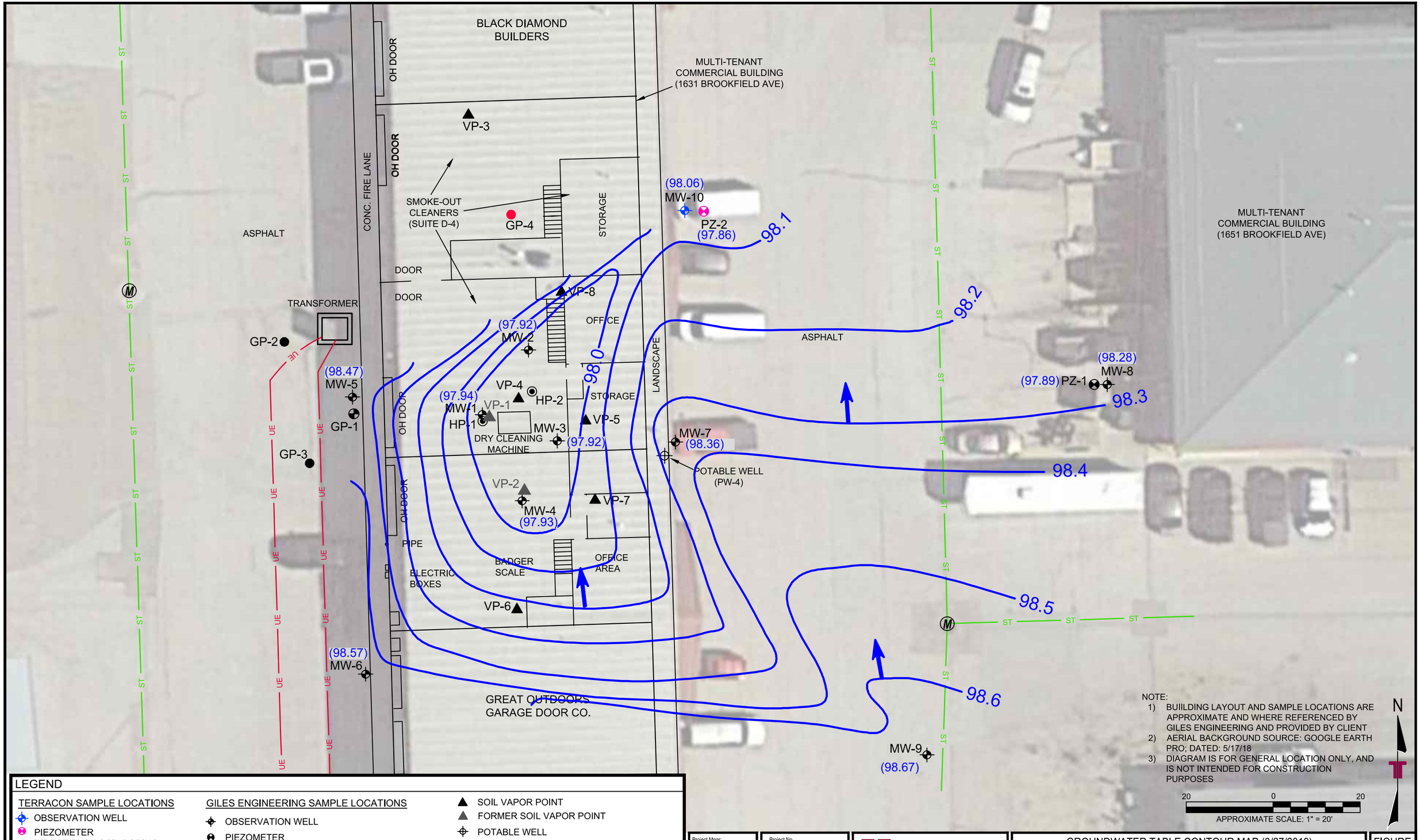
SITE MAP

SMOKE-OUT CLEANERS
1631 BROOKFIELD AVENUE, UNIT D-4
HOWARD, WISCONSIN

FIGURE 2 (FIG2 SD)



NOTE:
1) BUIILDING LAYOUT AND SAMPLE LOCATIONS ARE APPROXIMATE AND WHERE REFERENCED BY GILES ENGINEERING AND PROVIDED BY CLIENT
2) AERIAL BACKGROUND SOURCE: GOOGLE EARTH PRO; DATED: 5/17/18
3) DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

N

20 0 20

APPROXIMATE SCALE: 1" = 20'

LEGEND

TERRACON SAMPLE LOCATIONS
- OBSERVATION WELL
- PIEZOMETER
- DIRECT-PUSH SOIL BORING
- GROUNDWATER CONTOUR (CONTOUR INTERVAL = 0.10')
- (910.09) GROUNDWATER ELEVATION
- FLOW DIRECTION

GILES ENGINEERING SAMPLE LOCATIONS
- OBSERVATION WELL
- PIEZOMETER
- HAND PROBE SOIL BORING
- DIRECT-PUSH SOIL BORING/TEMPORARY WELL
- DIRECT-PUSH SOIL BORING

- SOIL VAPOR POINT
- FORMER SOIL VAPOR POINT
- POTABLE WELL
- (M) MANHOLE
- UE UNDERGROUND ELECTRIC LINE
- ST STORM SEWER LINE

Project Mngr:	SAH
Drawn By:	JLM (41)
Checked By:	EPK
Approved By:	SAH
Project No.	58187103
Scale:	AS SHOWN
File No.	58187103C1
Date:	10/2019

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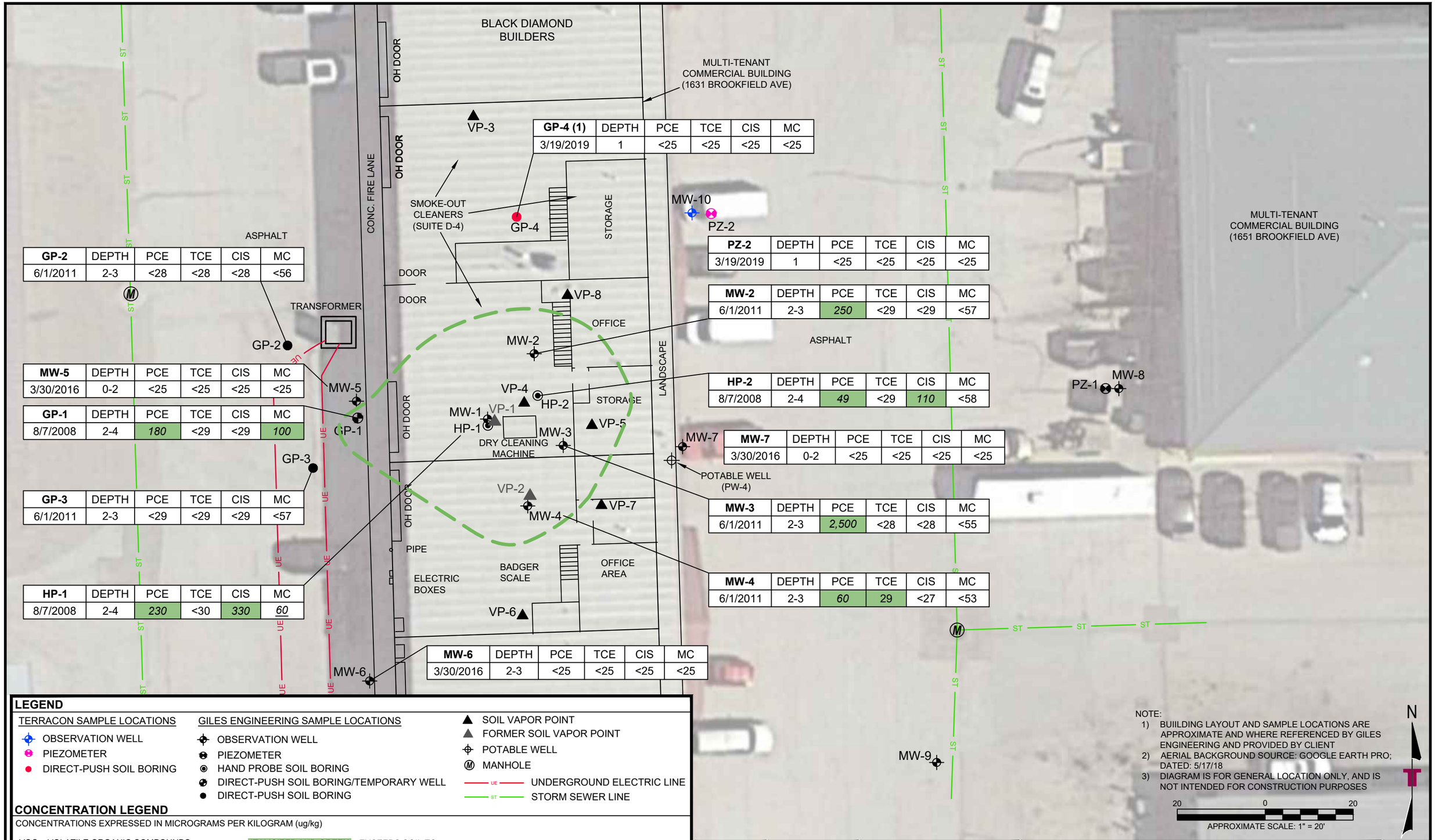
GROUNDWATER TABLE CONTOUR MAP (3/27/2019)

SMOKE-OUT CLEANERS
1631 BROOKFIELD AVENUE, UNIT D-4
HOWARD, WISCONSIN

FIGURE 3

PDF EDITS (FIG3 GW3.27.19)



GP-2	DEPTH	PCE	TCE	CIS	MC
6/1/2011	2-3	<28	<28	<28	<56

MW-5	DEPTH	PCE	TCE	CIS	MC
3/30/2016	0-2	<25	<25	<25	<25

GP-1	DEPTH	PCE	TCE	CIS	MC
8/7/2008	2-4	*180*	<29	<29	*100*

GP-3	DEPTH	PCE	TCE	CIS	MC
6/1/2011	2-3	<29	<29	<29	<57

HP-1	DEPTH	PCE	TCE	CIS	MC
8/7/2008	2-4	*230*	<30	*330*	*60*

MW-6	DEPTH	PCE	TCE	CIS	MC
3/30/2016	2-3	<25	<25	<25	<25

GP-4 (1)	DEPTH	PCE	TCE	CIS	MC
3/19/2019	1	<25	<25	<25	<25

PZ-2	DEPTH	PCE	TCE	CIS	MC
3/19/2019	1	<25	<25	<25	<25

MW-2	DEPTH	PCE	TCE	CIS	MC
6/1/2011	2-3	*250*	<29	<29	<57

HP-2	DEPTH	PCE	TCE	CIS	MC
8/7/2008	2-4	*49*	<29	*110*	<58

MW-7	DEPTH	PCE	TCE	CIS	MC
3/30/2016	0-2	<25	<25	<25	<25

MW-3	DEPTH	PCE	TCE	CIS	MC
6/1/2011	2-3	*2,500*	<28	<28	<55

MW-4	DEPTH	PCE	TCE	CIS	MC
6/1/2011	2-3	*60*	29	<27	<53

LEGEND

TERRACON SAMPLE LOCATIONS
- OBSERVATION WELL
- PIEZOMETER
- DIRECT-PUSH SOIL BORING

GILES ENGINEERING SAMPLE LOCATIONS
- OBSERVATION WELL
- PIEZOMETER
- HAND PROBE SOIL BORING
- DIRECT-PUSH SOIL BORING/TEMPORARY WELL
- DIRECT-PUSH SOIL BORING

- SOIL VAPOR POINT
- FORMER SOIL VAPOR POINT
- POTABLE WELL
- MANHOLE
- UE — UNDERGROUND ELECTRIC LINE
- ST — STORM SEWER LINE

CONCENTRATION LEGEND

CONCENTRATIONS EXPRESSED IN MICROGRAMS PER KILOGRAM (ug/kg)

VOC = VOLATILE ORGANIC COMPOUNDS
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
CIS = cis-1,2 DICHLOROETHENE
MC = METHYLENE CHLORIDE
RCL = RESIDUAL CONTAMINATION LEVELS

ITALICIZED AND GREEN = EXCEEDS SOIL TO GROUNDWATER PATHWAY RCL (DECEMBER 2018)

ESTIMATED EXTENT OF SOIL TO GROUNDWATER PATHWAY RCL EXCEEDENCE

NOTE:
1) BUIILDING LAYOUT AND SAMPLE LOCATIONS ARE APPROXIMATE AND WHERE REFERENCED BY GILES ENGINEERING AND PROVIDED BY CLIENT
2) AERIAL BACKGROUND SOURCE: GOOGLE EARTH PRO; DATED: 5/17/18
3) DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

20 0 20
APPROXIMATE SCALE: 1" = 20'

N

Project Mngr:	TPW
Drawn By:	JLM (41)
Checked By:	EPK
Approved By:	SAH
Project No.	58187103
Scale:	AS SHOWN
File No.	58187103C1
Date:	10/2019

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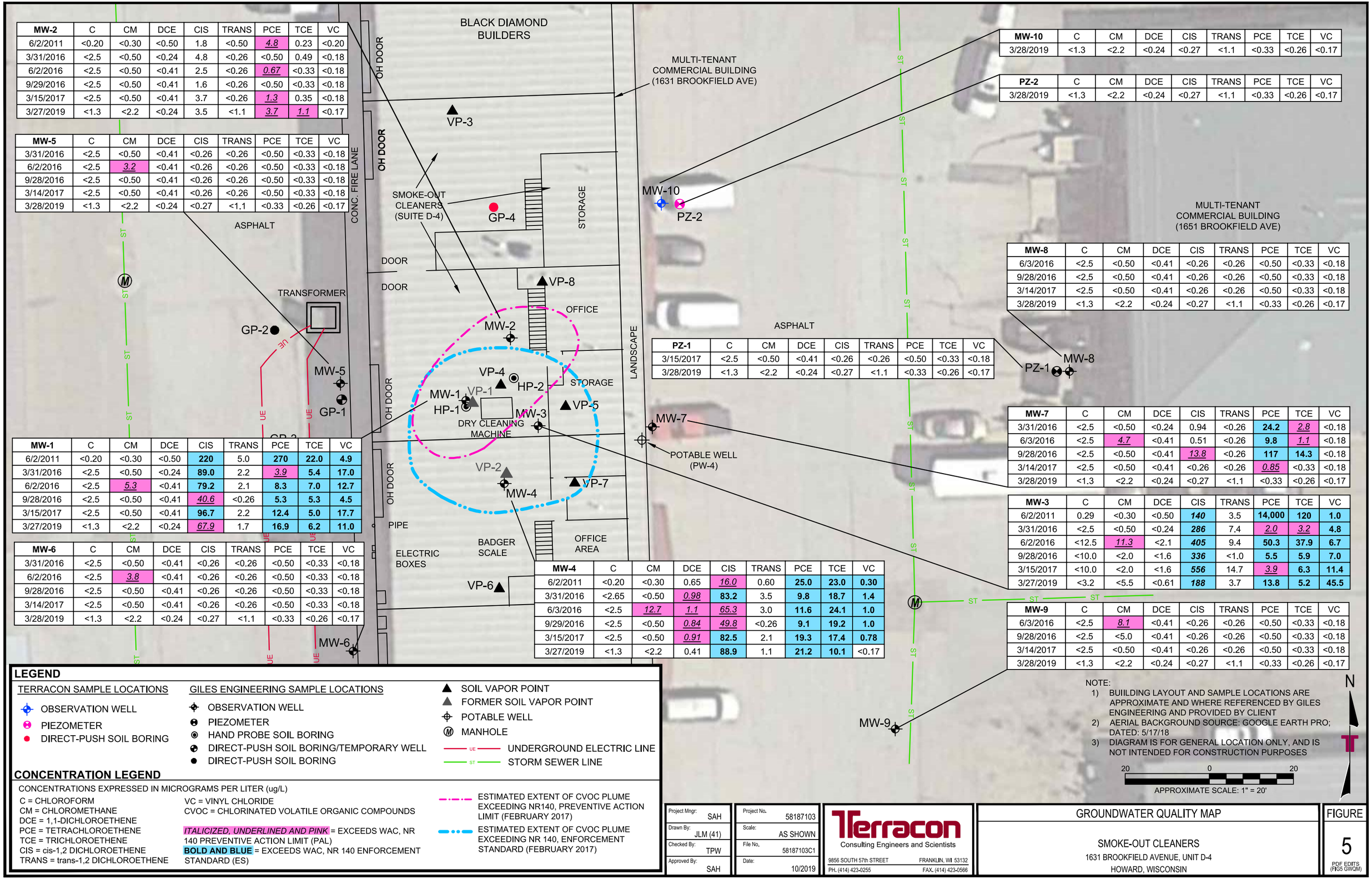
SOIL QUALITY MAP

SMOKE-OUT CLEANERS
1631 BROOKFIELD AVENUE, UNIT D-4
HOWARD, WISCONSIN

FIGURE 4 (FIG4 ISOCONC)



MW-2	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
6/2/2011	<0.20	<0.30	<0.50	1.8	<0.50	*4.8*	0.23	<0.20
3/31/2016	<2.5	<0.50	<0.24	4.8	<0.26	<0.50	0.49	<0.18
6/2/2016	<2.5	<0.50	<0.41	2.5	<0.26	*0.67*	<0.33	<0.18
9/29/2016	<2.5	<0.50	<0.41	1.6	<0.26	<0.50	<0.33	<0.18
3/15/2017	<2.5	<0.50	<0.41	3.7	<0.26	*1.3*	0.35	<0.18
3/27/2019	<1.3	<2.2	<0.24	3.5	<1.1	*3.7*	*1.1*	<0.17

MW-5	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
3/31/2016	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
6/2/2016	<2.5	*3.2*	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
9/28/2016	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/14/2017	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

MW-1	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
6/2/2011	<0.20	<0.30	<0.50	**220**	5.0	**270**	**22.0**	**4.9**
3/31/2016	<2.5	<0.50	<0.24	**89.0**	2.2	*3.9*	**5.4**	**17.0**
6/2/2016	<2.5	*5.3*	<0.41	**79.2**	2.1	**8.3**	**7.0**	**12.7**
9/28/2016	<2.5	<0.50	<0.41	*40.6*	<0.26	**5.3**	**5.3**	**4.5**
3/15/2017	<2.5	<0.50	<0.41	**96.7**	2.2	**12.4**	**5.0**	**17.7**
3/27/2019	<1.3	<2.2	<0.24	*67.9*	1.7	**16.9**	**6.2**	**11.0**

MW-6	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
3/31/2016	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
6/2/2016	<2.5	*3.8*	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
9/28/2016	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/14/2017	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

MW-4	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
6/2/2011	<0.20	<0.30	0.65	*16.0*	0.60	**25.0**	**23.0**	**0.30**
3/31/2016	<2.65	<0.50	*0.98*	**83.2**	3.5	**9.8**	**18.7**	**1.4**
6/3/2016	<2.5	*12.7*	*1.1*	*65.3*	3.0	**11.6**	**24.1**	**1.0**
9/29/2016	<2.5	<0.50	*0.84*	*49.8*	<0.26	**9.1**	**19.2**	**1.0**
3/15/2017	<2.5	<0.50	*0.91*	**82.5**	2.1	**19.3**	**17.4**	**0.78**
3/27/2019	<1.3	<2.2	0.41	**88.9**	1.1	**21.2**	**10.1**	<0.17

MW-10	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

PZ-2	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

PZ-1	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
3/15/2017	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

MW-8	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
6/3/2016	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
9/28/2016	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/14/2017	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

MW-7	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
3/31/2016	<2.5	<0.50	<0.24	0.94	<0.26	**24.2**	*2.8*	<0.18
6/3/2016	<2.5	*4.7*	<0.41	0.51	<0.26	**9.8**	*1.1*	<0.18
9/28/2016	<2.5	<0.50	<0.41	*13.8*	<0.26	**117**	**14.3**	<0.18
3/14/2017	<2.5	<0.50	<0.41	<0.26	<0.26	*0.85*	<0.33	<0.18
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

MW-3	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
6/2/2011	0.29	<0.30	<0.50	***140***	3.5	**14,000**	**120**	**1.0**
3/31/2016	<2.5	<0.50	<0.24	***286***	7.4	*2.0*	*3.2*	**4.8**
6/2/2016	<12.5	*11.3*	<2.1	***405***	9.4	**50.3**	**37.9**	**6.7**
9/28/2016	<10.0	<2.0	<1.6	***336***	<1.0	**5.5**	**5.9**	**7.0**
3/15/2017	<10.0	<2.0	<1.6	***556***	14.7	*3.9*	**6.3**	**11.4**
3/27/2019	<3.2	<5.5	<0.61	***188***	3.7	**13.8**	**5.2**	**45.5**

MW-9	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
6/3/2016	<2.5	*8.1*	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
9/28/2016	<2.5	<5.0	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/14/2017	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

LEGEND

TERRACON SAMPLE LOCATIONS
- OBSERVATION WELL
- PIEZOMETER
- DIRECT-PUSH SOIL BORING

GILES ENGINEERING SAMPLE LOCATIONS
- OBSERVATION WELL
- PIEZOMETER
- HAND PROBE SOIL BORING
- DIRECT-PUSH SOIL BORING/TEMPORARY WELL
- DIRECT-PUSH SOIL BORING

- SOIL VAPOR POINT
- FORMER SOIL VAPOR POINT
- POTABLE WELL
- MANHOLE
- UE — UNDERGROUND ELECTRIC LINE
- ST — STORM SEWER LINE

CONCENTRATION LEGEND

CONCENTRATIONS EXPRESSED IN MICROGRAMS PER LITER (ug/L)

C = CHLOROFORM
CM = CHLOROMETHANE
DCE = 1,1-DICHLOROETHENE
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
CIS = cis-1,2 DICHLOROETHENE
TRANS = trans-1,2 DICHLOROETHENE
VC = VINYL CHLORIDE
CVOC = CHLORINATED VOLATILE ORGANIC COMPOUNDS

ITALICIZED, UNDERLINED AND PINK = EXCEEDS WAC, NR 140 PREVENTIVE ACTION LIMIT (PAL)
BOLD AND BLUE = EXCEEDS WAC, NR 140 ENFORCEMENT STANDARD (ES)

- ESTIMATED EXTENT OF CVOC PLUME EXCEEDING NR140, PREVENTIVE ACTION LIMIT (FEBRUARY 2017)
- ESTIMATED EXTENT OF CVOC PLUME EXCEEDING NR 140, ENFORCEMENT STANDARD (FEBRUARY 2017)

NOTE:
1) BUILDING LAYOUT AND SAMPLE LOCATIONS ARE APPROXIMATE AND WHERE REFERENCED BY GILES ENGINEERING AND PROVIDED BY CLIENT
2) AERIAL BACKGROUND SOURCE: GOOGLE EARTH PRO; DATED: 5/17/18
3) DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

N

20 0 20
APPROXIMATE SCALE: 1" = 20'

Project Mngr:	SAH
Drawn By:	JLM (41)
Checked By:	TPW
Approved By:	SAH

Project No.	58187103
Scale:	AS SHOWN
File No.	58187103C1
Date:	10/2019

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GROUNDWATER QUALITY MAP

SMOKE-OUT CLEANERS
1631 BROOKFIELD AVENUE, UNIT D-4
HOWARD, WISCONSIN

FIGURE 5

PDF EDITS (FIG5 GWQM)

VP-3	PCE	TCE	CIS	TRANS	DCE	VC
3/30/2016	2,010	<0.41	<0.37	<0.57	<0.35	<0.29
6/3/2016	2,870	3.2	1.8	<0.55	<0.34	<0.28
9/29/2016	5,960	75	55.2	<11.4	<7.1	<5.8
3/15/2017	<0.40	0.44	<0.35	<0.55	<0.34	<0.28
10/25/2017	3,050	<20.8	<26.4	<22.9	<18.4	<9.8

VP-8	PCE	TCE	CIS	TRANS	DCE	VC
6/3/2016	**13,600**	156	<0.40	<0.62	<0.38	<0.31
9/29/2016	**19,200**	7.1	<0.35	<0.55	<0.34	<0.28
3/15/2017	5,360	<7.9	<7.1	<11.1	<6.9	<5.6
10/25/2017	**11,200**	<20.0	<25.4	<22.0	<17.7	<9.4

VP-1	PCE	TCE	CIS	TRANS	DCE	VC
6/1/2011	**12,000,000**	**24,000**	6,000	<59,000	<59,000	<38,000

VP-2	PCE	TCE	CIS	TRANS	DCE	VC
6/1/2011	**3,100,000**	**6,000**	<16,000	<16,000	<16,000	<10,000

VP-4	PCE	TCE	CIS	TRANS	DCE	VC
3/30/2016	**889,000**	**5,820**	6,080	<95.2	<59.0	<48.4
6/3/2016	**1,050,000**	**13,200**	12,000	28.9	<0.34	<0.28
9/29/2016	**1,280,000**	**36,400**	36,200	67.6	1.2	12.4
3/15/2017	**604,000**	**13,200**	12,600	54.8	<6.6	<5.4
10/25/2017	**564,000**	**6,010**	4,870	<21.2	<17.1	<9.1

VP-5	PCE	TCE	CIS	TRANS	DCE	VC
3/30/2016	**270,000**	**7,090**	11,800	119	<59.0	<48.4
6/3/2016	**196,000**	**12,000**	22,400	114	3.2	2.6
9/29/2016	**309,000**	**27,500**	39,100	238	<14.8	<12.1
3/15/2017	**93,700**	**7,040**	12,800	168	<6.9	9.6
10/25/2017	**162,000**	**7,580**	20,100	78.9	<17.1	<9.1

VP-7	PCE	TCE	CIS	TRANS	DCE	VC
6/3/2016	**13,800**	156	<0.40	<0.62	<0.38	<0.31
9/29/2016	**24,200**	**1,270**	16.5	0.99	<0.35	<0.29
3/15/2017	**16,200**	**454**	41.3	<10.7	<6.6	<5.4
10/25/2017	**11,200**	<20.0	<25.4	<22.0	<17.7	<9.4

VP-6	PCE	TCE	CIS	TRANS	DCE	VC
3/30/2016	3,540	12.5	5.0	<0.57	<0.35	<0.29
6/3/2016	497	0.68	0.74	<0.57	<0.35	<0.29
9/29/2016	1,140	<0.41	<0.37	<0.57	<0.35	<0.29
3/15/2017	2,670	<8.2	<7.3	<11.4	<7.1	<5.8
10/25/2017	2,600	<20.8	<26.4	<22.9	<18.4	<9.8

BLACK DIAMOND BUILDERS
MULTI-TENANT COMMERCIAL BUILDING (1631 BROOKFIELD AVE)
MULTI-TENANT COMMERCIAL BUILDING (1651 BROOKFIELD AVE)
OH DOOR
CONC. FIRE LANE
ASPHALT
SMOKE-OUT CLEANERS (SUITE D-4)
STORAGE
DOOR
OFFICE
TRANSFORMER
LANDSCAPE
DRY CLEANING MACHINE
POTABLE WELL (PW-4)
PIPE
ELECTRIC BOXES
BADGER SCALE
OFFICE AREA
VP-1
VP-2
VP-3
VP-4
VP-5
VP-6
VP-7
VP-8
GP-1
GP-2
GP-3
GP-4
HP-1
HP-2
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
PZ-1
PZ-2
ST
UE

LEGEND

TERRACON SAMPLE LOCATIONS
- OBSERVATION WELL
- PIEZOMETER
- DIRECT-PUSH SOIL BORING

GILES ENGINEERING SAMPLE LOCATIONS
- OBSERVATION WELL
- PIEZOMETER
- HAND PROBE SOIL BORING
- DIRECT-PUSH SOIL BORING/TEMPORARY WELL
- DIRECT-PUSH SOIL BORING

- SOIL VAPOR POINT
- FORMER SOIL VAPOR POINT
- POTABLE WELL
- MANHOLE
- UE — UNDERGROUND ELECTRIC LINE
- ST — STORM SEWER LINE

CONCENTRATION LEGEND

CONCENTRATIONS EXPRESSED IN MICROGRAMS PER CUBIC METER (ug/m³)

VRSL = VAPOR RISK SCREENING LEVEL
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
CIS = cis-1,2 DICHLOROETHENE
TRANS = trans-1,2 DICHLOROETHENE
DCE = 1,1 DICHLOROETHENE
VC = VINYL CHLORIDE

APPROXIMATE EXTENT OF LARGE COMMERCIAL/INDUSTRIAL BUILDINGS SUB-SLAB VRSL EXCEEDANCE

BOLD = VALUE EXCEEDS LARGE COMMERCIAL/INDUSTRIAL BUILDING VRSL

NOTE:
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2) AERIAL BACKGROUND SOURCE: GOOGLE EARTH PRO; DATED: 5/17/18
3) DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

20 0 20
APPROXIMATE SCALE: 1" = 20'

N

Project Mngr:	SAH
Drawn By:	JLM (41)
Checked By:	TPW
Approved By:	SAH
Project No.	58187103
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VAPOR QUALITY MAP

SMOKE-OUT CLEANERS
1631 BROOKFIELD AVENUE, UNIT D-4
HOWARD, WISCONSIN

FIGURE 6 (FIG6 VQM)

MW-2	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
6/2/2011	<0.20	<0.30	<0.50	1.8	<0.50	*4.8*	0.23	<0.20
3/31/2016	<2.5	<0.50	<0.24	4.8	<0.26	<0.50	0.49	<0.18
6/2/2016	<2.5	<0.50	<0.41	2.5	<0.26	*0.67*	<0.33	<0.18
9/29/2016	<2.5	<0.50	<0.41	1.6	<0.26	<0.50	<0.33	<0.18
3/15/2017	<2.5	<0.50	<0.41	3.7	<0.26	*1.3*	0.35	<0.18
3/27/2019	<1.3	<2.2	<0.24	3.5	<1.1	*3.7*	*1.1*	<0.17

MW-5	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
3/31/2016	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
6/2/2016	<2.5	*3.2*	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
9/28/2016	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/14/2017	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

MW-1	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
6/2/2011	<0.20	<0.30	<0.50	**220**	5.0	**270**	**22.0**	**4.9**
3/31/2016	<2.5	<0.50	<0.24	**89.0**	2.2	*3.9*	**5.4**	**17.0**
6/2/2016	<2.5	*5.3*	<0.41	**79.2**	2.1	**8.3**	**7.0**	**12.7**
9/28/2016	<2.5	<0.50	<0.41	*40.6*	<0.26	**5.3**	**5.3**	**4.5**
3/15/2017	<2.5	<0.50	<0.41	**96.7**	2.2	**12.4**	**5.0**	**17.7**
3/27/2019	<1.3	<2.2	<0.24	*67.9*	1.7	**16.9**	**6.2**	**11.0**

MW-6	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
3/31/2016	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
6/2/2016	<2.5	*3.8*	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
9/28/2016	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/14/2017	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

MW-4	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
6/2/2011	<0.20	<0.30	0.65	*16.0*	0.60	**25.0**	**23.0**	**0.30**
3/31/2016	<2.65	<0.50	*0.98*	**83.2**	3.5	**9.8**	**18.7**	**1.4**
6/3/2016	<2.5	*12.7*	*1.1*	*65.3*	3.0	**11.6**	**24.1**	**1.0**
9/29/2016	<2.5	<0.50	*0.84*	*49.8*	<0.26	**9.1**	**19.2**	**1.0**
3/15/2017	<2.5	<0.50	*0.91*	**82.5**	2.1	**19.3**	**17.4**	**0.78**
3/27/2019	<1.3	<2.2	0.41	**88.9**	1.1	**21.2**	**10.1**	<0.17

MW-10	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

PZ-2	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

PZ-1	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
3/15/2017	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

MW-8	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
6/3/2016	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
9/28/2016	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/14/2017	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

MW-7	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
3/31/2016	<2.5	<0.50	<0.24	0.94	<0.26	**24.2**	*2.8*	<0.18
6/3/2016	<2.5	*4.7*	<0.41	0.51	<0.26	**9.8**	*1.1*	<0.18
9/28/2016	<2.5	<0.50	<0.41	*13.8*	<0.26	**117**	**14.3**	<0.18
3/14/2017	<2.5	<0.50	<0.41	<0.26	<0.26	*0.85*	<0.33	<0.18
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

MW-3	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
6/2/2011	0.29	<0.30	<0.50	***140***	3.5	**14,000**	**120**	**1.0**
3/31/2016	<2.5	<0.50	<0.24	***286***	7.4	*2.0*	*3.2*	**4.8**
6/2/2016	<12.5	*11.3*	<2.1	***405***	9.4	**50.3**	**37.9**	**6.7**
9/28/2016	<10.0	<2.0	<1.6	***336***	<1.0	**5.5**	**5.9**	**7.0**
3/15/2017	<10.0	<2.0	<1.6	***556***	14.7	*3.9*	**6.3**	**11.4**
3/27/2019	<3.2	<5.5	<0.61	***188***	3.7	**13.8**	**5.2**	**45.5**

MW-9	C	CM	DCE	CIS	TRANS	PCE	TCE	VC
6/3/2016	<2.5	*8.1*	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
9/28/2016	<2.5	<5.0	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/14/2017	<2.5	<0.50	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18
3/28/2019	<1.3	<2.2	<0.24	<0.27	<1.1	<0.33	<0.26	<0.17

BLACK DIAMOND BUILDERS
MULTI-TENANT COMMERCIAL BUILDING (1631 BROOKFIELD AVE)
MULTI-TENANT COMMERCIAL BUILDING (1651 BROOKFIELD AVE)
SMOKE-OUT CLEANERS (SUITE D-4)
ASPHALT
CONC. FIRE LANE
OH DOOR
STORAGE
DOOR
TRANSFORMER
OFFICE
LANDSCAPE
DRY CLEANING MACHINE
POTABLE WELL (PW-4)
PIPE
ELECTRIC BOXES
BADGER SCALE
OFFICE AREA
PROPOSED TREATMENT AREA
VP-1
VP-2
VP-3
VP-4
VP-5
VP-6
VP-7
VP-8
HP-1
HP-2
GP-1
GP-2
GP-4
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
PZ-1
PZ-2
ST
UE

LEGEND

TERRACON SAMPLE LOCATIONS
- OBSERVATION WELL
- PIEZOMETER
- DIRECT-PUSH SOIL BORING
- SSDS POINTS

GILES ENGINEERING SAMPLE LOCATIONS
- OBSERVATION WELL
- PIEZOMETER
- HAND PROBE SOIL BORING
- DIRECT-PUSH SOIL BORING/TEMPORARY WELL
- DIRECT-PUSH SOIL BORING

- SOIL VAPOR POINT
- FORMER SOIL VAPOR POINT
- POTABLE WELL
- MANHOLE
- UE — UNDERGROUND ELECTRIC LINE
- ST — STORM SEWER LINE

CONCENTRATION LEGEND

CONCENTRATIONS EXPRESSED IN MICROGRAMS PER LITER (ug/L)

C = CHLOROFORM
CM = CHLOROMETHANE
DCE = 1,1-DICHLOROETHENE
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
CIS = cis-1,2 DICHLOROETHENE
TRANS = trans-1,2 DICHLOROETHENE
VC = VINYL CHLORIDE
CVOC = CHLORINATED VOLATILE ORGANIC COMPOUNDS

ITALICIZED, UNDERLINED AND PINK = EXCEEDS WAC, NR 140 PREVENTIVE ACTION LIMIT (PAL)
BOLD AND BLUE = EXCEEDS WAC, NR 140 ENFORCEMENT STANDARD (ES)

- ESTIMATED EXTENT OF CVOC PLUME EXCEEDING NR140, PREVENTIVE ACTION LIMIT (FEBRUARY 2017)
- ESTIMATED EXTENT OF CVOC PLUME EXCEEDING NR 140, ENFORCEMENT STANDARD (FEBRUARY 2017)

NOTE:
1) BUILDING LAYOUT AND SAMPLE LOCATIONS ARE APPROXIMATE AND WHERE REFERENCED BY GILES ENGINEERING AND PROVIDED BY CLIENT
2) AERIAL BACKGROUND SOURCE: GOOGLE EARTH PRO; DATED: 5/17/18
3) DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

N

20 0 20
APPROXIMATE SCALE: 1" = 20'

Project Mngr:	SAH
Drawn By:	JLM (41)
Checked By:	TPW
Approved By:	SAH

Project No.	58187103
Scale:	AS SHOWN
File No.	58187103C1
Date:	10/2019

Terracon
Consulting Engineers and Scientists
9856 SOUTH 57th STREET FRANKLIN, WI 53132
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CONCEPTUAL REMEDY PLAN

SMOKE-OUT CLEANERS
1631 BROOKFIELD AVENUE, UNIT D-4
HOWARD, WISCONSIN

FIGURE 7

PDF EDITS (FIG7 CRP)

APPENDIX B

TABLES 1-5

TABLE 1
Groundwater Elevation Summary Table

Smoke-Out Cleaners
1631 Brookfield Avenue, Suite D-4
Howard, Wisconsin
Terracon Project #58187103

Well	TOC* Elevation (ft)	Ground Surface Elevation	Well Depth (ft)	Screen Length (ft)	Date	Depth to Groundwater from TOC (ft)	Groundwater Elevation (ft)
MW-1	99.92	100.07	7.00	5.00	06/01/11	3.01	96.91
					02/10/15	4.73	95.19
					03/31/16	1.32	98.60
					05/06/16	2.76	97.16
					06/02/16	2.63	97.29
					09/28/16	2.99	96.93
					03/15/17	2.91	97.01
					10/25/17	2.84	97.08
					03/27/19	1.98	97.94
MW-2	100.04	100.13	7.00	5.00	06/01/11	2.96	97.08
					02/10/15	4.84	95.20
					03/31/16	2.05	97.99
					05/06/16	2.88	97.16
					06/02/16	2.76	97.28
					09/29/16	3.16	96.88
					03/15/17	3.06	96.98
					10/25/17	2.97	97.07
					03/27/19	2.12	97.92
MW-3	99.94	100.10	7.00	5.00	06/01/11	3.00	96.94
					02/10/15	4.76	95.18
					03/31/16	1.97	97.97
					05/06/16	2.81	97.13
					06/02/16	2.66	97.28
					09/28/16	3.04	96.90
					03/15/17	2.95	96.99
					10/25/17	2.85	97.09
					03/27/19	2.02	97.92
MW-4	99.94	100.11	7.00	5.00	06/01/11	3.09	96.85
					02/10/15	4.83	95.11
					03/31/16	1.97	97.97
					05/06/16	2.79	97.15
					06/03/16	2.73	97.21
					09/29/16	3.08	96.86
					03/15/17	2.92	97.02
					10/25/17	2.84	97.10
					03/27/19	2.01	97.93
MW-5	99.57	99.73	6.00	5.00	03/31/16	1.32	98.25
					05/06/16	2.33	97.24
					06/02/16	2.21	97.36
					09/28/16	2.50	97.07
					10/25/17	2.56	97.01
	99.70	*99.82*	*Resurveyed 3/28/19*		03/27/19	1.23	98.47

TABLE 1
Groundwater Elevation Summary Table

Smoke-Out Cleaners
1631 Brookfield Avenue, Suite D-4
Howard, Wisconsin
Terracon Project #58187103

Well	TOC* Elevation (ft)	Ground Surface Elevation	Well Depth (ft)	Screen Length (ft)	Date	Depth to Groundwater from TOC (ft)	Groundwater Elevation (ft)
MW-6	99.59	99.73	6.50	5.00	03/31/16	1.36	98.23
					05/06/16	2.37	97.22
					06/02/16	2.26	97.33
					09/28/16	2.58	97.01
					03/14/17	2.43	97.16
					10/25/17	2.42	97.17
	99.89	*99.97*	*Resurveyed 3/28/19*		03/27/19	1.32	98.57
MW-7	99.69	99.81	6.50	5.00	03/31/16	1.46	98.23
					05/06/16	2.66	97.03
					06/03/16	2.60	97.09
					09/28/16	2.94	96.75
					03/14/17	2.86	96.83
					10/25/17	2.69	97.00
	100.02	*100.10*	*Resurveyed 3/28/19*		03/27/19	1.66	98.36
MW-8	99.24	99.43	6.50	5.00	06/03/16	2.60	96.64
					09/28/16	2.70	96.54
					03/14/17	3.02	96.22
					10/25/17	2.79	96.45
	99.52	*99.62*	*Resurveyed 3/28/19*		03/27/19	1.24	98.28
MW-9	98.88	99.11	6.50	5.00	06/03/16	2.06	96.82
					09/28/16	2.32	96.56
					03/14/17	2.39	96.49
					10/25/17	2.16	96.72
	99.29	*99.32*	*Resurveyed 3/28/19*		03/27/19	0.62	98.67
MW-10	99.52	100.04	7.00	5.00	03/27/19	1.46	98.06
PZ-1	99.47	99.57	26.31	5.00	03/15/17	11.61	87.86
					10/25/17	2.74	96.73
	99.66	*99.70*	*Resurveyed 3/28/19*		03/27/19	1.77	97.89
PZ-2	99.65	100.05	26.00	5.00	03/27/19	1.79	97.86

Note:
*TOC: Top of Well Casing
1) All elevations were recorded in feet and referenced to an arbitrary 100 foot local benchmark, which is the top of concrete at north side of overhead door to Smoke-Out unit (west side of the building).
2) Elevations for 2016 and 2017 were measured by Giles Engineering, Inc. Elevations from March 2019 were measured by Terracon Consultants, Inc.
3) Observation wells MW-5 through MW-9 and piezometer PZ-1 were resurveyed on March 28, 2019, while MW-10 and PZ-2 were surveyed for the first time following construction on that date.

TABLE 2
Soil Analytical Test Results Summary for VOCs

Smoke-Out Cleaners
1631 Brookfield Avenue, Suite D-4
Howard, Wisconsin
Terracon Project #58187103

Sample ID	Sample Depth (Feet)	Sample Date	Saturated / Unsaturated	PID (ppmv)	VOCs (µg/kg)					
					Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene (cis-DCE)	trans-1,2-Dichloroethene (trans-DCE)	Vinyl Chloride	Methylene chloride
Site Investigation- Giles										
HP-1	2-4	8/7/2008	Unsaturated	<5	*230*	<30	*330*	<30	<42	*60*
HP-2	2-4	8/7/2008	Unsaturated	<5	*49*	<29	*110*	<29	<41	<58
GP-1	2-4	8/7/2008	Saturated	<5	*180*	<29	<29	<29	<41	*100*
GP-2	2-3	6/1/2011	Saturated	<5	<28	<28	<28	<28	<28	<56
GP-3	2-3	6/1/2011	Saturated	<5	<29	<29	<29	<29	<29	<57
MW-2	2-3	6/1/2011	Unsaturated	<5	*250*	<29	<29	<29	<29	<57
MW-3	2-3	6/1/2011	Unsaturated	<5	*2,500*	<28	<28	<28	<28	<55
MW-4	2-3	6/1/2011	Unsaturated	<5	*60*	*29*	<27	<27	<27	<53
MW-5	0-2	3/30/2016	Unsaturated	<5	<25	<25	<25	<25.0	<25.0	<25
MW-6	0-2	3/30/2016	Unsaturated	<5	<25	<25	<25	<25.0	<25.0	<25
MW-7	0-2	3/30/2016	Unsaturated	<5	<25	<25	<25	<25.0	<25.0	<25
Supplemental Site Investigation- Terracon										
GP-4 (1)	1	3/19/2019	Unsaturated	<1	<25	<25	<25	<25.0	<25.0	<25
PZ-2 (1)	1	3/19/2019	Unsaturated	<1	<25	<25	<25	<25.0	<25.0	<25
Non-Industrial Direct Contact RCL[1]					**33,000**	**1,300**	**156,000**	**1,560**	**0.067**	**61,800**
Industrial Direct Contact RCL[2]					145,000	8,410	2,340,000	1,850	2.08	1,150,000
Soil to Groundwater Pathway RCL[3]					*4.5*	*3.6*	*41.2*	*62.6*	*0.1*	*2.60*

Notes:

VOC = Volatile Organic Compounds

PID = Photoionization Detector

ppmv = Parts per million by volume

Results expressed in micrograms per kilogram (µg/kg)

[1] Non-Industrial Residual Contaminant Levels (RCLs) for Direct Contact per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator PUB-RR-890, dated January 2014 (WDNR spreadsheet input parameters updated December 2018).

[2] Industrial Residual Contaminant Levels (RCLs) for Direct Contact per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator PUB-RR-890, dated January 2014 (with WDNR spreadsheet input parameters updated December 2018).

[3] Protection of Groundwater RCLs per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator PUB-RR-890, dated January 2014 (with WDNR spreadsheet input parameters updated December 2018).

XX.XX = Exceeds Non-Industrial Direct Contact RCL

XX.XX = Exceeds Industrial Direct Contact RCL

XX.XX = Exceeds Soil to Groundwater Pathway RCL

TABLE 3
Groundwater Analytical Test Results Summary for VOCs

Smoke-Out Cleaners
1631 Brookfield Avenue, Suite D-4
Howard, Wisconsin
Terracon Project #58187103

Sample ID	Sample Date	Volatile Organic Compounds (VOCs - µg/L)										
		Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene (cis-DCE)	trans-1,2-Dichloroethene (trans-DCE)	Vinyl chloride (VC)	1,1-Dichloroethene (DCE)	Chloroform	Chloromethane	1,2,4-Trimethylbenzene	Toluene	Total Xylene
NR 140 WAC, PAL[1]		0.5	0.5	7	20	0.02	0.7	0.6	3	96	160	400
NR 140 WAC, ES[2]		**5**	**5**	**70**	**100**	**0.2**	**7**	**6**	**30**	**480**	**800**	**2,000**
GP-1	08/07/08	<0.50	<0.20	<0.50	<0.50	<0.20	<0.50	<0.20	0.80	<0.20	<0.50	<0.50
MW-1	06/02/11	**270**	**22.0**	**220**	5.0	**4.9**	<0.50	<0.20	<0.30	<0.20	<0.5	<0.50
	03/31/16	3.9	**5.4**	**89.0**	2.2	**17.0**	<0.24	<2.5	<0.50	<0.50	<0.50	<1.5
	06/02/16	**8.3**	**7.0**	**79.2**	2.1	**12.7**	<0.41	<2.5	5.3	<0.50	<0.50	<1.5
	09/28/16	**5.3**	**5.3**	40.6	<0.26	**4.5**	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/15/17	**12.4**	**5.0**	**96.7**	2.2	**17.7**	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/27/19	**16.9**	**6.2**	67.9	1.7	**11.0**	<0.24	<1.3	<2.2	<0.84	<0.17	<0.73
MW-2	06/02/11	4.8	0.23	1.8	<0.50	<0.20	<0.50	<0.20	<0.30	<0.20	<0.50	1.5
	03/31/16	<0.50	0.49	4.8	<0.26	<0.18	<0.24	<2.5	<0.50	<0.50	<0.50	<1.5
	06/02/16	0.67	<0.33	2.5	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	09/29/16	<0.50	<0.33	1.6	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/15/17	1.3	0.35	3.7	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/27/19	3.7	1.1	3.5	<1.1	<0.17	<0.24	<1.3	<2.2	<0.84	<0.17	<0.73
MW-3	06/02/11	**14,000**	**120**	**140**	3.5	**1.0**	<0.50	0.29	<0.30	0.52	0.94	1.7
	03/31/16	2.0	3.2	**286**	7.4	**4.8**	<0.24	<2.5	<0.50	<0.50	<0.50	<1.5
	06/02/16	**50.3**	**37.9**	**405**	9.4	**6.7**	<2.1	<12.5	11.3	<2.5	<2.5	<7.5
	09/28/16	**5.5**	**5.9**	**336**	<1.0	**7.0**	<1.6	<10.0	<2.0	<2.0	<2.0	<6.0
	03/15/17	3.9	**6.3**	**556**	14.7	**11.4**	<1.6	<10.0	<2.0	<2.0	<2.0	<6.0
	03/27/19	**13.8**	**5.2**	**188**	3.7	**45.5**	<0.61	<3.2	<5.5	<2.1	<0.43	<1.85
MW-4	06/02/11	**25.0**	**23.0**	16.0	0.60	**0.30**	0.65	<0.20	<0.30	<0.20	<0.50	<0.50
	03/31/16	**9.8**	**18.7**	**83.2**	3.5	**1.4**	0.98	<2.65	<0.50	<0.50	<0.50	<1.5
	06/03/16	**11.6**	**24.1**	65.3	3.0	**1.0**	1.1	<2.5	12.7	<0.50	<0.50	<1.5
	09/29/16	**9.1**	**19.2**	49.8	<0.26	**1.0**	0.84	<2.5	<0.50	<0.50	<0.50	<1.5
	03/15/17	**19.3**	**17.4**	**82.5**	2.1	**0.78**	0.91	<2.5	<0.50	<0.50	<0.50	<1.5
	03/28/19	**21.2**	**10.1**	**88.9**	1.1	<0.17	0.41	<1.3	<2.2	<0.84	<0.17	<0.73
MW-5	03/31/16	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	06/02/16	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	3.2	<0.50	<0.50	<1.5
	09/28/16	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/14/17	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/28/19	<0.33	<0.26	<0.27	<1.1	<0.17	<0.24	<1.3	<2.2	<0.84	0.71	<0.73
MW-6	03/31/16	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	06/02/16	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	3.8	<0.50	<0.50	<1.5
	09/28/16	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/14/17	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/28/19	<0.33	<0.26	<0.27	<1.1	<0.17	<0.24	<1.3	<2.2	<0.84	0.74	<0.73
MW-7	03/31/16	**24.2**	2.8	0.94	<0.26	<0.18	<0.24	<2.5	<0.50	<0.50	<0.50	<1.5
	06/03/16	**9.8**	1.1	0.51	<0.26	<0.18	<0.41	<2.5	4.7	<0.50	<0.50	<1.5
	09/28/16	**117**	**14.3**	13.8	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/14/17	0.85	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/28/19	<0.33	<0.26	<0.27	<1.1	<0.17	<0.24	<1.3	<2.2	<0.84	<0.17	<0.73
BD-2	03/28/19	<0.33	<0.26	<0.27	<1.1	<0.17	<0.24	<1.3	<2.2	<0.84	<0.17	<0.73
MW-8	06/03/16	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	09/28/16	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/14/17	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/28/19	<0.33	<0.26	<0.27	<1.1	<0.17	<0.24	<1.3	<2.2	<0.84	0.74	<0.73
MW-9	06/03/16	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	8.1	<0.50	<0.50	<1.5
	09/28/16	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<5.0	<0.50	<0.50	<1.5
	03/14/17	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/28/19	<0.33	<0.26	<0.27	<1.1	<0.17	<0.24	<1.3	<2.2	<0.84	0.79	<0.73
MW-10	03/28/19	<0.33	<0.26	<0.27	<1.1	<0.17	<0.24	<1.3	<2.2	<0.84	<0.17	<0.73
PZ-1	03/15/17	<0.50	<0.33	<0.26	<0.26	<0.18	<0.41	<2.5	<0.50	<0.50	<0.50	<1.5
	03/28/19	<0.33	<0.26	<0.27	<1.1	<0.17	<0.24	<1.3	<2.2	<0.84	0.66	<0.73
PZ-2	03/28/19	<0.33	<0.26	<0.27	<1.1	<0.17	<0.24	<1.3	<2.2	<0.84	0.30	<0.73
BD-1	03/28/19	<0.33	<0.26	<0.27	<1.1	<0.17	<0.24	<1.3	<2.2	<0.84	0.28	<0.73

Notes:

1) [1]NR 140, Wisconsin Administrative Code, (WAC) Preventive Action Limit (PAL), Register, February 2017
2) [2]NR 140, WAC, Enforcement Standard (ES), Register, February 2017
3) Results expressed in micrograms per liter (ug/L)
4) Only compounds detected by the laboratory are included on the table.
5) Samples from 2008 through 2017 were collected by Giles Engineering, Inc. Samples from March 2019 were collected by Terracon Consultants, Inc.
6) Samples BD-1 and BD-2 (3/28/19) are blind duplicate samples from piezometer PZ-2 and well MW-7, respectively.

XX.XX	Exceeds NR 140 PAL
XX.XX	Exceeds NR 140 ES
<xx.x	Analyte detected below its laboratory limit of detection

TABLE 4
Vapor Analytical Test Results Summary: Sub-slab

Smoke-Out Cleaners
1631 Brookfield Avenue, Suite D-4
Howard, Wisconsin
Terracon Project #58187103

Vapor Sampling Point	Sample Date	Volatile Organic Compounds (VOCs - µg/m^3)					
		Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene (cis-DCE)	trans-1,2-Dichloroethene (trans-DCE)	Vinyl chloride (VC)	1,1-Dichloroethene (DCE)
VP-1	06/01/11	**12,000,000**	**24,000**	6,000	<59,000	<38,000	<59,000
VP-2	06/01/11	**3,100,000**	**6,000**	<16,000	<16,000	<10,000	<16,000
VP-3	03/30/16	2,010	<0.41	<0.37	<0.57	<0.29	<0.35
	06/03/16	2,870	3.2	1.8	<0.55	<0.28	<0.34
	09/29/16	5,960	75	55.2	<11.4	<5.8	<7.1
	03/15/17	<0.40	0.44	<0.35	<0.55	<0.28	<0.34
	10/25/17	3,050	<20.8	<26.4	<22.9	<9.8	<18.4
VP-4	03/30/16	**889,000**	**5,820**	6,080	<95.2	<48.4	<59.0
	06/03/16	**1,050,000**	**13,200**	12,000	28.9	<0.28	<0.34
	09/29/16	**1,280,000**	**36,400**	36,200	67.6	12.4	1.2
	03/15/17	**604,000**	**13,200**	12,600	54.8	<5.4	<6.6
	10/25/17	**564,000**	**6,010**	4,870	<21.2	<9.1	<17.1
VP-5	03/30/16	**270,000**	**7,090**	11,800	119	<48.4	<59.0
	06/03/16	**196,000**	**12,000**	22,400	114	2.6	3.2
	09/29/16	**309,000**	**27,500**	39,100	238	<12.1	<14.8
	03/15/17	**93,700**	**7,040**	12,800	168	9.6	<6.9
	10/25/17	**162,000**	**7,580**	20,100	78.9	<9.1	<17.1
VP-6	03/30/16	3,540	12.5	5.0	<0.57	<0.29	<0.35
	06/03/16	497	0.68	0.74	<0.57	<0.29	<0.35
	09/29/16	1,140	<0.41	<0.37	<0.57	<0.29	<0.35
	03/15/17	2,670	<8.2	<7.3	<11.4	<5.8	<7.1
	10/25/17	2,600	<20.8	<26.4	<22.9	<9.8	<18.4
VP-7	06/03/16	13,800	156	<0.40	<0.62	<0.31	<0.38
	09/29/16	**24,200**	**1,270**	16.5	0.99	<0.29	<0.35
	03/15/17	**16,200**	454	41.3	<10.7	<5.4	<6.6
	10/25/17	11,200	<20.0	<25.4	<22.0	<9.4	<17.7
VP-8	06/03/16	13,600	2.1	<0.38	<0.60	<0.30	<0.37
	09/29/16	**19,200**	7.1	<0.35	<0.55	<0.28	<0.34
	03/15/17	5,360	<7.9	<7.1	<11.1	<5.6	<6.9
	10/25/17	**11,200**	<20.0	<25.4	<22.0	<9.4	<17.7
Residential Indoor Air VAL [1]	µg/m^3	42	2.1	--	--	1.7	210
Residential Sub-slab Vapor/Soil Gas VRSL [2]	µg/m^3	1,400	70	--	--	57	7,000
Small Commercial Building Indoor Air VAL [1]	µg/m^3	*180*	*8.8*	--	--	*28*	*880*
Small Commercial Building Sub-slab Vapor/Soil Gas VRSL [2]	µg/m^3	6,000	290	--	--	930	29,000
Large Commercial/Industrial Building Indoor Air VAL [1]	µg/m^3	180	8.8	--	--	28	880
Large Commercial/Industrial Building Sub-slab Vapor/Soil Gas VRSL [3]	µg/m^3	**18,000**	**880**	**--**	**--**	**2,800**	**88,000**

Notes:
Results expressed in
VAL = Vapor Action Limit
VRSL = Vapor Risk Screening Level
CVOCs = Chlorinated Volatile Organic Compounds
" < " Indicates not detected at or above the limit of detection (LOD)
" -- " Indicates standard not established, not calculated or not analyzed

[1] VALs are shown for information only and do not apply to sub-slab results. VAL given as the lesser of 1:100,000 lifetime cancer risk or noncancer hazard index of 1 value in generic U.S EPA Tables at the web address: http://www.epa.gov/re3hwmd/risk/human/rb-concentratio_table/Generic_Tables/index.htm and modifed for Wisconsin Vapor Intrusion Guildance PUB-RR-800 lifetime cancer risk (1:100,000) (Nov 2017)

[2] VRSL is the VAL adjusted for sub-slab vapor to indoor air by applying an attenuation factor of 0.03 for comparison with the analytical results.

[3] VRSL is the VAL adjusted for sub-slab vapor to indoor air by applying an attenuation factor of 0.01 for comparison with analytical results.

Blue-Shaded values indicate exceedance of applicable residential VRSLs (sub-slab)
Gray-Shaded values indicate exceedance of applicable small commercial VRSLs (sub-slab)
Bold, Red-Shaded values indicate exceedance of applicable Large commercial building VRSLs (sub-slab)

TABLE 5
Geochemical Parameter Analytical Results and Field Measurements Summary

Smoke-Out Cleaners
1631 Brookfield Avenue, Suite D-4
Howard, Wisconsin
Terracon Project #58187103

Sample ID	Sample Date	Field Parameters					Laboratory Parameters				
		Temperature (°C)	pH	Conductivity (mS/cm)	Oxidation Reduction Potential (ORP, mV)	Dissolved Oxygen (mg/L)	Total Organic Carbon (mg/L)	Iron, Dissolved (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)
Conducive to/Indicative of Reductive Dechlorination		--	5<pH<9	>BG	<50	<0.5	>20 mg/L	>BG	Present	Present	>BG
MW-1	03/27/19	18.81	7.52	641	23.4	0.91	4.5	506	<0.58	3.1	1,070
MW-2	03/27/19	18.97	7.43	655	52.2	0.95	2.5	52.0	<0.58	<0.52	52.8
MW-3	03/27/19	18.86	7.54	552	39.5	0.93	4.1	1,690	<0.58	8.5	1,830
MW-4	03/28/19	17.29	7.30	965	177.4	0.63	3.4	103	<0.58	<0.52	15.9
MW-5	03/28/19	5.16	7.30	465	59.1	0.52	--	--	--	--	--
MW-6	03/28/19	4.39	7.18	416	59.7	0.68	--	--	--	--	--
MW-7	03/28/19	5.16	8.15	1,536	142.6	11.71	0.26	236	<0.58	<0.52	<1.4
MW-8	03/28/19	5.75	7.57	879	65.4	6.52	--	--	--	--	--
MW-9	03/28/19	4.18	7.62	645	77.9	2.10	--	--	--	--	--
MW-10	03/28/19	3.89	8.12	1,539	130.1	9.39	--	--	--	--	--
PZ-1	03/28/19	5.17	7.76	781	69.4	3.13	--	--	--	--	--
PZ-2	03/28/19	8.50	7.93	775	56.7	5.00	--	--	--	--	--

Notes:
BG = Background; MW-9 represents background concentrations and values
°C = Celsius
mV = Milivolts
ug/L = Micrograms per liter
mg/L = Milligrams per liter
ms/cm = Millisiemens per centimeter

APPENDIX C

SOIL BORING LOGS

BOREHOLE ABANDONMENT FORM

MONITORING WELL CONSTRUCTION FORMS

MONITORING WELL DEVELOPMENT FORMS

MONITORING WELL INFORMATION FORM

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
58187103 Smoke Out Cleaners		GP-4

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Adam Sweet Horizon	3/19/2019	3/19/2019	Direct Push

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	

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

Facility ID	County	County Code	Civil Town/City/ or Village
	Brown	5	Howard

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	48 46		0.5	Concrete and Base Course				<1						
			1.0	Silty Sand, brown, well sorted, very fine to coarse grained, soft, moist	SM			<1						
			1.5	...wet										
			2.0	Silty Clay, dark brown, soft, saturated	CL-ML			<1						
			2.5	Clayey Sand, brown, very fine to medium grained, with silt, saturated										
			3.0		SC			<1						
			3.5											
			4.0	End of Boring @ 4'										

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

Signature  Firm Terracon Consultants, Inc.
9856 South 57th Street / Franklin, Wisconsin 53132
Tel: 414-423-0255
Fax: 414-423-0566

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

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
58187103 Smoke Out Cleaners		PZ-2/MW-10

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Adam Sweet Horizon	3/19/2019	3/19/2019	

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	

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

Facility ID	County	County Code	Civil Town/City/ or Village
	Brown	5	Howard

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	60 52		0	Asphalt and Gravel				<1						
				Sand, brown, very fine to medium grained, soft, moist	SW			<1						* Sample Submitted
			2.5	...saturated and gray	CL-ML			<1						
				Silty Clay, dark gray	SP			<1						
2	60 54		5.0	Sand, brown, medium to coarse grained, well sorted				<1						
			7.5	Silty Sand, brown, very fine to coarse grained, wet				<1						
3	60 52		10.0					<1						
			12.5		SM			<1						
4	60 26		15.0					<1						
			17.5					<1						
5	60 41		20.0					<1						
			22.5	Silty Clay, light brown to gray, trace very fine to medium grained sand, wet	CL-ML			<1						
6	12 14		25.0					<1						
				End of Boring @ 26'										

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

Signature  Firm Terracon Consultants, Inc.
9856 South 57th Street / Franklin, Wisconsin 53132
Tel: 414-423-0255
Fax: 414-423-0566

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

State of Wis., Dept. of Natural Resources
dnr.wi.gov

GP-4

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Brown		

Latitude / Longitude (see instructions): _____ N, _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
or Gov't Lot #			N	☐ E ☐ W

Well Street Address: 1631 Brookfield Avenue Unit D-4

Well City, Village or Town	Well ZIP Code
Howard	

Subdivision Name	Lot #

Reason for Removal from Service: Soil Sampling Borehole
WI Unique Well # of Replacement Well: ___ ___ ___ ___ ___

2. Facility / Owner Information

Facility Name: Smoke Out Cleaners
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
● Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 3/19/2019
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
● Other (specify): Direct Push Soil Boring

Formation Type:
● Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
4	N/A

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	N/A

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	1.5

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	● N/A
Liner(s) removed?	☐ Yes	☐ No	● N/A
Liner(s) perforated?	☐ Yes	☐ No	● N/A
Screen removed?	☐ Yes	☐ No	● N/A
Casing left in place?	☐ Yes	☐ No	● N/A
Was casing cut off below surface?	☐ Yes	☐ No	● N/A
Did sealing material rise to surface?	● Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	● No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	● Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
● Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ● Concrete
☐ Sand-Cement (Concrete) Grout ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Concrete	Surface	0.5		
Bentonite Chips	0.5	4.0	1/4 bag	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Anthony J. LaBrasca - Terracon Consultants, Inc.		3/19/2019

Street or Route	Telephone Number
9856 South 57th Street	(414) 423 0255

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
9856 South 57th Street	WI	53132		11/1/19

DNR Use Only

Date Received	Noted By

Comments:

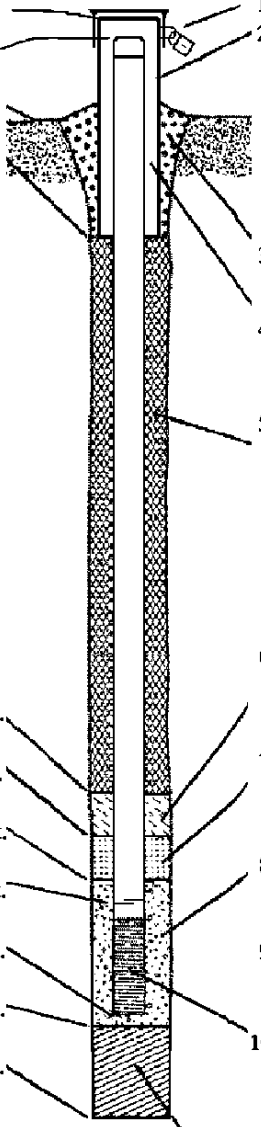
State of Wisconsin
Department of Natural Resources

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

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Smoke Out Cleaners	Local Grid Location of Well: _____ ft. ☐ N. ☐ S. _____ ft. ☐ E. ☐ W.	Well Name: MW-10
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 03 / 19 / 2019 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: _____ 1/4 of _____ 1/4 of Sec. _____, T. _____ N, R. _____ ☐ E ☐ W	Well Installed By: Name (first, last) and Firm: Adam Sweet; Horizon Construction and Exploration
Distance from Waste/Source _____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known / Gov. Lot Number _____	



A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐ _____

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top 0 ft. MSL or _____ ft.

F. Fine sand, top 1.25 ft. MSL or _____ ft.

G. Filter pack, top 1.25 ft. MSL or _____ ft.

H. Screen joint, top 1.5 ft. MSL or _____ ft.

I. Well bottom 6.5 ft. MSL or _____ ft.

J. Filter pack, bottom 7.0 ft. MSL or _____ ft.

K. Borehole, bottom 7.0 ft. MSL or _____ ft.

L. Borehole, diameter 4.0 in.

M. O.D. well casing 2.35 in.

N. I.D. well casing 2.03 in.

1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 12 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04 / Other ☐ _____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30 / Concrete ☒ 01 / Other ☐ _____

4. Material between well casing and protective pipe: Bentonite ☒ 30 / Other ☐ _____

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. _____ Other ☐ _____

7. Fine sand material: Manufacturer, product name & mesh size
a. _____
b. Volume added _____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. RW Sidley #4000
b. Volume added 3.5 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐ _____

10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐ _____
b. Manufacturer Monoflex
c. Slot size: 0.006 in.
d. Slotted length: 5 ft.

11. Backfill material (below filter pack): None ☒ 14 / Other ☐ _____

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

Signature	Firm
[signature]	Terracon Consultants, Inc.

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

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

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Smoke Out Cleaners	Local Grid Location of Well: _____ ft. ☐ N. ☐ S. _____ ft. ☐ E. ☐ W.	Well Name: PZ-2
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.	DNR Well ID No.
Facility ID	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 03 / 19 / 2019 (m m d d y y y y)
Type of Well: Well Code 12 / PZ	Section Location of Waste/Source: _____ 1/4 of _____ 1/4 of Sec. _____, T. _____ N, R. _____ ☐ E. ☐ W.	Well Installed By: Name (first, last) and Firm: Adam Sweet; Horizon Construction and Exploration
Distance from Waste/Source _____ ft.	Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
_____ Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top 1 ft. MSL or _____ ft.

F. Fine sand, top 19.5 ft. MSL or _____ ft.

G. Filter pack, top 20 ft. MSL or _____ ft.

H. Screen joint, top 21 ft. MSL or _____ ft.

I. Well bottom 26 ft. MSL or _____ ft.

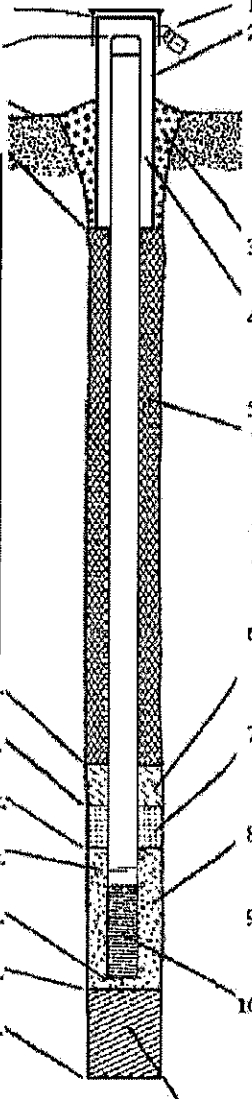
J. Filter pack, bottom 26.5 ft. MSL or _____ ft.

K. Borehole, bottom 26.5 ft. MSL or _____ ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.35 in.

N. I.D. well casing 2.03 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 12 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04
_____ Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30
Concrete ☒ 01
_____ Other ☐

4. Material between well casing and protective pipe:
Bentonite ☒ 30
_____ Other ☐

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☒ 32
c. _____ Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. RW Sidley #4000
b. Volume added 0.75 ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. RW Sidley #5
b. Volume added 3 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
_____ Other ☐

10. Screen material: PVC
a. Screen type: Factory cut ☒ 11
Continuous slot ☐ 01
_____ Other ☐
b. Manufacturer Monoflex
c. Slot size: 0.006 in.
d. Slotted length: 5 ft.

11. Backfill material (below filter pack): None ☒ 14
_____ Other ☐

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

Signature _____ Firm: Terracon Consultants, Inc.

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County Name	Well Name
Smoke Out Cleaners	Brown	MW-10

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	5		

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☒	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
Other _____	☐	

3. Time spent developing well 50 min.

4. Depth of well (from top of well casisng) 6.95 ft.

5. Inside diameter of well 2.03 in.

6. Volume of water in filter pack and well casing 4.9 gal.

7. Volume of water removed from well 10 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☐ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 1.51 ft.	5.13 ft.
Date	b. 3/19/2019 (m m d d y y y y)	3/19/2019 (m m d d y y y y)
Time	c. 12:25 ☐ a.m. ☒ p.m.	1:15 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	____ inches	____ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)
14. Total suspended solids	____ mg/l	____ mg/l
15. COD	____ mg/l	____ mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Well developed by: Name (first, last) and Firm
First Name: Anthony Last Name: LaBrasca
Firm: Terracon Consultants, Inc.

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: _____ Last Name: _____
Facility/Firm: _____
Street: _____
City/State/Zip: _____

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Anthony LaBrasca
Firm: Terracon Consultants, Inc.

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County Name	Well Name
Smoke Out Cleaners	Brown	PZ-2

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	5		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method

surged with bailer and bailed	☒	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed and pumped	☐	70
compressed air	☐	20
bailed only	☒	10
pumped only	☐	51
pumped slowly	☐	50
Other _____	☐	

3. Time spent developing well 40 min.

4. Depth of well (from top of casisng) 26. ft.

5. Inside diameter of well 2.03 in.

6. Volume of water in filter pack and well casing 3.4 gal.

7. Volume of water removed from well 8. gal.

8. Volume of water added (if any) ____. gal.

9. Source of water added _____

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☐ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 21.42 ft.	25.87 ft.
Date	b. 3/19/2019 (m m d d y y y y)	3/27/2019 (m m d d y y y y)
Time	c. 10:46 ☒ a.m. ☐ p.m.	1:00 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	____. inches	____. inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)
14. Total suspended solids	____. mg/l	____. mg/l
15. COD	____. mg/l	____. mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Well developed by: Name (first, last) and Firm
First Name: Anthony Last Name: LaBrasca
Firm: Terracon Consultants, Inc.

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: _____ Last Name: _____
Facility/Firm: _____
Street: _____
City/State/Zip: _____

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Anthony LaBrasca
Firm: Terracon Consultants, Inc.

NOTE: See instructions for more information including a list of county codes and well type codes.

APPENDIX D

LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY FORMS

GROUNDWATER SAMPLING FIELD SHEETS

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

April 01, 2019

Scott Hodgson
Terracon, Inc. - Franklin
9856 South 57th Street
Franklin, WI 53132

RE: Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

Dear Scott Hodgson:
Enclosed are the analytical results for sample(s) received by the laboratory on March 19, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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

SAMPLE SUMMARY

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40184404001	**GP-4 (1)**	Solid	03/19/19 09:40	03/19/19 15:05
40184404002	**PZ-2 (1)**	Solid	03/19/19 10:15	03/19/19 15:05
40184404003	**MEOH BLANK**	Solid	03/19/19 00:00	03/19/19 15:05

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

SAMPLE ANALYTE COUNT

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40184404001	**GP-4 (1)**	EPA 8260	SMT	64	PASI-G
		ASTM D2974-87	JXM	1	PASI-G
40184404002	**PZ-2 (1)**	EPA 8260	SMT	64	PASI-G
		ASTM D2974-87	JXM	1	PASI-G
40184404003	**MEOH BLANK**	EPA 8260	SMT	64	PASI-G

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

SUMMARY OF DETECTION

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40184404001	**GP-4 (1)**					
ASTM D2974-87	Percent Moisture	12.5	%	0.10	03/30/19 08:26	
40184404002	**PZ-2 (1)**					
ASTM D2974-87	Percent Moisture	14.0	%	0.10	03/30/19 08:26	

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

Method: **EPA 8260**
Description: 8260 MSV Med Level Normal List
Client: Terracon, Inc. - Franklin
Date: April 01, 2019

General Information:
3 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

Sample Preparation:
The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

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

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

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

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

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

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

QC Batch: 316576

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

- LCS (Lab ID: 1841041)
  - Bromomethane

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

Sample: GP-4 (1) **Lab ID: 40184404001** Collected: 03/19/19 09:40 Received: 03/19/19 15:05 Matrix: Solid

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

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	71-43-2	W
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	03/27/19 07:45	03/28/19 18:32	74-83-9	L1,W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	104-51-8	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	98-06-6	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	03/27/19 07:45	03/28/19 18:32	75-00-3	W
Chloroform	**<46.4**	ug/kg	250	46.4	1	03/27/19 07:45	03/28/19 18:32	67-66-3	W
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	74-87-3	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	106-43-4	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	03/27/19 07:45	03/28/19 18:32	96-12-8	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	124-48-1	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	106-93-4	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	74-95-3	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	95-50-1	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	541-73-1	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	106-46-7	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	75-71-8	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	75-34-3	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	107-06-2	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	75-35-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	156-59-2	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	156-60-5	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	78-87-5	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	142-28-9	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	594-20-7	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	563-58-6	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	10061-01-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	10061-02-6	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	98-82-8	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	99-87-6	W
Methylene Chloride	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	75-09-2	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	1634-04-4	W
Naphthalene	**<40.0**	ug/kg	250	40.0	1	03/27/19 07:45	03/28/19 18:32	91-20-3	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	103-65-1	W
Styrene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	100-42-5	W

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

Sample: GP-4 (1) **Lab ID: 40184404001** Collected: 03/19/19 09:40 Received: 03/19/19 15:05 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	03/27/19 07:45	03/28/19 18:32	630-20-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	79-34-5	W
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	127-18-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	108-88-3	W
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	87-61-6	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	03/27/19 07:45	03/28/19 18:32	120-82-1	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	71-55-6	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	79-00-5	W
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	75-69-4	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	96-18-4	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	108-67-8	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	75-01-4	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	03/27/19 07:45	03/28/19 18:32	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:32	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	104	%	57-148		1	03/27/19 07:45	03/28/19 18:32	1868-53-7	
Toluene-d8 (S)	110	%	58-142		1	03/27/19 07:45	03/28/19 18:32	2037-26-5	
4-Bromofluorobenzene (S)	99	%	48-130		1	03/27/19 07:45	03/28/19 18:32	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**12.5**	%	0.10	0.10	1		03/30/19 08:26		

Sample: PZ-2 (1) **Lab ID: 40184404002** Collected: 03/19/19 10:15 Received: 03/19/19 15:05 Matrix: Solid

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

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	71-43-2	W
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	03/27/19 07:45	03/28/19 18:55	74-83-9	L1,W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	104-51-8	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	98-06-6	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	03/27/19 07:45	03/28/19 18:55	75-00-3	W
Chloroform	**<46.4**	ug/kg	250	46.4	1	03/27/19 07:45	03/28/19 18:55	67-66-3	W

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

Sample: PZ-2 (1) **Lab ID: 40184404002** Collected: 03/19/19 10:15 Received: 03/19/19 15:05 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								
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	74-87-3	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	106-43-4	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	03/27/19 07:45	03/28/19 18:55	96-12-8	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	124-48-1	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	106-93-4	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	74-95-3	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	95-50-1	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	541-73-1	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	106-46-7	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	75-71-8	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	75-34-3	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	107-06-2	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	75-35-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	156-59-2	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	156-60-5	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	78-87-5	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	142-28-9	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	594-20-7	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	563-58-6	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	10061-01-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	10061-02-6	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	98-82-8	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	99-87-6	W
Methylene Chloride	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	75-09-2	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	1634-04-4	W
Naphthalene	**<40.0**	ug/kg	250	40.0	1	03/27/19 07:45	03/28/19 18:55	91-20-3	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	103-65-1	W
Styrene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	100-42-5	W
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	630-20-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	79-34-5	W
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	127-18-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	108-88-3	W
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	87-61-6	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	03/27/19 07:45	03/28/19 18:55	120-82-1	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	71-55-6	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	79-00-5	W
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	75-69-4	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	96-18-4	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	108-67-8	W

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

Sample: PZ-2 (1) **Lab ID: 40184404002** Collected: 03/19/19 10:15 Received: 03/19/19 15:05 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								
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	75-01-4	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	03/27/19 07:45	03/28/19 18:55	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 18:55	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	119	%	57-148		1	03/27/19 07:45	03/28/19 18:55	1868-53-7	
Toluene-d8 (S)	117	%	58-142		1	03/27/19 07:45	03/28/19 18:55	2037-26-5	
4-Bromofluorobenzene (S)	103	%	48-130		1	03/27/19 07:45	03/28/19 18:55	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**14.0**	%	0.10	0.10	1		03/30/19 08:26		

Sample: MEOH BLANK **Lab ID: 40184404003** Collected: 03/19/19 00:00 Received: 03/19/19 15:05 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	71-43-2	W
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	03/27/19 07:45	03/28/19 15:04	74-83-9	L1,W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	104-51-8	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	98-06-6	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	03/27/19 07:45	03/28/19 15:04	75-00-3	W
Chloroform	**<46.4**	ug/kg	250	46.4	1	03/27/19 07:45	03/28/19 15:04	67-66-3	W
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	74-87-3	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	106-43-4	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	03/27/19 07:45	03/28/19 15:04	96-12-8	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	124-48-1	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	106-93-4	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	74-95-3	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	95-50-1	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	541-73-1	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	106-46-7	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	75-71-8	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	75-34-3	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	107-06-2	W

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

Sample: MEOH BLANK **Lab ID: 40184404003** Collected: 03/19/19 00:00 Received: 03/19/19 15:05 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-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	75-35-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	156-59-2	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	156-60-5	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	78-87-5	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	142-28-9	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	594-20-7	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	563-58-6	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	10061-01-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	10061-02-6	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	98-82-8	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	99-87-6	W
Methylene Chloride	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	75-09-2	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	1634-04-4	W
Naphthalene	**<40.0**	ug/kg	250	40.0	1	03/27/19 07:45	03/28/19 15:04	91-20-3	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	103-65-1	W
Styrene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	100-42-5	W
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	630-20-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	79-34-5	W
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	127-18-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	108-88-3	W
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	87-61-6	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	03/27/19 07:45	03/28/19 15:04	120-82-1	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	71-55-6	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	79-00-5	W
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	75-69-4	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	96-18-4	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	108-67-8	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	75-01-4	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	03/27/19 07:45	03/28/19 15:04	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	03/27/19 07:45	03/28/19 15:04	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	104	%	57-148		1	03/27/19 07:45	03/28/19 15:04	1868-53-7	
Toluene-d8 (S)	99	%	58-142		1	03/27/19 07:45	03/28/19 15:04	2037-26-5	
4-Bromofluorobenzene (S)	99	%	48-130		1	03/27/19 07:45	03/28/19 15:04	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

QC Batch: 316576 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Normal List
Associated Lab Samples: 40184404001, 40184404002, 40184404003

METHOD BLANK: 1841040 Matrix: Solid
Associated Lab Samples: 40184404001, 40184404002, 40184404003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<13.7	50.0	03/28/19 11:13	
1,1,1-Trichloroethane	ug/kg	<14.4	50.0	03/28/19 11:13	
1,1,2,2-Tetrachloroethane	ug/kg	<17.5	50.0	03/28/19 11:13	
1,1,2-Trichloroethane	ug/kg	<20.2	50.0	03/28/19 11:13	
1,1-Dichloroethane	ug/kg	<17.6	50.0	03/28/19 11:13	
1,1-Dichloroethene	ug/kg	<17.6	50.0	03/28/19 11:13	
1,1-Dichloropropene	ug/kg	<14.0	50.0	03/28/19 11:13	
1,2,3-Trichlorobenzene	ug/kg	<17.0	50.0	03/28/19 11:13	
1,2,3-Trichloropropane	ug/kg	<22.3	50.0	03/28/19 11:13	
1,2,4-Trichlorobenzene	ug/kg	<47.6	250	03/28/19 11:13	
1,2,4-Trimethylbenzene	ug/kg	<12.2	50.0	03/28/19 11:13	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	250	03/28/19 11:13	
1,2-Dibromoethane (EDB)	ug/kg	<14.7	50.0	03/28/19 11:13	
1,2-Dichlorobenzene	ug/kg	<16.2	50.0	03/28/19 11:13	
1,2-Dichloroethane	ug/kg	<15.0	50.0	03/28/19 11:13	
1,2-Dichloropropane	ug/kg	<16.8	50.0	03/28/19 11:13	
1,3,5-Trimethylbenzene	ug/kg	<14.5	50.0	03/28/19 11:13	
1,3-Dichlorobenzene	ug/kg	<13.2	50.0	03/28/19 11:13	
1,3-Dichloropropane	ug/kg	<12.0	50.0	03/28/19 11:13	
1,4-Dichlorobenzene	ug/kg	<15.9	50.0	03/28/19 11:13	
2,2-Dichloropropane	ug/kg	<12.6	50.0	03/28/19 11:13	
2-Chlorotoluene	ug/kg	<15.8	50.0	03/28/19 11:13	
4-Chlorotoluene	ug/kg	<13.0	50.0	03/28/19 11:13	
Benzene	ug/kg	<9.2	20.0	03/28/19 11:13	
Bromobenzene	ug/kg	<20.6	50.0	03/28/19 11:13	
Bromochloromethane	ug/kg	<21.4	50.0	03/28/19 11:13	
Bromodichloromethane	ug/kg	<9.8	50.0	03/28/19 11:13	
Bromoform	ug/kg	<19.8	50.0	03/28/19 11:13	
Bromomethane	ug/kg	<69.9	250	03/28/19 11:13	
Carbon tetrachloride	ug/kg	<12.1	50.0	03/28/19 11:13	
Chlorobenzene	ug/kg	<14.8	50.0	03/28/19 11:13	
Chloroethane	ug/kg	<67.0	250	03/28/19 11:13	
Chloroform	ug/kg	<46.4	250	03/28/19 11:13	
Chloromethane	ug/kg	<20.4	50.0	03/28/19 11:13	
cis-1,2-Dichloroethene	ug/kg	<16.6	50.0	03/28/19 11:13	
cis-1,3-Dichloropropene	ug/kg	<16.6	50.0	03/28/19 11:13	
Dibromochloromethane	ug/kg	<17.9	50.0	03/28/19 11:13	
Dibromomethane	ug/kg	<19.3	50.0	03/28/19 11:13	
Dichlorodifluoromethane	ug/kg	<12.3	50.0	03/28/19 11:13	
Diisopropyl ether	ug/kg	<17.7	50.0	03/28/19 11:13	
Ethylbenzene	ug/kg	<12.4	50.0	03/28/19 11:13	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

METHOD BLANK: 1841040 Matrix: Solid
Associated Lab Samples: 40184404001, 40184404002, 40184404003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/kg	44.6J	50.0	03/28/19 11:13	
Isopropylbenzene (Cumene)	ug/kg	<12.6	50.0	03/28/19 11:13	
m&p-Xylene	ug/kg	<34.4	100	03/28/19 11:13	
Methyl-tert-butyl ether	ug/kg	<12.7	50.0	03/28/19 11:13	
Methylene Chloride	ug/kg	<16.2	50.0	03/28/19 11:13	
n-Butylbenzene	ug/kg	<10.5	50.0	03/28/19 11:13	
n-Propylbenzene	ug/kg	<11.6	50.0	03/28/19 11:13	
Naphthalene	ug/kg	<40.0	250	03/28/19 11:13	
o-Xylene	ug/kg	<14.0	50.0	03/28/19 11:13	
p-Isopropyltoluene	ug/kg	14.5J	50.0	03/28/19 11:13	
sec-Butylbenzene	ug/kg	<11.9	50.0	03/28/19 11:13	
Styrene	ug/kg	<9.0	50.0	03/28/19 11:13	
tert-Butylbenzene	ug/kg	11.1J	50.0	03/28/19 11:13	
Tetrachloroethene	ug/kg	<12.9	50.0	03/28/19 11:13	
Toluene	ug/kg	<11.2	50.0	03/28/19 11:13	
trans-1,2-Dichloroethene	ug/kg	<16.5	50.0	03/28/19 11:13	
trans-1,3-Dichloropropene	ug/kg	<14.4	50.0	03/28/19 11:13	
Trichloroethene	ug/kg	<23.6	50.0	03/28/19 11:13	
Trichlorofluoromethane	ug/kg	<24.7	50.0	03/28/19 11:13	
Vinyl chloride	ug/kg	<21.1	50.0	03/28/19 11:13	
4-Bromofluorobenzene (S)	%	95	48-130	03/28/19 11:13	
Dibromofluoromethane (S)	%	104	57-148	03/28/19 11:13	
Toluene-d8 (S)	%	102	58-142	03/28/19 11:13	

LABORATORY CONTROL SAMPLE: 1841041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2660	107	70-130	
1,1,2,2-Tetrachloroethane	ug/kg	2500	1950	78	68-130	
1,1,2-Trichloroethane	ug/kg	2500	2160	86	70-130	
1,1-Dichloroethane	ug/kg	2500	2120	85	67-132	
1,1-Dichloroethene	ug/kg	2500	2370	95	67-128	
1,2,4-Trichlorobenzene	ug/kg	2500	2830	113	51-131	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2220	89	49-117	
1,2-Dibromoethane (EDB)	ug/kg	2500	2400	96	70-130	
1,2-Dichlorobenzene	ug/kg	2500	2570	103	70-130	
1,2-Dichloroethane	ug/kg	2500	2580	103	65-137	
1,2-Dichloropropane	ug/kg	2500	2150	86	75-126	
1,3-Dichlorobenzene	ug/kg	2500	2640	106	70-130	
1,4-Dichlorobenzene	ug/kg	2500	2760	110	70-130	
Benzene	ug/kg	2500	2060	82	70-130	
Bromodichloromethane	ug/kg	2500	2700	108	70-130	
Bromoform	ug/kg	2500	2760	110	57-117	
Bromomethane	ug/kg	2500	4260	170	48-135	L1

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

LABORATORY CONTROL SAMPLE: 1841041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/kg	2500	2810	113	65-133	
Chlorobenzene	ug/kg	2500	2580	103	70-130	
Chloroethane	ug/kg	2500	2820	113	37-165	
Chloroform	ug/kg	2500	2490	100	72-126	
Chloromethane	ug/kg	2500	1520	61	34-120	
cis-1,2-Dichloroethene	ug/kg	2500	2190	88	70-130	
cis-1,3-Dichloropropene	ug/kg	2500	2270	91	69-130	
Dibromochloromethane	ug/kg	2500	2860	114	68-130	
Dichlorodifluoromethane	ug/kg	2500	1740	70	22-100	
Ethylbenzene	ug/kg	2500	2520	101	79-121	
Isopropylbenzene (Cumene)	ug/kg	2500	2610	105	70-130	
m&p-Xylene	ug/kg	5000	4960	99	70-130	
Methyl-tert-butyl ether	ug/kg	2500	2300	92	66-129	
Methylene Chloride	ug/kg	2500	2370	95	68-129	
o-Xylene	ug/kg	2500	2470	99	70-130	
Styrene	ug/kg	2500	2620	105	70-130	
Tetrachloroethene	ug/kg	2500	2900	116	70-130	
Toluene	ug/kg	2500	2490	100	80-123	
trans-1,2-Dichloroethene	ug/kg	2500	2370	95	70-130	
trans-1,3-Dichloropropene	ug/kg	2500	2480	99	67-130	
Trichloroethene	ug/kg	2500	2730	109	70-130	
Trichlorofluoromethane	ug/kg	2500	3340	134	64-134	
Vinyl chloride	ug/kg	2500	1690	68	52-122	
4-Bromofluorobenzene (S)	%			94	48-130	
Dibromofluoromethane (S)	%			98	57-148	
Toluene-d8 (S)	%			100	58-142	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1841042 1841043

Parameter	Units	40184702001 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	1250	1250	1250	1200	100	96	62-130	4	20	
1,1,2,2-Tetrachloroethane	ug/kg	<25.0	1250	1250	952	946	76	76	64-137	1	20	
1,1,2-Trichloroethane	ug/kg	<25.0	1250	1250	1150	1130	92	90	70-130	2	20	
1,1-Dichloroethane	ug/kg	<25.0	1250	1250	1050	998	84	80	65-132	5	20	
1,1-Dichloroethene	ug/kg	<25.0	1250	1250	1060	1020	85	82	50-128	4	21	
1,2,4-Trichlorobenzene	ug/kg	<47.6	1250	1250	1620	1560	130	125	51-148	4	20	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	1250	1250	1180	1160	94	93	43-134	2	23	
1,2-Dibromoethane (EDB)	ug/kg	<25.0	1250	1250	1210	1210	97	97	70-130	0	20	
1,2-Dichlorobenzene	ug/kg	<25.0	1250	1250	1370	1410	110	113	70-130	3	20	
1,2-Dichloroethane	ug/kg	<25.0	1250	1250	1340	1330	107	106	65-139	1	20	
1,2-Dichloropropane	ug/kg	<25.0	1250	1250	1040	1000	83	80	74-128	4	20	
1,3-Dichlorobenzene	ug/kg	<25.0	1250	1250	1370	1350	110	108	70-130	2	20	
1,4-Dichlorobenzene	ug/kg	<25.0	1250	1250	1460	1390	117	111	70-130	5	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1841042 1841043

Parameter	Units	40184702001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	<25.0	1250	1250	977	1000	78	80	66-132	3	20	
Bromodichloromethane	ug/kg	<25.0	1250	1250	1340	1320	107	105	69-130	2	20	
Bromoform	ug/kg	<25.0	1250	1250	1370	1420	110	113	57-130	3	20	
Bromomethane	ug/kg	<69.9	1250	1250	1720	1610	138	129	34-145	7	20	
Carbon tetrachloride	ug/kg	<25.0	1250	1250	1280	1240	103	99	54-133	3	20	
Chlorobenzene	ug/kg	<25.0	1250	1250	1300	1330	104	106	70-130	2	20	
Chloroethane	ug/kg	<67.0	1250	1250	1350	1260	108	101	33-165	7	20	
Chloroform	ug/kg	<46.4	1250	1250	1200	1230	96	99	72-128	2	20	
Chloromethane	ug/kg	<25.0	1250	1250	574	545	46	44	20-120	5	20	
cis-1,2-Dichloroethene	ug/kg	<25.0	1250	1250	1090	1050	87	84	69-130	4	20	
cis-1,3-Dichloropropene	ug/kg	<25.0	1250	1250	1150	1080	92	86	65-130	6	20	
Dibromochloromethane	ug/kg	<25.0	1250	1250	1400	1430	112	115	65-130	3	20	
Dichlorodifluoromethane	ug/kg	<25.0	1250	1250	702	707	56	57	10-109	1	29	
Ethylbenzene	ug/kg	<25.0	1250	1250	1230	1230	99	98	63-127	0	20	
Isopropylbenzene (Cumene)	ug/kg	<25.0	1250	1250	1300	1220	104	98	66-130	6	20	
m&p-Xylene	ug/kg	<50.0	2500	2500	2560	2500	103	100	70-130	3	20	
Methyl-tert-butyl ether	ug/kg	<25.0	1250	1250	1130	1200	90	96	62-135	6	20	
Methylene Chloride	ug/kg	<25.0	1250	1250	1150	1150	92	92	68-129	0	20	
o-Xylene	ug/kg	<25.0	1250	1250	1220	1240	98	99	69-130	2	20	
Styrene	ug/kg	<25.0	1250	1250	1270	1300	102	104	70-130	3	20	
Tetrachloroethene	ug/kg	<25.0	1250	1250	1400	1380	112	110	70-130	2	20	
Toluene	ug/kg	<25.0	1250	1250	1230	1230	98	98	80-123	0	20	
trans-1,2-Dichloroethene	ug/kg	<25.0	1250	1250	1090	1060	87	85	70-130	3	20	
trans-1,3-Dichloropropene	ug/kg	<25.0	1250	1250	1220	1190	98	95	67-130	3	20	
Trichloroethene	ug/kg	<25.0	1250	1250	1240	1240	99	99	70-130	0	20	
Trichlorofluoromethane	ug/kg	<25.0	1250	1250	1260	1170	101	93	41-134	8	26	
Vinyl chloride	ug/kg	<25.0	1250	1250	739	711	59	57	39-122	4	20	
4-Bromofluorobenzene (S)	%						90	89	48-130			
Dibromofluoromethane (S)	%						95	98	57-148			
Toluene-d8 (S)	%						95	95	58-142			

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

QC Batch: 316907
QC Batch Method: ASTM D2974-87
Associated Lab Samples: 40184404001, 40184404002

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

SAMPLE DUPLICATE: 1843106

Parameter	Units	40184945001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.3	7.4	1	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.
W	Non-detect results are reported on a wet weight basis.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184404

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40184404001	**GP-4 (1)**	EPA 5035/5030B	316576	EPA 8260	316582
40184404002	**PZ-2 (1)**	EPA 5035/5030B	316576	EPA 8260	316582
40184404003	**MEOH BLANK**	EPA 5035/5030B	316576	EPA 8260	316582
40184404001	**GP-4 (1)**	ASTM D2974-87	316907		
40184404002	**PZ-2 (1)**	ASTM D2974-87	316907		

40184404

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

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

(Please Print Clearly) Terracon

Company Name:	[illegible]
Branch/Location:	Franklin, WI
Project Contact:	Scott Hodgson
Phone:	414 423 0255
Project Number:	58187103
Project Name:	Smoke Out Cleaners
Project State:	WI
Sampled By (Print):	Anthony LaBrasa
Sampled By (Sign):	[signature]
PO #:	
Regulatory Program:	

Quote #:	
Mail To Contact:	Scott Hodgson
Mail To Company:	Terracon
Mail To Address:	
Invoice To Contact:	Scott Hodgson
Invoice To Company:	Terracon
Invoice To Address:	
Invoice To Phone:	

*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

FILTERED? (YES/NO) — Y/N
PRESERVATION (CODE)* — Pick Letter: F, A

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	Analyses Requested: VOCs (F)	Moisture (A)	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	GP-4 (1)	3/14/19	940	S	1	1	Please split costs 50/50 into 2 separate Invoices		
002	PZ-2 (1)	↓	1015	↓	1	1			
003	MeOH Blank	↓	-	↓	1				

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

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

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

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	3/14/19 1505	[signature] Pace	3/14/19 1505
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No. 40184404
Receipt Temp = ROI °C
Sample Receipt pH OK / Adjusted
Cooler Custody Seal Present / Not Present Intact / Not Intact

ORIGINAL

Pace Analytical Services, LL
1241 Bellevue Street, Suite
Green Bay, WI 5430

Sample Preservation Receipt Form

Client Name: Terracon Project # 40184404

All containers needing preservation have been checked and noted below: □Yes □No ☒N/A

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted): Initial when completed: Date/ Time:

	Glass							Plastic							Vials						Jars			General			VOA Vials (>6mm) *						
Pace Lab #	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN		H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																			1				1										2.5 / 5 / 10
002																			1				1										2.5 / 5 / 10
003																			1														2.5 / 5 / 10
004																																	2.5 / 5 / 10
005																																	2.5 / 5 / 10
006																																	2.5 / 5 / 10
007																																	2.5 / 5 / 10
008																																	2.5 / 5 / 10
009																																	2.5 / 5 / 10
010																																	2.5 / 5 / 10
011																																	2.5 / 5 / 10
012																																	2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																																	2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

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

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

Sample Condition Upon Receipt Form (SCUR)

Client Name: Terracon

Project #: WO#: 40184404

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☑ 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 SR - NA **Type of Ice:** Wet Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: R/F /Corr: _____

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

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

Person examining contents:
Date: 3-19-19
Initials: JK

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☐Yes ☑No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: S		
Trip Blank Present:	☑Yes ☐No ☐N/A	13.
Trip Blank Custody Seals Present	☐Yes ☑No ☐N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AL for DM **Date:** 3/19/19

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

April 11, 2019

Scott Hodgson
Terracon, Inc. - Franklin
9856 South 57th Street
Franklin, WI 53132

RE: Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Dear Scott Hodgson:
Enclosed are the analytical results for sample(s) received by the laboratory on March 28, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

Pace Analytical Services, LLC
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Green Bay, WI 54302
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CERTIFICATIONS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40184900001	**MW-1**	Water	03/27/19 15:00	03/28/19 16:40
40184900002	**MW-2**	Water	03/27/19 15:45	03/28/19 16:40
40184900003	**MW-3**	Water	03/27/19 16:30	03/28/19 16:40
40184900004	**MW-4**	Water	03/28/19 13:20	03/28/19 16:40
40184900005	**MW-5**	Water	03/28/19 16:05	03/28/19 16:40
40184900006	**MW-6**	Water	03/28/19 15:30	03/28/19 16:40
40184900007	**MW-7**	Water	03/28/19 12:35	03/28/19 16:40
40184900008	**MW-8**	Water	03/28/19 14:00	03/28/19 16:40
40184900009	**MW-9**	Water	03/28/19 15:05	03/28/19 16:40
40184900010	**MW-10**	Water	03/28/19 11:05	03/28/19 16:40
40184900011	**PZ-1**	Water	03/28/19 14:30	03/28/19 16:40
40184900012	**PZ-2**	Water	03/28/19 10:55	03/28/19 16:40
40184900013	**BD-1**	Water	03/28/19 00:00	03/28/19 16:40
40184900014	**BD-2**	Water	03/28/19 00:00	03/28/19 16:40
40184900015	**HCL TRIP BLANK**	Water	03/28/19 00:00	03/28/19 16:40

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SAMPLE ANALYTE COUNT

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40184900001	**MW-1**	EPA 8015B Modified	ALD	3	PASI-G
		EPA 6010	TXW	1	PASI-G
		EPA 8260	LAP	64	PASI-G
		SM 5310C	TJJ	1	PASI-G
40184900002	**MW-2**	EPA 8015B Modified	ALD	3	PASI-G
		EPA 6010	TXW	1	PASI-G
		EPA 8260	LAP	64	PASI-G
		SM 5310C	TJJ	1	PASI-G
40184900003	**MW-3**	EPA 8015B Modified	ALD	3	PASI-G
		EPA 6010	TXW	1	PASI-G
		EPA 8260	LAP	64	PASI-G
		SM 5310C	TJJ	1	PASI-G
40184900004	**MW-4**	EPA 8015B Modified	ALD	3	PASI-G
		EPA 6010	TXW	1	PASI-G
		EPA 8260	LAP	64	PASI-G
		SM 5310C	TJJ	1	PASI-G
40184900005	**MW-5**	EPA 8260	LAP	64	PASI-G
40184900006	**MW-6**	EPA 8260	LAP	64	PASI-G
40184900007	**MW-7**	EPA 8015B Modified	ALD	3	PASI-G
		EPA 6010	TXW	1	PASI-G
		EPA 8260	LAP	64	PASI-G
		SM 5310C	TJJ	1	PASI-G
40184900008	**MW-8**	EPA 8260	LAP	64	PASI-G
40184900009	**MW-9**	EPA 8260	LAP	64	PASI-G
40184900010	**MW-10**	EPA 8260	LAP	64	PASI-G
40184900011	**PZ-1**	EPA 8260	LAP	64	PASI-G
40184900012	**PZ-2**	EPA 8260	LAP	64	PASI-G
40184900013	**BD-1**	EPA 8260	LAP	64	PASI-G
40184900014	**BD-2**	EPA 8260	LAP	64	PASI-G
40184900015	**HCL TRIP BLANK**	EPA 8260	LAP	64	PASI-G

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SUMMARY OF DETECTION

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40184900001	**MW-1**					
EPA 8015B Modified	Ethene	3.1J	ug/L	5.0	04/04/19 09:58	
EPA 8015B Modified	Methane	1070	ug/L	14.0	04/04/19 12:41	
EPA 6010	Iron, Dissolved	506	ug/L	118	04/02/19 19:32	
EPA 8260	cis-1,2-Dichloroethene	67.9	ug/L	1.0	04/01/19 12:13	
EPA 8260	trans-1,2-Dichloroethene	1.7J	ug/L	3.6	04/01/19 12:13	
EPA 8260	Tetrachloroethene	16.9	ug/L	1.1	04/01/19 12:13	
EPA 8260	Trichloroethene	6.2	ug/L	1.0	04/01/19 12:13	
EPA 8260	Vinyl chloride	11.0	ug/L	1.0	04/01/19 12:13	
SM 5310C	Total Organic Carbon	4.5	mg/L	0.84	04/02/19 20:30	
40184900002	**MW-2**					
EPA 8015B Modified	Methane	52.8	ug/L	2.8	04/04/19 10:05	
EPA 6010	Iron, Dissolved	52.0J	ug/L	118	04/02/19 19:35	
EPA 8260	cis-1,2-Dichloroethene	3.5	ug/L	1.0	04/01/19 12:58	
EPA 8260	Tetrachloroethene	3.7	ug/L	1.1	04/01/19 12:58	
EPA 8260	Trichloroethene	1.1	ug/L	1.0	04/01/19 12:58	
SM 5310C	Total Organic Carbon	2.5	mg/L	0.84	04/02/19 20:51	
40184900003	**MW-3**					
EPA 8015B Modified	Ethene	8.5	ug/L	5.0	04/04/19 10:12	
EPA 8015B Modified	Methane	1830	ug/L	28.0	04/04/19 12:48	
EPA 6010	Iron, Dissolved	1690	ug/L	118	04/02/19 19:37	
EPA 8260	cis-1,2-Dichloroethene	188	ug/L	2.5	04/01/19 18:39	
EPA 8260	trans-1,2-Dichloroethene	3.7J	ug/L	9.1	04/01/19 18:39	
EPA 8260	Tetrachloroethene	13.8	ug/L	2.7	04/01/19 18:39	
EPA 8260	Trichloroethene	5.2	ug/L	2.5	04/01/19 18:39	
EPA 8260	Vinyl chloride	45.5	ug/L	2.5	04/01/19 18:39	
SM 5310C	Total Organic Carbon	4.1	mg/L	0.84	04/02/19 21:11	
40184900004	**MW-4**					
EPA 8015B Modified	Methane	15.9	ug/L	2.8	04/11/19 09:14	
EPA 6010	Iron, Dissolved	103J	ug/L	118	04/02/19 19:40	
EPA 8260	1,1-Dichloroethene	0.41J	ug/L	1.0	04/01/19 13:20	
EPA 8260	cis-1,2-Dichloroethene	88.9	ug/L	1.0	04/01/19 13:20	
EPA 8260	trans-1,2-Dichloroethene	1.1J	ug/L	3.6	04/01/19 13:20	
EPA 8260	Tetrachloroethene	21.2	ug/L	1.1	04/01/19 13:20	
EPA 8260	Trichloroethene	10.1	ug/L	1.0	04/01/19 13:20	
SM 5310C	Total Organic Carbon	3.4	mg/L	0.84	04/02/19 22:14	
40184900005	**MW-5**					
EPA 8260	Toluene	0.71J	ug/L	5.0	04/01/19 13:43	
40184900006	**MW-6**					
EPA 8260	Toluene	0.74J	ug/L	5.0	04/01/19 11:28	
40184900007	**MW-7**					
EPA 6010	Iron, Dissolved	236	ug/L	118	04/02/19 19:42	
SM 5310C	Total Organic Carbon	0.26J	mg/L	0.84	04/02/19 22:35	

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40184900008	**MW-8**					
EPA 8260	Toluene	0.74J	ug/L	5.0	04/01/19 14:05	
40184900009	**MW-9**					
EPA 8260	Toluene	0.79J	ug/L	5.0	04/01/19 16:24	
40184900011	**PZ-1**					
EPA 8260	Toluene	0.66J	ug/L	5.0	04/01/19 17:09	
40184900012	**PZ-2**					
EPA 8260	Toluene	0.30J	ug/L	5.0	04/01/19 17:32	
40184900013	**BD-1**					
EPA 8260	Toluene	0.28J	ug/L	5.0	04/01/19 17:55	

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PROJECT NARRATIVE

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Method: **EPA 8015B Modified**
Description: Methane, Ethane, Ethene GCV
Client: Terracon, Inc. - Franklin
Date: April 11, 2019

General Information:
5 samples were analyzed for EPA 8015B Modified. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

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

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

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

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

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

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 317345

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40184974033

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

- MS (Lab ID: 1845225)
  - Methane
- MSD (Lab ID: 1845226)
  - Methane

Additional Comments:

Analyte Comments:

QC Batch: 317345

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

- MS (Lab ID: 1845225)
  - Methane
- MSD (Lab ID: 1845226)
  - Methane

REPORT OF LABORATORY ANALYSIS

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

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: Terracon, Inc. - Franklin
Date: April 11, 2019

General Information:
5 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

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

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

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

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

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Method: **EPA 8260**
Description: 8260 MSV
Client: Terracon, Inc. - Franklin
Date: April 11, 2019

General Information:
15 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

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

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

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

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

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

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

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
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PROJECT NARRATIVE

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Method: **SM 5310C**
Description: 5310C TOC
Client: Terracon, Inc. - Franklin
Date: April 11, 2019

General Information:
5 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

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

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

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-1 **Lab ID: 40184900001** Collected: 03/27/19 15:00 Received: 03/28/19 16:40 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		04/04/19 09:58	74-84-0	
Ethene	**3.1J**	ug/L	5.0	0.52	1		04/04/19 09:58	74-85-1	
Methane	**1070**	ug/L	14.0	6.8	5		04/04/19 12:41	74-82-8	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Iron, Dissolved	**506**	ug/L	118	35.4	1		04/02/19 19:32	7439-89-6	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 12:13	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 12:13	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 12:13	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 12:13	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 12:13	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 12:13	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 12:13	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 12:13	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 12:13	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 12:13	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 12:13	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 12:13	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 12:13	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 12:13	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 12:13	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 12:13	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 12:13	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 12:13	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 12:13	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 12:13	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 12:13	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 12:13	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 12:13	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 12:13	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 12:13	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 12:13	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 12:13	75-35-4	
cis-1,2-Dichloroethene	**67.9**	ug/L	1.0	0.27	1		04/01/19 12:13	156-59-2	
trans-1,2-Dichloroethene	**1.7J**	ug/L	3.6	1.1	1		04/01/19 12:13	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 12:13	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 12:13	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 12:13	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 12:13	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 12:13	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 12:13	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 12:13	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 12:13	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 12:13	87-68-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-1 **Lab ID: 40184900001** Collected: 03/27/19 15:00 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 12:13	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 12:13	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 12:13	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 12:13	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 12:13	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 12:13	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 12:13	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 12:13	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 12:13	79-34-5	
Tetrachloroethene	**16.9**	ug/L	1.1	0.33	1		04/01/19 12:13	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		04/01/19 12:13	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 12:13	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 12:13	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 12:13	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 12:13	79-00-5	
Trichloroethene	**6.2**	ug/L	1.0	0.26	1		04/01/19 12:13	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 12:13	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 12:13	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 12:13	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 12:13	108-67-8	
Vinyl chloride	**11.0**	ug/L	1.0	0.17	1		04/01/19 12:13	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 12:13	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 12:13	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	70-130		1		04/01/19 12:13	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		04/01/19 12:13	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		04/01/19 12:13	2037-26-5	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**4.5**	mg/L	0.84	0.25	1		04/02/19 20:30	7440-44-0	

Sample: MW-2 **Lab ID: 40184900002** Collected: 03/27/19 15:45 Received: 03/28/19 16:40 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		04/04/19 10:05	74-84-0	
Ethene	**<0.52**	ug/L	5.0	0.52	1		04/04/19 10:05	74-85-1	
Methane	**52.8**	ug/L	2.8	1.4	1		04/04/19 10:05	74-82-8	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Iron, Dissolved	**52.0J**	ug/L	118	35.4	1		04/02/19 19:35	7439-89-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-2 **Lab ID: 40184900002** Collected: 03/27/19 15:45 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 12:58	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 12:58	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 12:58	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 12:58	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 12:58	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 12:58	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 12:58	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 12:58	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 12:58	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 12:58	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 12:58	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 12:58	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 12:58	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 12:58	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 12:58	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 12:58	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 12:58	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 12:58	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 12:58	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 12:58	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 12:58	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 12:58	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 12:58	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 12:58	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 12:58	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 12:58	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 12:58	75-35-4	
cis-1,2-Dichloroethene	**3.5**	ug/L	1.0	0.27	1		04/01/19 12:58	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		04/01/19 12:58	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 12:58	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 12:58	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 12:58	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 12:58	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 12:58	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 12:58	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 12:58	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 12:58	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 12:58	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 12:58	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 12:58	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 12:58	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 12:58	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 12:58	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 12:58	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 12:58	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 12:58	630-20-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-2 **Lab ID: 40184900002** Collected: 03/27/19 15:45 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 12:58	79-34-5	
Tetrachloroethene	**3.7**	ug/L	1.1	0.33	1		04/01/19 12:58	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		04/01/19 12:58	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 12:58	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 12:58	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 12:58	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 12:58	79-00-5	
Trichloroethene	**1.1**	ug/L	1.0	0.26	1		04/01/19 12:58	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 12:58	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 12:58	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 12:58	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 12:58	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 12:58	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 12:58	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 12:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		04/01/19 12:58	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		04/01/19 12:58	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		04/01/19 12:58	2037-26-5	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**2.5**	mg/L	0.84	0.25	1		04/02/19 20:51	7440-44-0	

Sample: MW-3 **Lab ID: 40184900003** Collected: 03/27/19 16:30 Received: 03/28/19 16:40 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		04/04/19 10:12	74-84-0	
Ethene	**8.5**	ug/L	5.0	0.52	1		04/04/19 10:12	74-85-1	
Methane	**1830**	ug/L	28.0	13.7	10		04/04/19 12:48	74-82-8	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Iron, Dissolved	**1690**	ug/L	118	35.4	1		04/02/19 19:37	7439-89-6	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.62**	ug/L	2.5	0.62	2.5		04/01/19 18:39	71-43-2	
Bromobenzene	**<0.60**	ug/L	2.5	0.60	2.5		04/01/19 18:39	108-86-1	
Bromochloromethane	**<0.91**	ug/L	12.5	0.91	2.5		04/01/19 18:39	74-97-5	
Bromodichloromethane	**<0.91**	ug/L	3.0	0.91	2.5		04/01/19 18:39	75-27-4	
Bromoform	**<9.9**	ug/L	33.1	9.9	2.5		04/01/19 18:39	75-25-2	
Bromomethane	**<2.4**	ug/L	12.5	2.4	2.5		04/01/19 18:39	74-83-9	
n-Butylbenzene	**<1.8**	ug/L	5.9	1.8	2.5		04/01/19 18:39	104-51-8	
sec-Butylbenzene	**<2.1**	ug/L	12.5	2.1	2.5		04/01/19 18:39	135-98-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-3 **Lab ID: 40184900003** Collected: 03/27/19 16:30 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Butylbenzene	**<0.76**	ug/L	2.5	0.76	2.5		04/01/19 18:39	98-06-6	
Carbon tetrachloride	**<0.41**	ug/L	2.5	0.41	2.5		04/01/19 18:39	56-23-5	
Chlorobenzene	**<1.8**	ug/L	5.9	1.8	2.5		04/01/19 18:39	108-90-7	
Chloroethane	**<3.4**	ug/L	12.5	3.4	2.5		04/01/19 18:39	75-00-3	
Chloroform	**<3.2**	ug/L	12.5	3.2	2.5		04/01/19 18:39	67-66-3	
Chloromethane	**<5.5**	ug/L	18.2	5.5	2.5		04/01/19 18:39	74-87-3	
2-Chlorotoluene	**<2.3**	ug/L	12.5	2.3	2.5		04/01/19 18:39	95-49-8	
4-Chlorotoluene	**<1.9**	ug/L	6.3	1.9	2.5		04/01/19 18:39	106-43-4	
1,2-Dibromo-3-chloropropane	**<4.4**	ug/L	14.7	4.4	2.5		04/01/19 18:39	96-12-8	
Dibromochloromethane	**<6.5**	ug/L	21.7	6.5	2.5		04/01/19 18:39	124-48-1	
1,2-Dibromoethane (EDB)	**<2.1**	ug/L	6.9	2.1	2.5		04/01/19 18:39	106-93-4	
Dibromomethane	**<2.3**	ug/L	7.8	2.3	2.5		04/01/19 18:39	74-95-3	
1,2-Dichlorobenzene	**<1.8**	ug/L	5.9	1.8	2.5		04/01/19 18:39	95-50-1	
1,3-Dichlorobenzene	**<1.6**	ug/L	5.2	1.6	2.5		04/01/19 18:39	541-73-1	
1,4-Dichlorobenzene	**<2.4**	ug/L	7.9	2.4	2.5		04/01/19 18:39	106-46-7	
Dichlorodifluoromethane	**<1.2**	ug/L	12.5	1.2	2.5		04/01/19 18:39	75-71-8	
1,1-Dichloroethane	**<0.68**	ug/L	2.5	0.68	2.5		04/01/19 18:39	75-34-3	
1,2-Dichloroethane	**<0.70**	ug/L	2.5	0.70	2.5		04/01/19 18:39	107-06-2	
1,1-Dichloroethene	**<0.61**	ug/L	2.5	0.61	2.5		04/01/19 18:39	75-35-4	
cis-1,2-Dichloroethene	**188**	ug/L	2.5	0.68	2.5		04/01/19 18:39	156-59-2	
trans-1,2-Dichloroethene	**3.7J**	ug/L	9.1	2.7	2.5		04/01/19 18:39	156-60-5	
1,2-Dichloropropane	**<0.71**	ug/L	2.5	0.71	2.5		04/01/19 18:39	78-87-5	
1,3-Dichloropropane	**<2.1**	ug/L	6.9	2.1	2.5		04/01/19 18:39	142-28-9	
2,2-Dichloropropane	**<5.7**	ug/L	18.9	5.7	2.5		04/01/19 18:39	594-20-7	
1,1-Dichloropropene	**<1.4**	ug/L	4.5	1.4	2.5		04/01/19 18:39	563-58-6	
cis-1,3-Dichloropropene	**<9.1**	ug/L	30.2	9.1	2.5		04/01/19 18:39	10061-01-5	
trans-1,3-Dichloropropene	**<10.9**	ug/L	36.4	10.9	2.5		04/01/19 18:39	10061-02-6	
Diisopropyl ether	**<4.7**	ug/L	15.7	4.7	2.5		04/01/19 18:39	108-20-3	
Ethylbenzene	**<0.55**	ug/L	2.5	0.55	2.5		04/01/19 18:39	100-41-4	
Hexachloro-1,3-butadiene	**<3.0**	ug/L	12.5	3.0	2.5		04/01/19 18:39	87-68-3	
Isopropylbenzene (Cumene)	**<0.98**	ug/L	12.5	0.98	2.5		04/01/19 18:39	98-82-8	
p-Isopropyltoluene	**<2.0**	ug/L	6.7	2.0	2.5		04/01/19 18:39	99-87-6	
Methylene Chloride	**<1.5**	ug/L	12.5	1.5	2.5		04/01/19 18:39	75-09-2	
Methyl-tert-butyl ether	**<3.1**	ug/L	10.4	3.1	2.5		04/01/19 18:39	1634-04-4	
Naphthalene	**<2.9**	ug/L	12.5	2.9	2.5		04/01/19 18:39	91-20-3	
n-Propylbenzene	**<2.0**	ug/L	12.5	2.0	2.5		04/01/19 18:39	103-65-1	
Styrene	**<1.2**	ug/L	3.9	1.2	2.5		04/01/19 18:39	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.67**	ug/L	2.5	0.67	2.5		04/01/19 18:39	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.69**	ug/L	2.5	0.69	2.5		04/01/19 18:39	79-34-5	
Tetrachloroethene	**13.8**	ug/L	2.7	0.82	2.5		04/01/19 18:39	127-18-4	
Toluene	**<0.43**	ug/L	12.5	0.43	2.5		04/01/19 18:39	108-88-3	
1,2,3-Trichlorobenzene	**<1.6**	ug/L	12.5	1.6	2.5		04/01/19 18:39	87-61-6	
1,2,4-Trichlorobenzene	**<2.4**	ug/L	12.5	2.4	2.5		04/01/19 18:39	120-82-1	
1,1,1-Trichloroethane	**<0.61**	ug/L	2.5	0.61	2.5		04/01/19 18:39	71-55-6	
1,1,2-Trichloroethane	**<1.4**	ug/L	12.5	1.4	2.5		04/01/19 18:39	79-00-5	
Trichloroethene	**5.2**	ug/L	2.5	0.64	2.5		04/01/19 18:39	79-01-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-3 **Lab ID: 40184900003** Collected: 03/27/19 16:30 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichlorofluoromethane	**<0.54**	ug/L	2.5	0.54	2.5		04/01/19 18:39	75-69-4	
1,2,3-Trichloropropane	**<1.5**	ug/L	12.5	1.5	2.5		04/01/19 18:39	96-18-4	
1,2,4-Trimethylbenzene	**<2.1**	ug/L	7.0	2.1	2.5		04/01/19 18:39	95-63-6	
1,3,5-Trimethylbenzene	**<2.2**	ug/L	7.3	2.2	2.5		04/01/19 18:39	108-67-8	
Vinyl chloride	**45.5**	ug/L	2.5	0.44	2.5		04/01/19 18:39	75-01-4	
m&p-Xylene	**<1.2**	ug/L	5.0	1.2	2.5		04/01/19 18:39	179601-23-1	
o-Xylene	**<0.65**	ug/L	2.5	0.65	2.5		04/01/19 18:39	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		2.5		04/01/19 18:39	460-00-4	
Dibromofluoromethane (S)	107	%	70-130		2.5		04/01/19 18:39	1868-53-7	
Toluene-d8 (S)	95	%	70-130		2.5		04/01/19 18:39	2037-26-5	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**4.1**	mg/L	0.84	0.25	1		04/02/19 21:11	7440-44-0	

Sample: MW-4 **Lab ID: 40184900004** Collected: 03/28/19 13:20 Received: 03/28/19 16:40 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		04/11/19 09:14	74-84-0	
Ethene	**<0.52**	ug/L	5.0	0.52	1		04/11/19 09:14	74-85-1	
Methane	**15.9**	ug/L	2.8	1.4	1		04/11/19 09:14	74-82-8	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Iron, Dissolved	**103J**	ug/L	118	35.4	1		04/02/19 19:40	7439-89-6	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 13:20	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 13:20	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 13:20	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 13:20	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 13:20	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 13:20	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 13:20	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 13:20	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 13:20	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 13:20	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 13:20	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 13:20	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 13:20	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 13:20	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 13:20	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 13:20	106-43-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-4 **Lab ID: 40184900004** Collected: 03/28/19 13:20 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 13:20	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 13:20	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 13:20	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 13:20	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 13:20	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 13:20	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 13:20	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 13:20	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 13:20	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 13:20	107-06-2	
1,1-Dichloroethene	**0.41J**	ug/L	1.0	0.24	1		04/01/19 13:20	75-35-4	
cis-1,2-Dichloroethene	**88.9**	ug/L	1.0	0.27	1		04/01/19 13:20	156-59-2	
trans-1,2-Dichloroethene	**1.1J**	ug/L	3.6	1.1	1		04/01/19 13:20	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 13:20	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 13:20	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 13:20	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 13:20	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 13:20	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 13:20	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 13:20	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 13:20	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 13:20	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 13:20	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 13:20	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 13:20	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 13:20	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 13:20	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 13:20	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 13:20	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 13:20	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 13:20	79-34-5	
Tetrachloroethene	**21.2**	ug/L	1.1	0.33	1		04/01/19 13:20	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		04/01/19 13:20	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 13:20	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 13:20	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 13:20	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 13:20	79-00-5	
Trichloroethene	**10.1**	ug/L	1.0	0.26	1		04/01/19 13:20	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 13:20	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 13:20	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 13:20	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 13:20	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 13:20	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 13:20	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 13:20	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-4 **Lab ID: 40184900004** Collected: 03/28/19 13:20 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		04/01/19 13:20	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		1		04/01/19 13:20	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		04/01/19 13:20	2037-26-5	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**3.4**	mg/L	0.84	0.25	1		04/02/19 22:14	7440-44-0	

Sample: MW-5 **Lab ID: 40184900005** Collected: 03/28/19 16:05 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 13:43	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 13:43	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 13:43	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 13:43	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 13:43	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 13:43	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 13:43	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 13:43	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 13:43	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 13:43	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 13:43	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 13:43	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 13:43	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 13:43	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 13:43	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 13:43	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 13:43	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 13:43	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 13:43	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 13:43	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 13:43	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 13:43	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 13:43	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 13:43	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 13:43	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 13:43	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 13:43	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		04/01/19 13:43	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		04/01/19 13:43	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 13:43	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 13:43	142-28-9	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-5 **Lab ID: 40184900005** Collected: 03/28/19 16:05 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 13:43	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 13:43	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 13:43	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 13:43	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 13:43	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 13:43	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 13:43	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 13:43	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 13:43	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 13:43	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 13:43	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 13:43	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 13:43	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 13:43	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 13:43	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 13:43	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		04/01/19 13:43	127-18-4	
Toluene	**0.71J**	ug/L	5.0	0.17	1		04/01/19 13:43	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 13:43	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 13:43	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 13:43	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 13:43	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 13:43	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 13:43	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 13:43	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 13:43	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 13:43	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 13:43	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 13:43	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 13:43	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		04/01/19 13:43	460-00-4	
Dibromofluoromethane (S)	113	%	70-130		1		04/01/19 13:43	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		04/01/19 13:43	2037-26-5	

Sample: MW-6 **Lab ID: 40184900006** Collected: 03/28/19 15:30 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 11:28	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 11:28	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 11:28	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 11:28	75-27-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-6 **Lab ID: 40184900006** Collected: 03/28/19 15:30 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 11:28	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 11:28	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 11:28	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 11:28	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 11:28	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 11:28	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 11:28	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 11:28	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 11:28	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 11:28	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 11:28	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 11:28	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 11:28	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 11:28	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 11:28	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 11:28	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 11:28	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 11:28	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 11:28	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 11:28	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 11:28	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 11:28	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 11:28	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		04/01/19 11:28	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		04/01/19 11:28	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 11:28	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 11:28	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 11:28	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 11:28	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 11:28	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 11:28	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 11:28	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 11:28	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 11:28	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 11:28	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 11:28	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 11:28	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 11:28	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 11:28	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 11:28	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 11:28	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 11:28	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 11:28	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		04/01/19 11:28	127-18-4	
Toluene	**0.74J**	ug/L	5.0	0.17	1		04/01/19 11:28	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 11:28	87-61-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-6 **Lab ID: 40184900006** Collected: 03/28/19 15:30 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 11:28	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 11:28	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 11:28	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 11:28	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 11:28	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 11:28	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 11:28	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 11:28	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 11:28	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 11:28	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 11:28	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		04/01/19 11:28	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		04/01/19 11:28	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		04/01/19 11:28	2037-26-5	

Sample: MW-7 **Lab ID: 40184900007** Collected: 03/28/19 12:35 Received: 03/28/19 16:40 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		04/11/19 09:21	74-84-0	
Ethene	**<0.52**	ug/L	5.0	0.52	1		04/11/19 09:21	74-85-1	
Methane	**<1.4**	ug/L	2.8	1.4	1		04/11/19 09:21	74-82-8	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Iron, Dissolved	**236**	ug/L	118	35.4	1		04/02/19 19:42	7439-89-6	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 12:35	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 12:35	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 12:35	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 12:35	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 12:35	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 12:35	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 12:35	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 12:35	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 12:35	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 12:35	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 12:35	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 12:35	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 12:35	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 12:35	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 12:35	95-49-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-7 **Lab ID: 40184900007** Collected: 03/28/19 12:35 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 12:35	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 12:35	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 12:35	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 12:35	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 12:35	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 12:35	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 12:35	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 12:35	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 12:35	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 12:35	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 12:35	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 12:35	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		04/01/19 12:35	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		04/01/19 12:35	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 12:35	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 12:35	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 12:35	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 12:35	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 12:35	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 12:35	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 12:35	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 12:35	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 12:35	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 12:35	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 12:35	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 12:35	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 12:35	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 12:35	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 12:35	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 12:35	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 12:35	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 12:35	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		04/01/19 12:35	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		04/01/19 12:35	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 12:35	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 12:35	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 12:35	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 12:35	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 12:35	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 12:35	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 12:35	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 12:35	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 12:35	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 12:35	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 12:35	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 12:35	95-47-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-7 **Lab ID: 40184900007** Collected: 03/28/19 12:35 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		04/01/19 12:35	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		1		04/01/19 12:35	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		04/01/19 12:35	2037-26-5	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**0.26J**	mg/L	0.84	0.25	1		04/02/19 22:35	7440-44-0	

Sample: MW-8 **Lab ID: 40184900008** Collected: 03/28/19 14:00 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 14:05	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 14:05	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 14:05	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 14:05	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 14:05	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 14:05	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 14:05	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 14:05	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 14:05	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 14:05	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 14:05	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 14:05	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 14:05	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 14:05	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 14:05	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 14:05	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 14:05	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 14:05	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 14:05	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 14:05	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 14:05	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 14:05	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 14:05	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 14:05	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 14:05	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 14:05	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 14:05	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		04/01/19 14:05	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		04/01/19 14:05	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 14:05	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 14:05	142-28-9	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-8 **Lab ID: 40184900008** Collected: 03/28/19 14:00 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 14:05	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 14:05	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 14:05	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 14:05	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 14:05	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 14:05	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 14:05	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 14:05	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 14:05	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 14:05	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 14:05	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 14:05	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 14:05	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 14:05	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 14:05	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 14:05	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		04/01/19 14:05	127-18-4	
Toluene	**0.74J**	ug/L	5.0	0.17	1		04/01/19 14:05	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 14:05	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 14:05	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 14:05	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 14:05	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 14:05	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 14:05	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 14:05	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 14:05	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 14:05	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 14:05	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 14:05	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 14:05	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		04/01/19 14:05	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		1		04/01/19 14:05	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		04/01/19 14:05	2037-26-5	

Sample: MW-9 **Lab ID: 40184900009** Collected: 03/28/19 15:05 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 16:24	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 16:24	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 16:24	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 16:24	75-27-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-9 **Lab ID: 40184900009** Collected: 03/28/19 15:05 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 16:24	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 16:24	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 16:24	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 16:24	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 16:24	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 16:24	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 16:24	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 16:24	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 16:24	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 16:24	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 16:24	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 16:24	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 16:24	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 16:24	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 16:24	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 16:24	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 16:24	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 16:24	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 16:24	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 16:24	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 16:24	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 16:24	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 16:24	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		04/01/19 16:24	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		04/01/19 16:24	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 16:24	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 16:24	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 16:24	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 16:24	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 16:24	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 16:24	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 16:24	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 16:24	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 16:24	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 16:24	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 16:24	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 16:24	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 16:24	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 16:24	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 16:24	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 16:24	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 16:24	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 16:24	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		04/01/19 16:24	127-18-4	
Toluene	**0.79J**	ug/L	5.0	0.17	1		04/01/19 16:24	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 16:24	87-61-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-9 **Lab ID: 40184900009** Collected: 03/28/19 15:05 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 16:24	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 16:24	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 16:24	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 16:24	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 16:24	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 16:24	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 16:24	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 16:24	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 16:24	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 16:24	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 16:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		04/01/19 16:24	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		1		04/01/19 16:24	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		04/01/19 16:24	2037-26-5	

Sample: MW-10 **Lab ID: 40184900010** Collected: 03/28/19 11:05 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 16:47	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 16:47	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 16:47	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 16:47	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 16:47	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 16:47	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 16:47	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 16:47	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 16:47	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 16:47	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 16:47	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 16:47	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 16:47	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 16:47	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 16:47	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 16:47	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 16:47	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 16:47	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 16:47	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 16:47	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 16:47	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 16:47	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 16:47	106-46-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: MW-10 **Lab ID: 40184900010** Collected: 03/28/19 11:05 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 16:47	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 16:47	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 16:47	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 16:47	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		04/01/19 16:47	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		04/01/19 16:47	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 16:47	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 16:47	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 16:47	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 16:47	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 16:47	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 16:47	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 16:47	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 16:47	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 16:47	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 16:47	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 16:47	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 16:47	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 16:47	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 16:47	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 16:47	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 16:47	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 16:47	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 16:47	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		04/01/19 16:47	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		04/01/19 16:47	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 16:47	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 16:47	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 16:47	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 16:47	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 16:47	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 16:47	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 16:47	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 16:47	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 16:47	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 16:47	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 16:47	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 16:47	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		04/01/19 16:47	460-00-4	
Dibromofluoromethane (S)	117	%	70-130		1		04/01/19 16:47	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		04/01/19 16:47	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: PZ-1 **Lab ID: 40184900011** Collected: 03/28/19 14:30 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 17:09	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 17:09	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 17:09	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 17:09	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 17:09	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 17:09	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 17:09	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 17:09	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 17:09	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 17:09	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 17:09	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 17:09	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 17:09	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 17:09	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 17:09	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 17:09	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 17:09	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 17:09	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 17:09	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 17:09	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 17:09	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 17:09	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 17:09	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 17:09	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 17:09	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 17:09	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 17:09	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		04/01/19 17:09	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		04/01/19 17:09	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 17:09	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 17:09	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 17:09	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 17:09	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 17:09	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 17:09	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 17:09	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 17:09	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 17:09	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 17:09	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 17:09	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 17:09	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 17:09	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 17:09	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 17:09	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 17:09	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 17:09	630-20-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: PZ-1 **Lab ID: 40184900011** Collected: 03/28/19 14:30 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 17:09	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		04/01/19 17:09	127-18-4	
Toluene	**0.66J**	ug/L	5.0	0.17	1		04/01/19 17:09	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 17:09	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 17:09	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 17:09	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 17:09	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 17:09	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 17:09	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 17:09	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 17:09	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 17:09	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 17:09	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 17:09	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 17:09	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		04/01/19 17:09	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		1		04/01/19 17:09	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		04/01/19 17:09	2037-26-5	

Sample: PZ-2 **Lab ID: 40184900012** Collected: 03/28/19 10:55 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 17:32	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 17:32	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 17:32	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 17:32	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 17:32	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 17:32	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 17:32	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 17:32	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 17:32	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 17:32	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 17:32	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 17:32	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 17:32	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 17:32	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 17:32	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 17:32	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 17:32	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 17:32	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 17:32	106-93-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: PZ-2 **Lab ID: 40184900012** Collected: 03/28/19 10:55 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 17:32	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 17:32	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 17:32	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 17:32	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 17:32	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 17:32	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 17:32	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 17:32	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		04/01/19 17:32	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		04/01/19 17:32	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 17:32	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 17:32	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 17:32	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 17:32	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 17:32	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 17:32	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 17:32	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 17:32	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 17:32	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 17:32	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 17:32	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 17:32	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 17:32	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 17:32	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 17:32	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 17:32	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 17:32	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 17:32	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		04/01/19 17:32	127-18-4	
Toluene	**0.30J**	ug/L	5.0	0.17	1		04/01/19 17:32	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 17:32	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 17:32	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 17:32	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 17:32	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 17:32	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 17:32	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 17:32	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 17:32	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 17:32	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 17:32	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 17:32	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 17:32	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		04/01/19 17:32	460-00-4	
Dibromofluoromethane (S)	113	%	70-130		1		04/01/19 17:32	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		04/01/19 17:32	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: BD-1 **Lab ID: 40184900013** Collected: 03/28/19 00:00 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 17:55	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 17:55	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 17:55	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 17:55	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 17:55	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 17:55	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 17:55	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 17:55	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 17:55	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 17:55	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 17:55	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 17:55	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 17:55	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 17:55	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 17:55	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 17:55	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 17:55	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 17:55	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 17:55	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 17:55	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 17:55	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 17:55	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 17:55	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 17:55	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 17:55	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 17:55	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 17:55	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		04/01/19 17:55	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		04/01/19 17:55	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 17:55	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 17:55	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 17:55	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 17:55	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 17:55	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 17:55	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 17:55	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 17:55	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 17:55	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 17:55	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 17:55	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 17:55	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 17:55	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 17:55	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 17:55	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 17:55	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 17:55	630-20-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: BD-1 **Lab ID: 40184900013** Collected: 03/28/19 00:00 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 17:55	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		04/01/19 17:55	127-18-4	
Toluene	**0.28J**	ug/L	5.0	0.17	1		04/01/19 17:55	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 17:55	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 17:55	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 17:55	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 17:55	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 17:55	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 17:55	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 17:55	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 17:55	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 17:55	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 17:55	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 17:55	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 17:55	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		04/01/19 17:55	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		1		04/01/19 17:55	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		04/01/19 17:55	2037-26-5	

Sample: BD-2 **Lab ID: 40184900014** Collected: 03/28/19 00:00 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 18:17	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 18:17	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 18:17	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 18:17	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 18:17	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 18:17	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 18:17	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 18:17	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 18:17	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 18:17	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 18:17	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 18:17	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 18:17	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 18:17	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 18:17	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 18:17	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 18:17	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 18:17	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 18:17	106-93-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: BD-2 **Lab ID: 40184900014** Collected: 03/28/19 00:00 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 18:17	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 18:17	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 18:17	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 18:17	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 18:17	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 18:17	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 18:17	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 18:17	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		04/01/19 18:17	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		04/01/19 18:17	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 18:17	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 18:17	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 18:17	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 18:17	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 18:17	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 18:17	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 18:17	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 18:17	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 18:17	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 18:17	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 18:17	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 18:17	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 18:17	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 18:17	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 18:17	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 18:17	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 18:17	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 18:17	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		04/01/19 18:17	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		04/01/19 18:17	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 18:17	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 18:17	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 18:17	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 18:17	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 18:17	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 18:17	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 18:17	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 18:17	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 18:17	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 18:17	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 18:17	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 18:17	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		04/01/19 18:17	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		1		04/01/19 18:17	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		04/01/19 18:17	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: HCL TRIP BLANK **Lab ID: 40184900015** Collected: 03/28/19 00:00 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		04/01/19 11:51	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 11:51	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		04/01/19 11:51	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		04/01/19 11:51	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		04/01/19 11:51	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		04/01/19 11:51	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 11:51	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		04/01/19 11:51	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		04/01/19 11:51	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 11:51	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 11:51	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		04/01/19 11:51	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		04/01/19 11:51	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		04/01/19 11:51	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		04/01/19 11:51	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		04/01/19 11:51	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		04/01/19 11:51	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		04/01/19 11:51	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		04/01/19 11:51	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		04/01/19 11:51	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		04/01/19 11:51	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		04/01/19 11:51	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		04/01/19 11:51	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		04/01/19 11:51	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 11:51	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 11:51	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		04/01/19 11:51	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		04/01/19 11:51	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		04/01/19 11:51	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 11:51	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		04/01/19 11:51	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		04/01/19 11:51	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		04/01/19 11:51	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		04/01/19 11:51	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		04/01/19 11:51	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		04/01/19 11:51	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		04/01/19 11:51	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 11:51	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		04/01/19 11:51	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		04/01/19 11:51	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		04/01/19 11:51	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		04/01/19 11:51	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		04/01/19 11:51	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		04/01/19 11:51	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		04/01/19 11:51	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		04/01/19 11:51	630-20-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Sample: HCL TRIP BLANK **Lab ID: 40184900015** Collected: 03/28/19 00:00 Received: 03/28/19 16:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		04/01/19 11:51	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		04/01/19 11:51	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		04/01/19 11:51	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		04/01/19 11:51	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		04/01/19 11:51	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		04/01/19 11:51	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		04/01/19 11:51	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 11:51	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		04/01/19 11:51	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		04/01/19 11:51	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		04/01/19 11:51	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		04/01/19 11:51	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		04/01/19 11:51	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		04/01/19 11:51	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		04/01/19 11:51	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		04/01/19 11:51	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		1		04/01/19 11:51	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		04/01/19 11:51	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

QC Batch: 317345 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 8015B Modified Analysis Description: Methane, Ethane, Ethene GCV
Associated Lab Samples: 40184900001, 40184900002, 40184900003

METHOD BLANK: 1845222 Matrix: Water
Associated Lab Samples: 40184900001, 40184900002, 40184900003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	<0.58	5.6	04/04/19 09:12	
Ethene	ug/L	<0.52	5.0	04/04/19 09:12	
Methane	ug/L	<1.4	2.8	04/04/19 09:12	

LABORATORY CONTROL SAMPLE & LCSD: 1845223 1845224

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	53.6	58.5	58.9	109	110	80-120	1	20	
Ethene	ug/L	50	54.3	54.6	109	109	81-120	1	20	
Methane	ug/L	28.6	30.4	30.7	106	107	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1845225 1845226

Parameter	Units	40184974033 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	5360	5360	5840	6020	109	112	80-120	3	20	
Ethene	ug/L	<0.52	5000	5000	5370	5530	107	111	81-122	3	20	
Methane	ug/L	20900	2860	2860	33900	37900	456	595	44-167	11	20	E,HS, M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

QC Batch: 317998 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 8015B Modified Analysis Description: Methane, Ethane, Ethene GCV
Associated Lab Samples: 40184900004, 40184900007

METHOD BLANK: 1848830 Matrix: Water
Associated Lab Samples: 40184900004, 40184900007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	<0.58	5.6	04/11/19 08:37	
Ethene	ug/L	<0.52	5.0	04/11/19 08:37	
Methane	ug/L	<1.4	2.8	04/11/19 08:37	

LABORATORY CONTROL SAMPLE & LCSD: 1848831 1848832

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	53.6	56.7	56.3	106	105	80-120	1	20	
Ethene	ug/L	50	52.7	52.1	105	104	81-120	1	20	
Methane	ug/L	28.6	29.3	29.2	103	102	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1848954 1848955

Parameter	Units	40184900004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Ethane	ug/L	<0.58	53.6	53.6	56.1	56.1	105	105	80-120	0	20	
Ethene	ug/L	<0.52	50	50	52.0	52.3	104	105	81-122	1	20	
Methane	ug/L	15.9	28.6	28.6	49.6	50.7	118	122	44-167	2	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

QC Batch: 317145 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40184900001, 40184900002, 40184900003, 40184900004, 40184900007

METHOD BLANK: 1844060 Matrix: Water
Associated Lab Samples: 40184900001, 40184900002, 40184900003, 40184900004, 40184900007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	<35.4	118	04/02/19 18:36	

LABORATORY CONTROL SAMPLE: 1844061

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	5000	4940	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1844062 1844063

Parameter	Units	40184944003 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	<35.4	5000	5000	5030	5070	101	101	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

QC Batch: 316856 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40184900001, 40184900002, 40184900003, 40184900004, 40184900005, 40184900006, 40184900007, 40184900008, 40184900009, 40184900010, 40184900011, 40184900012, 40184900013, 40184900014, 40184900015

METHOD BLANK: 1842471 Matrix: Water
Associated Lab Samples: 40184900001, 40184900002, 40184900003, 40184900004, 40184900005, 40184900006, 40184900007, 40184900008, 40184900009, 40184900010, 40184900011, 40184900012, 40184900013, 40184900014, 40184900015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	04/01/19 08:06	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	04/01/19 08:06	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	04/01/19 08:06	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	04/01/19 08:06	
1,1-Dichloroethane	ug/L	<0.27	1.0	04/01/19 08:06	
1,1-Dichloroethene	ug/L	<0.24	1.0	04/01/19 08:06	
1,1-Dichloropropene	ug/L	<0.54	1.8	04/01/19 08:06	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	04/01/19 08:06	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	04/01/19 08:06	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	04/01/19 08:06	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	04/01/19 08:06	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	04/01/19 08:06	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	04/01/19 08:06	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	04/01/19 08:06	
1,2-Dichloroethane	ug/L	<0.28	1.0	04/01/19 08:06	
1,2-Dichloropropane	ug/L	<0.28	1.0	04/01/19 08:06	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	04/01/19 08:06	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	04/01/19 08:06	
1,3-Dichloropropane	ug/L	<0.83	2.8	04/01/19 08:06	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	04/01/19 08:06	
2,2-Dichloropropane	ug/L	<2.3	7.6	04/01/19 08:06	
2-Chlorotoluene	ug/L	<0.93	5.0	04/01/19 08:06	
4-Chlorotoluene	ug/L	<0.76	2.5	04/01/19 08:06	
Benzene	ug/L	<0.25	1.0	04/01/19 08:06	
Bromobenzene	ug/L	<0.24	1.0	04/01/19 08:06	
Bromochloromethane	ug/L	<0.36	5.0	04/01/19 08:06	
Bromodichloromethane	ug/L	<0.36	1.2	04/01/19 08:06	
Bromoform	ug/L	<4.0	13.2	04/01/19 08:06	
Bromomethane	ug/L	<0.97	5.0	04/01/19 08:06	
Carbon tetrachloride	ug/L	<0.17	1.0	04/01/19 08:06	
Chlorobenzene	ug/L	<0.71	2.4	04/01/19 08:06	
Chloroethane	ug/L	<1.3	5.0	04/01/19 08:06	
Chloroform	ug/L	<1.3	5.0	04/01/19 08:06	
Chloromethane	ug/L	<2.2	7.3	04/01/19 08:06	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	04/01/19 08:06	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	04/01/19 08:06	
Dibromochloromethane	ug/L	<2.6	8.7	04/01/19 08:06	
Dibromomethane	ug/L	<0.94	3.1	04/01/19 08:06	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

METHOD BLANK: 1842471 Matrix: Water

Associated Lab Samples: 40184900001, 40184900002, 40184900003, 40184900004, 40184900005, 40184900006, 40184900007, 40184900008, 40184900009, 40184900010, 40184900011, 40184900012, 40184900013, 40184900014, 40184900015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	<0.50	5.0	04/01/19 08:06	
Diisopropyl ether	ug/L	<1.9	6.3	04/01/19 08:06	
Ethylbenzene	ug/L	<0.22	1.0	04/01/19 08:06	
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	04/01/19 08:06	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	04/01/19 08:06	
m&p-Xylene	ug/L	<0.47	2.0	04/01/19 08:06	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	04/01/19 08:06	
Methylene Chloride	ug/L	<0.58	5.0	04/01/19 08:06	
n-Butylbenzene	ug/L	<0.71	2.4	04/01/19 08:06	
n-Propylbenzene	ug/L	<0.81	5.0	04/01/19 08:06	
Naphthalene	ug/L	<1.2	5.0	04/01/19 08:06	
o-Xylene	ug/L	<0.26	1.0	04/01/19 08:06	
p-Isopropyltoluene	ug/L	<0.80	2.7	04/01/19 08:06	
sec-Butylbenzene	ug/L	<0.85	5.0	04/01/19 08:06	
Styrene	ug/L	<0.47	1.6	04/01/19 08:06	
tert-Butylbenzene	ug/L	<0.30	1.0	04/01/19 08:06	
Tetrachloroethene	ug/L	<0.33	1.1	04/01/19 08:06	
Toluene	ug/L	<0.17	5.0	04/01/19 08:06	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	04/01/19 08:06	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	04/01/19 08:06	
Trichloroethene	ug/L	<0.26	1.0	04/01/19 08:06	
Trichlorofluoromethane	ug/L	<0.21	1.0	04/01/19 08:06	
Vinyl chloride	ug/L	<0.17	1.0	04/01/19 08:06	
4-Bromofluorobenzene (S)	%	97	70-130	04/01/19 08:06	
Dibromofluoromethane (S)	%	99	70-130	04/01/19 08:06	
Toluene-d8 (S)	%	98	70-130	04/01/19 08:06	

LABORATORY CONTROL SAMPLE: 1842472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	55.8	112	70-133	
1,1,2,2-Tetrachloroethane	ug/L	50	44.7	89	67-130	
1,1,2-Trichloroethane	ug/L	50	51.4	103	70-130	
1,1-Dichloroethane	ug/L	50	48.8	98	70-134	
1,1-Dichloroethene	ug/L	50	52.8	106	75-132	
1,2,4-Trichlorobenzene	ug/L	50	49.5	99	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	43.8	88	60-126	
1,2-Dibromoethane (EDB)	ug/L	50	49.3	99	70-130	
1,2-Dichlorobenzene	ug/L	50	50.7	101	70-130	
1,2-Dichloroethane	ug/L	50	58.6	117	73-134	
1,2-Dichloropropane	ug/L	50	46.6	93	79-128	
1,3-Dichlorobenzene	ug/L	50	49.0	98	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, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

LABORATORY CONTROL SAMPLE: 1842472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	50	51.6	103	70-130	
Benzene	ug/L	50	48.8	98	69-137	
Bromodichloromethane	ug/L	50	54.2	108	70-130	
Bromoform	ug/L	50	57.3	115	64-133	
Bromomethane	ug/L	50	59.9	120	29-123	
Carbon tetrachloride	ug/L	50	63.0	126	73-142	
Chlorobenzene	ug/L	50	51.7	103	70-130	
Chloroethane	ug/L	50	46.9	94	59-133	
Chloroform	ug/L	50	52.1	104	80-129	
Chloromethane	ug/L	50	37.5	75	27-125	
cis-1,2-Dichloroethene	ug/L	50	49.7	99	70-134	
cis-1,3-Dichloropropene	ug/L	50	46.6	93	70-130	
Dibromochloromethane	ug/L	50	53.8	108	70-130	
Dichlorodifluoromethane	ug/L	50	47.1	94	12-127	
Ethylbenzene	ug/L	50	52.3	105	86-127	
Isopropylbenzene (Cumene)	ug/L	50	55.5	111	70-130	
m&p-Xylene	ug/L	100	109	109	70-131	
Methyl-tert-butyl ether	ug/L	50	41.0	82	65-136	
Methylene Chloride	ug/L	50	51.6	103	72-133	
o-Xylene	ug/L	50	54.0	108	70-130	
Styrene	ug/L	50	54.1	108	70-130	
Tetrachloroethene	ug/L	50	54.7	109	70-130	
Toluene	ug/L	50	50.3	101	84-124	
trans-1,2-Dichloroethene	ug/L	50	47.0	94	70-133	
trans-1,3-Dichloropropene	ug/L	50	44.9	90	67-130	
Trichloroethene	ug/L	50	54.7	109	70-130	
Trichlorofluoromethane	ug/L	50	64.4	129	69-147	
Vinyl chloride	ug/L	50	42.0	84	48-134	
4-Bromofluorobenzene (S)	%			103	70-130	
Dibromofluoromethane (S)	%			101	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1843262 1843263

Parameter	Units	40184900006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.24	50	50	54.7	54.3	109	109	70-136	1	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	43.8	45.7	88	91	67-133	4	20	
1,1,2-Trichloroethane	ug/L	<0.55	50	50	51.6	50.1	103	100	70-130	3	20	
1,1-Dichloroethane	ug/L	<0.27	50	50	45.2	46.8	90	94	70-139	4	20	
1,1-Dichloroethene	ug/L	<0.24	50	50	48.9	53.6	98	107	72-137	9	20	
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	46.8	50.9	94	102	68-130	8	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	45.2	47.9	90	96	60-130	6	21	
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	51.2	51.7	102	103	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1843262 1843263

Parameter	Units	40184900006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichlorobenzene	ug/L	<0.71	50	50	47.7	50.2	95	100	70-130	5	20	
1,2-Dichloroethane	ug/L	<0.28	50	50	56.5	57.1	113	114	71-137	1	20	
1,2-Dichloropropane	ug/L	<0.28	50	50	45.4	47.8	91	96	78-130	5	20	
1,3-Dichlorobenzene	ug/L	<0.63	50	50	47.1	48.8	94	98	70-130	3	20	
1,4-Dichlorobenzene	ug/L	<0.94	50	50	46.5	51.9	93	104	70-130	11	20	
Benzene	ug/L	<0.25	50	50	47.3	49.1	95	98	66-143	4	20	
Bromodichloromethane	ug/L	<0.36	50	50	52.1	54.5	104	109	70-130	4	20	
Bromoform	ug/L	<4.0	50	50	56.3	61.5	113	123	64-134	9	20	
Bromomethane	ug/L	<0.97	50	50	54.7	60.7	109	121	29-136	10	25	
Carbon tetrachloride	ug/L	<0.17	50	50	60.8	62.9	122	126	73-142	3	20	
Chlorobenzene	ug/L	<0.71	50	50	49.7	53.5	99	107	70-130	7	20	
Chloroethane	ug/L	<1.3	50	50	45.6	48.6	91	97	58-138	6	20	
Chloroform	ug/L	<1.3	50	50	51.2	53.2	102	106	80-131	4	20	
Chloromethane	ug/L	<2.2	50	50	33.4	36.9	67	74	24-125	10	20	
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	44.5	46.7	89	93	68-137	5	22	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	47.0	47.2	94	94	70-130	0	20	
Dibromochloromethane	ug/L	<2.6	50	50	51.6	53.1	103	106	70-131	3	20	
Dichlorodifluoromethane	ug/L	<0.50	50	50	45.6	46.1	91	92	10-127	1	20	
Ethylbenzene	ug/L	<0.22	50	50	50.4	51.7	101	103	81-136	3	20	
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	52.6	54.5	105	109	70-132	4	20	
m&p-Xylene	ug/L	<0.47	100	100	105	105	105	105	70-135	1	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	40.6	42.4	81	85	58-142	4	23	
Methylene Chloride	ug/L	<0.58	50	50	49.3	52.3	99	105	69-137	6	20	
o-Xylene	ug/L	<0.26	50	50	49.6	53.8	99	108	70-132	8	20	
Styrene	ug/L	<0.47	50	50	51.0	52.8	102	106	70-130	4	20	
Tetrachloroethene	ug/L	<0.33	50	50	54.4	53.7	109	107	70-132	1	20	
Toluene	ug/L	0.74J	50	50	50.9	53.4	100	105	81-130	5	20	
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	46.3	48.3	93	97	70-136	4	20	
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	44.9	46.9	90	94	67-130	4	20	
Trichloroethene	ug/L	<0.26	50	50	52.3	54.8	105	110	70-131	5	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	60.5	63.2	121	126	66-150	4	20	
Vinyl chloride	ug/L	<0.17	50	50	43.8	43.4	88	87	46-134	1	20	
4-Bromofluorobenzene (S)	%						100	101	70-130			
Dibromofluoromethane (S)	%						99	106	70-130			
Toluene-d8 (S)	%						98	100	70-130			

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

QC Batch: 317049 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Associated Lab Samples: 40184900001, 40184900002, 40184900003

METHOD BLANK: 1843684 Matrix: Water
Associated Lab Samples: 40184900001, 40184900002, 40184900003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.25	0.84	04/02/19 11:49	

LABORATORY CONTROL SAMPLE: 1843685

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1843686 1843687

Parameter	Units	40184974026 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	2.6	2	2	4.7	4.6	103	98	80-120	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1843688 1843689

Parameter	Units	40184974033 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	1.1	1	1	2.1	2.1	103	104	80-120	1	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

QC Batch: 317050 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Associated Lab Samples: 40184900004, 40184900007

METHOD BLANK: 1843690 Matrix: Water
Associated Lab Samples: 40184900004, 40184900007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.25	0.84	04/02/19 21:32	

LABORATORY CONTROL SAMPLE: 1843691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.6	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1843692 1843693

Parameter	Units	40184954001 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	1.7	1	1	2.7	2.7	100	99	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, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 58187103 SMOKE OUT CLEANERS
Pace Project No.: 40184900

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40184900001	**MW-1**	EPA 8015B Modified	317345		
40184900002	**MW-2**	EPA 8015B Modified	317345		
40184900003	**MW-3**	EPA 8015B Modified	317345		
40184900004	**MW-4**	EPA 8015B Modified	317998		
40184900007	**MW-7**	EPA 8015B Modified	317998		
40184900001	**MW-1**	EPA 6010	317145		
40184900002	**MW-2**	EPA 6010	317145		
40184900003	**MW-3**	EPA 6010	317145		
40184900004	**MW-4**	EPA 6010	317145		
40184900007	**MW-7**	EPA 6010	317145		
40184900001	**MW-1**	EPA 8260	316856		
40184900002	**MW-2**	EPA 8260	316856		
40184900003	**MW-3**	EPA 8260	316856		
40184900004	**MW-4**	EPA 8260	316856		
40184900005	**MW-5**	EPA 8260	316856		
40184900006	**MW-6**	EPA 8260	316856		
40184900007	**MW-7**	EPA 8260	316856		
40184900008	**MW-8**	EPA 8260	316856		
40184900009	**MW-9**	EPA 8260	316856		
40184900010	**MW-10**	EPA 8260	316856		
40184900011	**PZ-1**	EPA 8260	316856		
40184900012	**PZ-2**	EPA 8260	316856		
40184900013	**BD-1**	EPA 8260	316856		
40184900014	**BD-2**	EPA 8260	316856		
40184900015	**HCL TRIP BLANK**	EPA 8260	316856		
40184900001	**MW-1**	SM 5310C	317049		
40184900002	**MW-2**	SM 5310C	317049		
40184900003	**MW-3**	SM 5310C	317049		
40184900004	**MW-4**	SM 5310C	317050		
40184900007	**MW-7**	SM 5310C	317050		

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

Pace Analytical®
www.pacelabs.com

CHAIN OF COUSTODY

40184900

(Please Print Clearly)

Company Name:	Terracon
Branch/Location:	Franklin, WI
Project Contact:	Scott Hodgson
Phone:	414 209 7640
Project Number:	S8187103
Project Name:	Smoke Out Cleaners
Project State:	WI
Sampled By (Print):	Anthony LaBrusca
Sampled By (Sign):	
PO #:	
Regulatory Program:	

Quote #:	
Mail To Contact:	
Mail To Company:	Same
Mail To Address:	
Invoice To Contact:	Scott Hodgson
Invoice To Company:	Terracon
Invoice To Address:	
Invoice To Phone:	

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

Data Package Options (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

					FILTERED? (YES/NO) Y/N	N					
					PRESERVATION (CODE)* Pick Letter	B	B	C	D		
PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Analyses Requested	VOCs	Methane, Ethane, Ethene	Total organic Carbon	Dissolved Iron	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)
001	MW-1	3/27/19	1500	W		3	3	1	1		
002	MW-2	3/27/19	1545	↓		↓	3	1	1		
003	MW-3	3/27/19	1630				3	1	1	Please send 2 Invoices split 50/50	
004	MW-4	3/28/19	1320				3	1	1		
005	MW-5	↓	1605								
006	MW-6		1530								
007	MW-7		1235				3	1	1		
008	MW-8		1400								
009	MW-9		1505								
010	MW-10		1105								
011	PZ-1		1430								
012	PZ-2		1055								
013	BD-1	↓	-	↓		↓					

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:
[signature]	3/28/19 1640	[signature] Pace	3/28/19 1640

PACE Project No. 40184900

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

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

CHAIN OF CUSTODY

401 84900

(Please Print Clearly)	
Company Name:	
Branch/Location:	
Project Contact:	
Phone:	
Project Number:	Pwsl
Project Name:	
Project State:	GA NY
Sampled By (Print):	
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:	Same
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

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

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

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

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
01	BD-2	3/28/19	-	W	N	B	VOCs			
02	HCl Trip Blank	L	-	L		2				

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:
	3/28/19 1640		3/28/19 1640
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No.
401 84900

Receipt Temp = RO D °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical Services, LL
1241 Bellevue Street, Suite
Green Bay, WI 5430

Sample Preservation Receipt Form

Client Name: Terracon Project # 401849900

All containers needing preservation have been checked and noted below: ☑Yes ☐No ☐N/A

Lab Lot# of pH paper: 1DW3581 Lab Std #ID of preservation (if pH adjusted):

Initial when completed: JF Date/ Time:

	Glass							Plastic							Vials						Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
Pace Lab #	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN							
001			1										1					6									1				✓		2.5 / 5 / 10
002			1										1					6													✓		2.5 / 5 / 10
003			1										1					6													✓		2.5 / 5 / 10
004			1										1					6													✓		2.5 / 5 / 10
005																		3															2.5 / 5 / 10
006																		3															2.5 / 5 / 10
007			1										1					6									1				✓		2.5 / 5 / 10
008																		3															2.5 / 5 / 10
009																		3															2.5 / 5 / 10
010																		3															2.5 / 5 / 10
011																		3															2.5 / 5 / 10
012																		3															2.5 / 5 / 10
013																		3									1						2.5 / 5 / 10
014																		3															2.5 / 5 / 10
015																		2									1						2.5 / 5 / 10
016																																	2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

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

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

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

Sample Condition Upon Receipt Form (SCUR)

Project #: WO#: 40184900

Client Name: TerraCon

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☑ 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 SR - NA **Type of Ice:** Wet Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: RUT /Corr:

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

Person examining contents: Date: 3-28-19 Initials: JK

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

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☐Yes ☑No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☑Yes ☐No ☐N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☐Yes ☑No ☐N/A	12. 001 - Time 1545, 002 - 1500, 013 - 1055 3-28-19 JK
Trip Blank Present:	☑Yes ☐No ☐N/A	13.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 416		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: RMR for DM **Date:** 03/28/19

TERRACON — GROUND WATER SAMPLING INFORMAT

PROJECT NAME: Smoke Out Cleaners	PROJE NO. 58187103
PROJECT LOCATION: Howard, WI	
SAMPLE POINT: MW-1	SAMPLE POINT DESCRIPTION:
CASING DIAMETER: 4"	
WELL DEPTH: 6.4'	
DATE: 3/27/19	TIME 1420 AM /PM
DEPTH TO GROUND WA (FT): 1.98	
SAMPLING METHOD: low-flow	FLOW RATE: ~ 200 mL/min
SAMPLE TIME: 1545	TOTAL PURGED: ~1.5 gal

TIME	WATER LEVEL	TEMP.(°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1515	-	18.77	9.52	778	182.3	7.62
1520	-	18.94	8.14	703	104.6	3.15
1525	-	18.41	7.74	694	71.4	0.98
1530	-	18.75	7.51	653	30.3	0.99
1535	-	18.64	7.51	642	24.1	0.94
1540	-	18.85	7.51	635	23.2	0.90
1545	-	18.81	7.52	641	23.4	0.91

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID (CLEAR)	ODOR: YES NO (NOT NOTED)	ANALYSES: VOCs, MEE, TOC, Fe

CLEANING PERFORMED IN FIELD: *Alconox and Distilled Water AND Disposable gloves* (METHOD PERFORMED) *INITIAL TO VERIFY OR NOTE OTHER CLEANING

SO

COMMENTS:

SAMPLED BY: SO	DATE: 3/27/19
REVIEWED BY: Scott D. Hodgson	DATE: 10/17/19

TERRACON — GROUND WATER SAMPLING INFORMATION S'

PROJECT NAME: Smoke Out Cleaners	PROJECT NO. 58187103
PROJECT LOCATION: Howard, WI	
SAMPLE POINT: MW-2	SAMPLE POINT DESCRIPTION:
CASING DIAMETER: 1"	
WELL DEPTH: 6.41'	
DATE: 3/27/19	TIME 1418 AM /PM
	DEPTH TO GROUND WATER (FT): 2.12
SAMPLING METHOD: low-flow	FLOW RATE: ~ 200 mL/min
SAMPLE TIME: 1500	TOTAL PURGED: ~1.5 gal

TIME	WATER LEVEL	TEMP.(°C)	pH	COND. (µS/cm.)	ORP (mV)	DO (mg/L)
1425	-	18.70	8.31	769	129.2	4.30
1430	-	18.62	7.90	726	94.4	1.05
1435	-	18.66	7.60	672	72.1	0.94
1440	-	18.72	7.51	667	61.1	0.99
1445	-	18.83	7.46	656	53.1	0.98
1450	-	18.73	7.45	650	54.3	0.97
1455	-	18.97	7.43	655	52.2	0.95

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID (CLEAR)

ODOR: YES NO (NOT NOTED)

ANALYSES: VOCs TOC, MBE Fe

CLEANING PERFORMED IN FIELD: *Alconox and Distilled Water AND Disposable gloves* *INITIAL TO VERIFY OR NOTE OTHER CLEANING METHOD PERFORMED

XX

COMMENTS:

SAMPLED BY: XX	DATE: 3/27/19
REVIEWED BY: Scott D. Hodgson	DATE: 10/17/19

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: Smoke Out Cleaners	PROJECT NO. 58187103
PROJECT LOCATION: Howard, WI	
SAMPLE POINT: MW-3	SAMPLE POINT DESCRIPTION:
CASING DIAMETER: 1"	
WELL DEPTH: 6.41	
DATE: 3/27/19	TIME 1427 AM /PM
DEPTH TO GROUND WATER (FT): 2.02	
SAMPLING METHOD: low-flow	FLOW RATE: ~ 200 mL/min
SAMPLE TIME: 1630	TOTAL PURGED: ~1.5 gal

TIME	WATER LEVEL	TEMP.(°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1600	–	18.71	10.12	853	234.6	7.46
1605	–	18.84	8.14	641	102.3	1.43
1610	–	18.92	7.51	594	41.7	1.14
1615	–	18.91	7.54	561	38.4	0.94
1625	–	18.84	7.54	550	37.2	0.91
1630	–	18.86	7.54	552	39.5	0.93

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID CLEAR	ODOR: YES NO NOT NOTED	ANALYSES: VOCs, MEB, TOC, Fe

CLEANING PERFORMED IN FIELD: *Alconox and Distilled Water AND Disposable gloves* (METHOD PERFORMED) *INITIAL TO VERIFY OR NOTE OTHER CLEANING

AA

COMMENTS:

SAMPLED BY: AA	DATE: 3/27/19
REVIEWED BY: Scott D. Hodgson	DATE: 10/17/19

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: Smoke Out Cleaners	PROJECT NO. 58187103
PROJECT LOCATION: Howard, WI	
SAMPLE POINT: MW-4	SAMPLE POINT DESCRIPTION: Located in Badger Seale Shop
CASING DIAMETER: 1"	
WELL DEPTH: 6.4'	
DATE: 3/27/19	TIME 1422 AM /PM
	DEPTH TO GROUND WATER (FT): 2.01
SAMPLING METHOD: low-flow	FLOW RATE: ~ 200 mL/min
SAMPLE TIME: 1320	TOTAL PURGED: ~1.5 gal

TIME	WATER LEVEL	~~TEMP~~ STAND (°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1250	2.10 @	16.36	7.27	992	304.2	2.74
1255	-	16.44	7.29	991	289.0	1.96
1300	-	17.11	7.33	974	214.0	0.71
1305	-	17.33	7.30	968	182.1	0.61
1310	-	17.35	7.30	970	180.8	0.62
1315	-	17.31	7.30	972	178.6	0.63
1320	-	17.29	7.30	965	177.4	0.63

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID (CLEAR)

ODOR: YES (NO) NOT NOTED

ANALYSES: VOCs, MEE, TOC, Fe

CLEANING PERFORMED IN FIELD: *Alconox and Distilled Water AND Disposable gloves* *INITIAL TO VERIFY OR NOTE OTHER CLEANING METHOD PERFORMED

AR

COMMENTS:

SAMPLED BY: AR	DATE: 3/28/19
REVIEWED BY: Scott D. Hodgson	DATE: 10/17/19

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: Smoke Out Cleaners	PROJECT NO. 58187103
PROJECT LOCATION: Howard, WI	
SAMPLE POINT: MW-5	SAMPLE POINT DESCRIPTION:
CASING DIAMETER: 1"	
WELL DEPTH: 6.4'	
DATE: 3/27/19	TIME 1228 AM/PM
DEPTH TO GROUND WATER (FT): 1.23	
SAMPLING METHOD: low-flow	FLOW RATE: ~ 200 mL/min
SAMPLE TIME: 1605	TOTAL PURGED: ~1 gal

TIME	WATER LEVEL @ 5 min	TEMP.(°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1540	1.30	5.04	7.57	648	94.3	3.34
1545	-	4.97	7.36	452	60.4	1.11
1550	-	5.06	7.30	497	59.8	0.51
1555	-	5.15	7.30	476	58.7	0.53
1600	-	5.16	7.30	465	59.1	0.52

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID CLEAR

ODOR: YES NO NOT NOTED

ANALYSES: VOCs

CLEANING PERFORMED IN FIELD: *Alconox and Distilled Water AND Disposable gloves* *INITIAL TO VERIFY OR NOTE OTHER CLEANING METHOD PERFORMED

DZ

COMMENTS:

SAMPLED BY: DZ DATE: 3/28/19

REVIEWED BY: Scott D. Hodgson DATE: 10/17/19

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: Smoke Out Cleaners	PROJECT NO. 58187103
PROJECT LOCATION: Howard, WI	
SAMPLE POINT: MW-6	SAMPLE POINT DESCRIPTION:
CASING DIAMETER: 1"	
WELL DEPTH: 6.41'	
DATE: 3/27/18 TIME 1230 AM /PM	DEPTH TO GROUND WATER (FT): 1.32
SAMPLING METHOD: low-flow	FLOW RATE: ~ 200 mL/min
SAMPLE TIME: 1530	TOTAL PURGED: ~ 1 gal

TIME	WATER LEVEL	TEMP.(°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1510	1.39 @ start	5.64	7.62	654	82.4	2.32
1515	-	4.19	7.31	415	52.7	0.77
1526	-	4.21	7.12	419	58.6	0.71
1525	-	4.34	7.18	410	60.1	0.67
1530	-	4.39	7.18	416	59.7	0.68

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID CLEAR (CLEAR)

ODOR: YES NO (NOT NOTED)

ANALYSES: VOCs

CLEANING PERFORMED IN FIELD: *Alconox and Distilled Water AND Disposable gloves* (METHOD PERFORMED) *INITIAL TO VERIFY OR NOTE OTHER CLEANING

AR

COMMENTS:

SAMPLED BY: AR	DATE: 3/28/19
REVIEWED BY: Scott D. Hodgson	DATE: 10/17/19

TERRACON GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: Smoke Out Cleaners	PROJECT NO. 58187103
PROJECT LOCATION: Howard, WI	
SAMPLE POINT: MW-7	SAMPLE POINT DESCRIPTION:
CASING DIAMETER: 1"	
WELL DEPTH: 6.4'	
DATE: 3/27/19 TIME 1250 AM /PM	DEPTH TO GROUND WATER (FT): 1.66
SAMPLING METHOD: low-flow	FLOW RATE: ~ 200 mL/min
SAMPLE TIME: 1235	TOTAL PURGED: ~1.5 gal

prior to start

TIME	WATER LEVEL	TEMP.(°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1200	1.94	5.81	7.70	1573	275.4	12.81
1205	-	5.02	7.95	1,564	206.6	11.87
1210	-	5.23	8.10	1,545	163.4	11.73
1215	-	5.22	8.12	1,542	155.1	11.56
1220	-	5.19	8.15	1,538	142.2	11.69
1225	-	5.17	8.15	1,540	141.7	11.70
1230	-	5.16	8.15	1,536	142.6	11.71

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID CLEAR	ODOR: YES NO NOT NOTED	ANALYSES: VOCs, MEE, TOC Fe

CLEANING PERFORMED IN FIELD: *Alconox and Distilled Water AND Disposable gloves* *INITIAL TO VERIFY OR NOTE OTHER CLEANING METHOD PERFORMED

COMMENTS:

+ BD-2 for VOCs

SAMPLED BY:	DATE: 10/17/2019
REVIEWED BY: Scott D. Hodgson	DATE: 10/17/19

TERRACON — GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: Smoke Out Cleaners	PROJECT NO. 58187103
PROJECT LOCATION: Howard, WI	
SAMPLE POINT: MW-8	SAMPLE POINT DESCRIPTION:
CASING DIAMETER: 1"	
WELL DEPTH: 6.4'	
DATE: 3/27/19	TIME 1242 AM/PM — DEPTH TO GROUND WATER (FT): 1.34
SAMPLING METHOD: low-flow	FLOW RATE: ~ 200 mL/min
SAMPLE TIME: 1400	TOTAL PURGED: ~1 gal

TIME	WATER LEVEL @ start	TEMP.(°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1330	1.41	5.36	8.43	1010	125.4	11.57
1335	-	5.54	7.94	979	110.9	8.17
1340	-	5.76	7.61	900	77.4	6.77
1345	-	5.82	7.60	881	69.5	6.50
1350	-	5.81	7.58	875	67.3	6.53
1355	-	5.74	7.58	880	66.8	6.52
1400	-	5.75	7.57	879	65.4	6.52

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID (CLEAR)

ODOR: YES NO (NOT NOTED)

ANALYSES: VOCs

CLEANING PERFORMED IN FIELD: *Alconox and Distilled Water AND Disposable gloves* (METHOD PERFORMED) *INITIAL TO VERIFY OR NOTE OTHER CLEANING

AR

COMMENTS:

SAMPLED BY: AR	DATE: 3/28/19
REVIEWED BY: Scott D. Hodgson	DATE:

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: Smoke Out Cleaners	PROJECT NO. 58187103
PROJECT LOCATION: Howard, WI	
SAMPLE POINT: MW-9	SAMPLE POINT DESCRIPTION:
CASING DIAMETER: 1"	
WELL DEPTH: 6.4'	
DATE: 3/27/19	TIME 1234 AM /PM
DEPTH TO GROUND WATER (FT): 0.62	
SAMPLING METHOD: low-flow	FLOW RATE: ~ 200 mL/min
SAMPLE TIME: 1505	TOTAL PURGED: ~1 gal

TIME	WATER LEVEL @	TEMP.(°C) (start)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1440	0.77	3.92	8.13	843	104.8	5.81
1445	-	4.08	7.74	624	80.5	3.22
1450	-	4.11	7.61	641	77.4	2.11
1455	-	4.20	7.61	649	78.3	2.09
1500	-	4.18	7.62	645	77.9	2.10

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID CLEAR

ODOR: YES NO NOT NOTED

ANALYSES: VOCs

CLEANING PERFORMED IN FIELD: *Alconox and Distilled Water AND Disposable gloves* (METHOD PERFORMED) *INITIAL TO VERIFY OR NOTE OTHER CLEANING

ADL

COMMENTS:

SAMPLED BY: ADL	DATE: 3/28/19
REVIEWED BY: Scott D. Hodgson	DATE: 10/17/19

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: Smoke Out Cleaners	PROJECT NO. 58187103
PROJECT LOCATION: Howard, WI	
SAMPLE POINT: MW-10	SAMPLE POINT DESCRIPTION:
CASING DIAMETER: ~~4"~~ 2"	
WELL DEPTH: 6.41	
DATE: 3/27/19	TIME 1247 AM /PM
	DEPTH TO GROUND WATER (FT): 1.46
SAMPLING METHOD: low-flow	FLOW RATE: ~ 200 mL/min
SAMPLE TIME: 1140	TOTAL PURGED: ~1.5 gal

TIME	WATER LEVEL	TEMP.(°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1110	2.04	4.04	8.17	1412	202.7	9.70
1115	2.28	3.88	8.21	1452	171.8	9.43
1120	2.33	3.94	8.21	1456	167.8	9.30
1125	2.35	3.97	8.18	1492	133.6	9.38
1130	2.35	4.02	8.13	1556	130.9	9.41
1135	2.37	3.93	8.12	1524	128.4	9.36
1140	2.36	3.89	8.12	1539	130.1	9.37

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID (CLEAR)	ODOR: YES NO (NOT NOTED)	ANALYSES: VOCs

CLEANING PERFORMED IN FIELD: *Alconox and Distilled Water AND Disposable gloves* *INITIAL TO VERIFY OR NOTE OTHER CLEANING METHOD PERFORMED

AOR

COMMENTS:

SAMPLED BY: AOR	DATE: 3/28/19
REVIEWED BY: Scott D. Hodgson	DATE: 10/17/19

TERRACON — GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: Smoke Out Cleaners	PROJECT NO. 58187103
PROJECT LOCATION: Howard, WI	
SAMPLE POINT: PZ-1	SAMPLE POINT DESCRIPTION:
CASING DIAMETER: 1"	
WELL DEPTH: 26'	
DATE: 3/27/19	TIME 1240 AM/PM — DEPTH TO GROUND WATER (FT): 1.77
SAMPLING METHOD: low-flow	FLOW RATE: ~ 200 mL/min
SAMPLE TIME: 1430	TOTAL PURGED: ~ 1 gal

TIME	WATER LEVEL @ start	TEMP.(°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1405	2.01'	4.74	8.01	869	122.5	9.64
1410	-	4.53	7.94	802	85.4	4.14
1415	-	5.02	7.77	795	69.7	3.18
1420	-	5.11	7.76	778	68.3	3.15
1425	-	5.17	7.76	781	69.4	3.13

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID CLEAR	ODOR: YES NO NOT NOTED	ANALYSES: VOCs

CLEANING PERFORMED IN FIELD: *Alconox and Distilled Water AND Disposable gloves* (METHOD PERFORMED) — *INITIAL TO VERIFY OR NOTE OTHER CLEANING: AD2

COMMENTS:

SAMPLED BY: AD2	DATE: 3/28/19
REVIEWED BY: Scott A. Hodgson	DATE: 10/17/19

TERRACON

GROUND WATER SAMPLING INFORMATION SHEET

PROJECT NAME: Smoke Out Cleaners	PROJECT NO. 58187103
PROJECT LOCATION: Howard, WI	
SAMPLE POINT: PZ-2	SAMPLE POINT DESCRIPTION:
CASING DIAMETER: 2"	
WELL DEPTH: 26'	
DATE: 3/27/19	TIME 1245 AM/PM — DEPTH TO GROUND WATER (FT): 1.79
SAMPLING METHOD: low-flow	FLOW RATE: ~ 200 mL/min
SAMPLE TIME: 1055	TOTAL PURGED: ~1.5 gal

TIME	WATER LEVEL	TEMP.(°C)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)
1020	2.14	9.34	8.37	1022	72.4	10.41
1025	3.19	9.48	8.35	946	58.6	9.42
1030	4.41	8.77	8.02	802	60.0	5.46
1035	5.15	8.70	7.99	797	55.6	5.10
1040	5.24	8.67	7.96	781	55.3	5.04
1045	5.22	8.56	7.92	772	52.4	5.10
1050	5.28	8.52	7.93	777	54.8	4.97
1055	5.31	8.50	7.93	775	56.7	5.00

SAMPLE APPEARANCE: VERY TURBID TURBID SLIGHTLY TURBID (CLEAR)	ODOR: YES NO (NOT NOTED)	ANALYSES: VOCs

CLEANING PERFORMED IN FIELD: *Alconox and Distilled Water AND Disposable gloves* *INITIAL TO VERIFY OR NOTE OTHER CLEANING METHOD PERFORMED

COMMENTS:

- Collected BD-1 for VOCs

SAMPLED BY:	DATE: 3/28/19
REVIEWED BY: Scott D. Hodgson	DATE: 10/17/19

APPENDIX E

REGENESIS TECHNICAL INFORMATION AND MATERIAL SAFETY DATA SHEETS FOR 3DME®, BDI PLUS®, AND MICROZVI™

REGENESIS

Project Information		
Smoke Out Cleaners		
Howard, WI		
Soils and Dissolved Phase		
Prepared For:		
Terracon		
Target Treatment Zone (TTZ) Info	**Unit**	**Value**
Barrier Length	ft	70
Top Treat Depth	ft	2.0
Bot Treat Depth	ft	8.0
Vertical Treatment Interval	ft	6.0
Treatment Zone Volume	ft^3	6,300
Treatment Zone Volume	cy	233
Soil Type	---	sand
Porosity	cm^3/cm^3	0.33
Effective Porosity	cm^3/cm^3	0.20
Treatment Zone Pore Volume	gals	15,552
Treatment Zone Effective Pore Volume	gals	9,425
Fraction Organic Carbon (foc)	g/g	0.002
Soil Density	g/cm^3	1.7
Soil Density	lb/ft^3	108
Soil Weight	lbs	6.8E+05
Hydraulic Conductivity	ft/day	25.0
Hydraulic Conductivity	cm/sec	8.82E-03
Hydraulic Gradient	ft/ft	0.003
GW Velocity	ft/day	0.38
GW Velocity	ft/yr	137
Contaminant Mass	**Unit**	**Value**
Dissolved Phase Contaminant Mass	lbs	0
Sorbed Phase Contaminant Mass	lbs	0
Competing Electron Acceptor Mass	lbs	12
Total Mass Contributing to H_2 Demand	**lbs**	**12**
Mass Flux and 3DME Demand	**Unit**	**Value**
Groundwater Mass Flux through TTZ	L/day	892
Stoichiometric 3DME Demand	lbs	49
Mass Flux 3DME Demand	lbs	205
Total 3DME Demand	**lbs**	**254**
Application Dosing		
3-D Microemulsion to be Applied	**lbs**	**800**
S-MZVI to be Applied	**lbs**	**600**
BDI Plus to be Applied	**liters**	**18**

3-D Microemulsion®, S-MZVI®, BDI® Plus Application Design Summary

Soils and Dissolved Phase		
Treatment Type	**Barrier**	
Distance Perpendicular to Flow (ft)	70	
Spacing Within Rows (ft)	7	
Number of Rows	**1**	
DPT Injection Points	**10**	
Top Application Depth (ft bgs)	2	**Field Mixing Ratios**
Bottom Application Depth (ft bgs)	8	3DME Concentrate per Pt (lbs)
3DME to be Applied (lbs)	**800**	80
3DME to be Applied (gals)	800	Mix Water per Pt (gals)
3DME Mix %	5%	182
Volume Water (gals)	**1,821**	3DME Mix Volume per Pt (gals)
3DME Mix Volume (gals)	1,917	192
S-MZVI to be Applied (lbs)	**600**	S-MZVI Volume per Pt (gals)
S-MZVI Volume (gals)	45	4
BDI Plus to be Applied (L)	**18**	BDI Volume per Pt (L)
BDI Plus Mix Water Volume (gals)	180	1.8
Total Application Volume (gals)	**2,147**	Volume per pt (gals)
Estimated Radius of Injection (ft)	4.9	215
Prepared by: Owen Miller - Design Specialist		Volume per vertical ft (gals)
Date: 4/26/2019		36

Technical Notes/Discussion

Assumptions/Qualifications

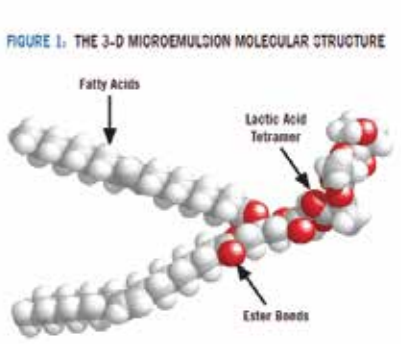
In generating this preliminary estimate, Regenesis relied upon professional judgment and site specific information provided by others. Using this information as input, we performed calculations based upon known chemical and geologic relationships to generate an estimate of the mass of product and subsurface placement required to affect remediation of the site.

REGENESIS developed this Scope of Work in reliance upon the data and professional judgments provided by those whom completed the earlier environmental site assessment(s). The fees and charges associated with the Scope of Work were generated through REGENESIS' proprietary formulas and thus may not conform to billing guidelines, constraints or other limits on fees. REGENESIS does not seek reimbursement directly from any government agency or any governmental reimbursement fund (the "Government"). In any circumstance where REGENESIS may serve as a supplier or subcontractor to an entity which seeks reimbursement from the Government for all or part of the services performed or products provided by REGENESIS, it is the sole responsibility of the entity seeking reimbursement to ensure the Scope of Work and associated charges are in compliance with and acceptable to the Government prior to submission. When serving as a supplier or subcontractor to an entity which seeks reimbursement from the Government, REGENESIS does not knowingly present or cause to be presented any claim for payment to the Government.

3-D Microemulsion® Factory Emulsified Technical Description

3-D Microemulsion (3DME®) is comprised of a patented molecular structure containing oleic acids (i.e., oil component) and lactates/polylactates, which are molecularly bound to one another (figure 1). The 3DME molecule contains both a soluble (hydrophilic) and in-soluble (lipophilic) region. These two regions of the molecule are designed to be balanced in size and relative strength. The balanced hydrophilic/lipophilic regions of 3DME result in an electron donor with physical properties allowing it to initially adsorb to the aquifer material in the area of application, then slowly redistribute via very small 3DME "bundles" called micelles. These 3DME micelles spontaneously form within sections of the aquifer where concentrations of 3DME reach several hundred parts per million. The micelles' small size and mobility allow it to move with groundwater flow through the aquifer matrix, passing easily through the pore throats in between soil grains resulting in the further redistribution of 3DME within the aquifer. This allows for advective distribution of the oleic acids which are otherwise insoluble and unable to distribute in this manner, allowing for increased persistence of the lactate/polylactates component due to their initial attachment to the oleic acids.

Example of 3-D Microemulsion



Due to its patented molecular structure, 3DME offers far greater transport when compared to blended emulsified vegetable oil (EVO) products, which fail to distribute beyond the limits of pumping. 3DME also provides greater persistence when compared to soluble substrates such as lactates or simple sugars. The 3DME molecular structures capitalize on the best features of the two electron-donor types while at the same time, minimize their limitations. 3DME is delivered to the site as a ready-to-apply emulsion that is simply diluted with water to generate a large volume of a 3DME colloidal suspension.

Suspension of 3DME generated by this mixing range from micelles on the order of .02 microns to .05 microns in diameter, to "swollen" micelles, (termed "microemulsions") which are on the order of .05 to 5 microns in diameter. Once injected into the subsurface in high volumes, the colloidal suspension mixes and dilutes in existing pore waters. The micelles/microemulsions on the injection front will then begin to sorb onto the surfaces of soils as a result of zeta potential attraction and organic matter within the soils themselves. As the sorption continues, the 3DME will "coat" pore surfaces developing a layer of molecules and in some cases a bilayer. This sorption process continues as the micelles/microemulsion moves outward and disassociates into their hydrophilic/hydrophobic components. The specialized chemistry of 3DME results in a staged release of electron donors: free lactate (immediate); polylactate esters (mid-range) and free fatty acids & fatty acid esters (long-term). Material longevity of three years or greater has been seen at most sites as determined from biogeochemical analyses.

For a list of treatable contaminants with the use of 3DME, view the Range of Treatable Contaminants Guide

Chemical Composition

- Hydrogen Release Compound Partitioning Electron Donor – CAS #823190-10-9
- Sodium Lactate – CAS# 72-17-3
- Water – CAS# – 7732-18-5

3-D Microemulsion® Factory Emulsified Technical Description

Properties

- Density – Approximately 1.0 grams per cubic centimeter (relative to water)
- pH – Neutral (approximately 6.5 to 7.5 standard units)
- Solubility – Soluble in Water
- Appearance – White emulsion
- Odor – Not detectable
- Vapor Pressure – None
- Non-hazardous

Storage and Handling Guidelines

Storage
Store in original tightly closed container
Store in a cool, dry, well-ventilated place
Store away from incompatible materials
Recommended storage containers: plastic lined steel, plastic, glass, aluminum, stainless steel, or reinforced fiberglass

Handling
Avoid contact with eyes, skin, and clothing
Provide adequate ventilation
Wear appropriate personal protective equipment
Observe good industrial hygiene practices

Applications

- 3DME is diluted with water prior to application. Resulting emulsion has viscosity similar to water.
- Easily injects into formation through direct push injection points, injection wells or other injection delivery systems.

Application instructions for this product are contained here 3DME FE Application Instructions.

Health and Safety

Material is food grade and relatively safe to handle. We recommend avoiding contact with eyes and prolonged contact with skin. OSHA Level D personal protection equipment including vinyl or rubber gloves, and eye protection are recommended when handling this product. Please review the Material Safety Data Sheet for additional storage, usage, and handling requirements here: SDS-3DME FE.

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www.regenesis.com
1011 Calle Sombra, San Clemente CA 92673
949.366.8000

BDI PLUS® Technical Description

Bio-Dechlor INOCULUM Plus (BDI PLUS®) is an enriched natural consortium containing species of Dehalococcoides sp. (DHC). BDI PLUS has been shown to simulate the rapid and complete dechlorination of chlorinated solvents such as tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE) and vinyl chloride (VC) to non-toxic end products, ethene, carbon dioxide and water.

The culture also contains microbes capable of dehalogenating halomethanes (e.g., carbon tetrachloride and chloroform) and haloethanes (e.g., 1,1,1-TCA and 1,1-DCA) as well as mixtures of these contaminants.

Species of Dehalococcoides sp. (DHC)

For a list of treatable contaminants with the use of BDI PLUS, view the Range of Treatable Contaminants Guide

Chemical Composition

- Non-hazardous, naturally-occurring, non-altered anaerobic microbes and enzymes in a water-based medium.

Properties

- Appearance – Murky, yellow to grey water
- Odor – Musty
- pH 6.0 to 8.0
- Density – Approximately 1.0 grams per cubic centimeter (0.9 to 1.1 g/cc)
- Solubility – Soluble in Water
- Vapor Pressure – None
- Non-hazardous

Storage and Handling Guidelines

Storage
Store in original tightly closed container
Store away from incompatible materials
Recommended storage containers: plastic lined steel, plastic, glass, aluminum, stainless steel, or reinforced fiberglass
Store in a cool, dry area at 4-5°C (39 - 41°F)
Material may be stored for up to 3 weeks at 2-4°C without aeration

Handling
Avoid prolonged exposure
Observe good industrial hygiene practices
Wear appropriate personal protective equipment

BDI PLUS® Technical Description

Applications

- BDI PLUS is delivered to the site in liquid form and is designed to be injected directly into the saturated zone requiring treatment.
- Most often diluted with de-oxygenated water prior to injection into either hydraulic push injection points or properly constructed injection wells.
- The typical dilution rate of the injected culture is 10 gallons of deoxygenated water to 1 liter of standard BDI PLUS culture.

Application instructions for this product are contained here BDI PLUS Application Instructions.

Health and Safety

Material is non-hazardous and relatively safe to handle; however avoid contact with eyes and prolonged contact with skin. OSHA Level D personal protection equipment including: vinyl or rubber gloves and safety goggles or a splash shield are recommended when handling this product. An eyewash station is recommended. Please review the Material Safety Data Sheet for additional storage, usage, and handling requirements here: BDI PLUS SDS.

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1011 Calle Sombra, San Clemente CA 92673
949.366.8000

S-MicroZVI Specification Sheet

S-MicroZVI Technical Description

S-MicroZVI™ is an *In Situ* Chemical Reduction (ISCR) reagent that promotes the destruction of many organic pollutants and is most commonly used with chlorinated hydrocarbons. It is engineered to provide an optimal source of micro-scale zero valent iron (ZVI) that is both easy to use and delivers enhanced reactivity with the target contaminants via multiple pathways. S-MicroZVI can destroy many chlorinated contaminants through a direct chemical reaction (**see Figure 1**). S-MicroZVI will also stimulate anaerobic biological degradation by rapidly creating a reducing environment that is favorable for reductive dechlorination.

Sulfidated ZVI

S-MicroZVI is composed of colloidal, sulfidated zero-valent iron particles suspended in glycerol using proprietary environmentally acceptable dispersants. The passivation technique of sulfidation, completed using proprietary processing methods, provides unparalleled reactivity with chlorinated hydrocarbons like PCE and TCE and increases its stability and longevity by minimizing undesirable side reactions.

S-MicroZVI is Best in Class For

- ☑ Longevity
- ☑ Reactivity
- ☑ Transport

In addition to superior reactivity, S-MicroZVI is designed for easy handling that is unmatched by any ZVI product on the market. Shipped as a liquid suspension, S-MicroZVI requires no powder feeders, no thickening with guar, and pneumatic or hydraulic fracturing is not mandatory. When diluted with water prior to application, the resulting suspension is easy to inject using either direct push or permanent injection wells.

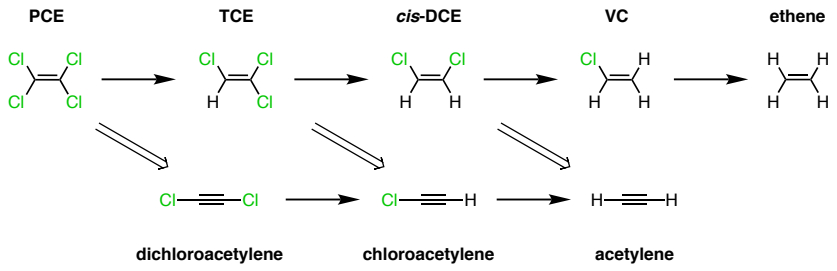

Figure 1: *Chlorinated ethene degradation pathways and products. The top pathway with single line arrows represent the reductive dechlorination (hydrogenolysis) pathway. The lower pathway with downward facing double line arrows represent the beta-elimination pathway.*

To see a list of treatable contaminants, view the S-MicroZVI treatable contaminants guide.

S-MicroZVI Specification Sheet

Chemical Composition

Iron, powders CAS 7439-89-6

Iron (II) sulfide CAS 1317-37-9

Glycerol CAS 56-81-8

Properties

Physical State: Liquid

Form: Viscous metallic suspension

Color: Dark gray

Odor: Slight

pH: Typically 7-9 as applied

Density: 15 lb/gal

Storage and Handling Guidelines

Storage:

- Use within four weeks of delivery
- Store in original containers
- Store at temperatures below 95F°
- Store away from incompatible materials

Handling:

- Never mix with oxidants or acids
- Wear appropriate personal protective equipment
- Do not taste or swallow
- Observe good industrial hygiene practices

Applications

S-MicroZVI is diluted with water on site and easily applied into the subsurface through low-pressure injections. S-MicroZVI can also be mixed with products like 3-D Microemulsion® or PlumeStop® prior to injection.

Health and Safety

The material is relatively safe to handle; however, avoid contact with eyes, skin and clothing. OSHA Level D personal protection equipment including: vinyl or rubber gloves and eye protection are recommended when handling this product. Please review the Safety Data Sheet for additional storage, and handling requirements here: S-MicroZVI SDS.

www.regenesis.com

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APPENDIX F

WPDES PERMIT APPLICATION

State of Wisconsin
Department of Natural Resources
Bureau of Water Quality
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Notice of Intent (NOI)
Contaminated Groundwater from Remedial Action Operations
WPDES Permit No. WI-0046566-07-0
Rev. 06/2018

Notice: Pursuant to chs. NR 200 and 205, Wis. Adm. Code, this notice of intent (NOI) is required to request coverage under the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit No. WI-0046566-07-0 for discharges of contaminated groundwater to waters of the state of Wisconsin. Failure to complete this form in its entirety may result in a returned NOI or a denied NOI. Personal information collected will be used for administrative purposes and may be provided to requestors to the extent required by Wisconsin Open Records law [ss. 19.31-19.39, Wis. Stats.].

SECTION I: FACILITY/PROJECT LOCATION INFORMATION			
Facility/Project Name Smoke-Out Cleaners		Facility Mailing Address (i.e. PO Box, Street, or Route) 1631 Brookfield, Suite D-4	
Facility/Project Physical Address (i.e. Street or Route) 1631 Brookfield, Suite D-4		City, State, Zip Code Howard, Wisconsin 54303	
County Brown	Facility Phone No. 920.662.9401	Facility Fax No. NA	Facility Email Address NA
SECTION II: FACILITY CONTACT INFORMATION			
Facility Operator/Plant Manager Mark Woppert/Dirk		Title Business Owner/Plant Manager	
Company Smoke-Out Cleaners, Ltd		Contact Mailing Address (i.e. PO Box, Street, or Route) 535 Half Mile Road	
City, State, Zip Code Verona, Wisconsin 53593		Contact Phone No. 608.438.1746 (cell)	Alternative Phone No. 608.438.1884 (Dirk cell)
Contact Fax No. NA		Contact Email Address mark.woppert@smoke-out.net	
Discharge Monitoring Contact Name Scott Hodgson		Title Senior Geologist	
Company Terracon Consultants		Contact Mailing Address (i.e. PO Box, Street, or Route) 9856 South 57th Street	
City, State, Zip Code Franklin, Wisconsin 53132		Contact Phone No. 414.423.0255	Alternative Phone No. 414.209.7640
Contact Fax No.		Contact Email Address scott.hodgson@terracon.com	
Authorized Representative Name Mark Woppert		Title Smoke-Out Owner	
Company Smoke-Out Cleaners, Ltd.		AR Mailing Address (i.e. PO Box, Street, or Route) 535 Half Mile Road	
City, State, Zip Code Verona, Wisconsin 53593		AR Phone No. 608.438.1746	Alternative Phone No.
AR Fax No. NA		AR Email Address mark.woppert@smoke-out.net	

State of Wisconsin
Department of Natural Resources
Bureau of Water Quality
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

SECTION III: FACILITY OWNER MAILING ADDRESS (if different from Authorized Representative)		
Facility Owner Name **Allen Lee Investments/Al Morin**	Title Owner	
Parent Company	Owner Mailing Address (i.e. PO Box, Street, or Route) 1651 Brookfield Avenue, Suite A	
City, State, Zip Code Howard, WI 54313-8817	Owner Phone No. 920-680-2878	Alternative Phone No.
Contact Fax No. NA	Contact Email Address atrailside@aol.com	

SECTION IV: DISCHARGE CHARACTERIZATION

Type of Wastewater (check all that apply):	**Discharge Frequency** (e.g. Annual, Monthly, Daily)	**Average Daily Flow** (gallons of water discharged per day)	**Type of Wastewater** (check all that apply):	**Discharge Frequency** (e.g. Annual, Monthly, Daily)	**Average Daily Flow** (gallons of water discharged per day)
☐ Treated wastewater from groundwater remediation project			☐ Cleaning or decontamination wastewaters from the cleaning of treatment equipment for a remediation project		
☒ Infiltration or injection of a substance or remedial material for remediation of soil or groundwater	One-time event over 2 days	1,100	☐ Other (describe type)		
☐ Treated wastewater from dewatering of construction trenches or pits			☐ Other (describe type)		
☐ Landspreading or spray irrigation of agricultural chemical contaminated wastewater			☐ Other (describe type)		

SECTION V: ELIGIBILITY CHECKLIST

1. Is the wastewater discharged from and/or to properties within tribal lands (i.e. land owned by or held in trust for the tribes and land within recognized reservation boundaries)?

☐ Yes. **Your discharge is not eligible for this General Permit.** *If all discharges from your facility go to or come from properties in tribal lands, you do not require regulation under a WPDES discharge permit. Therefore, skip the rest of the NOI and sign the last page. We will remove you from our tracking system. The Tribe or United States*

State of Wisconsin
Department of Natural Resources
Bureau of Water Quality
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Environmental Protection Agency (EPA) regulates discharges within tribal lands.

☒ No. **Proceed to question 2.**

2. Is the wastewater discharged to a Publicly Owned Treatment Works (i.e. sanitary sewer)? A septic system is not considered a sanitary sewer.

☐ Yes. **Your discharge is not eligible for this General Permit.** *If all discharges from your facility go to a sanitary sewer, you do not require regulation under a WPDES discharge permit. Therefore, skip the rest of the NOI and sign the last page. We will remove you from our tracking system. If at some point in the future operations at your facility result in a discharge, you will need to inform the Department. If only some or no discharges from your facility go to the sanitary sewer, please proceed to question 3.*

☒ No. **Proceed to question 3.**

3. Are any of the following wastewaters discharged or mixed with the above wastewaters to surface water or groundwater: Contact or noncontact cooling water, water from boiler cleaning operations, air compressor condensate contaminated with oil and grease, softener regeneration backwash, municipal wastewater, domestic wastewater, or process wastewaters from the production of any material or product, or other wastewater not otherwise cover by this general permit?

☐ Yes. **Your discharge is not eligible for this General Permit.** *Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.*

☒ No. **Proceed to question 4.**

4. What is the receiving water for your discharge? If your facility has more than one outfall, indicate in the space provided which outfalls go to groundwater and which go to surface waters. *(check all that apply)*

☒ **Groundwater Discharge** (*any wastewater that is allowed to infiltrate or seep into the soil from a permeable surface including but not limited to any drain field, agricultural field, ditch, swale, depression, trench or pit, adsorption pond, infiltration pond, rain garden, prairie, or vegetative area that may impact groundwater quality*). **If you will only be discharging to groundwater, please proceed to question 5.**

Outfall #(s):

☐ **Wetland Discharge** (*any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that will carry wastewater to a wetland. Wetlands mean an area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions*). **If you will only be discharging to wetlands, please proceed to question 5.**

Outfall #(s):

Note: *The Department will need to determine if your discharge would cause significant adverse impacts to wetlands*

☐ **Surface Water Discharge** *(any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that will carry wastewater to a creek, stream, pond, marsh, bay, reservoir, river, lake, or other surface water within the state of Wisconsin*). **Proceed to question 4A.**

Outfall #(s):

A. What is the name(s) of the surface water your discharge enters?

Proceed to question 4B.

B. What is the Water Body Identification Code (WBIC) of the surface water your discharge enters?

Proceed to question 4C.

Note: The WBIC for a specific surface water can be found at: http://dnr.wi.gov/water/waterSearch.aspx.

C. Is the discharge directly to a surface water classified as an outstanding or exceptional resource waters as defined in ch. NR 102, Wis. Adm. Code.?

☐ Yes. **Your discharge is not eligible for this General Permit.** *Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.*

☐ No. **Proceed to question 4D.**

D. Is the discharge directly to a surface water classified as a public water supply (i.e. Lake Superior, Lake Michigan and Lake Winnebago) in ch. NR 104, Wis. Adm. Code?

☐ Yes. **Your discharge is not eligible for this General Permit.** *Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.*

☐ No. **Proceed to question 5.**

5. Does the discharge contain water treatment additives (i.e. biocides such as microbicides, fungicides, molluscicdes, chlorine, etc.) or water quality conditioners (i.e. scale and corrosion inhibitors, pH adjustment chemicals, oxygen scavengers, conditioning agents, water softening compounds, etc.) that may enter surface water or groundwater without receiving wastewater treatment or that are used in a treatment process but are not expected to be removed by wastewater treatment?

☐ Yes. **For each additive used, please fill out and attach an Additive Review Worksheet.** *Additive Review Worksheets must be completed to receive coverage under this general permit. The Additive Review Worksheet is not required for additives with active ingredients consisting of chlorine, hypochlorite, sulfuric acid, hydrochloric acid or sodium hydroxide. Also, chemicals used in an industrial process generating wastewater that eventually receives treatment or chemicals added as part of wastewater treatment process (such as ferric chloride, alum or pickle liquor) are not considered water treatment additives and need not require an additive review.* **Proceed to question 6.**

☒ No. **Proceed to question 6.**

6. Will chlorine-based compounds be used to control the growth of micro-organisms in the treatment system or used to decontaminate the treatment system after completion of the remediation project?

☐ Yes. **Proceed to question 6A.**

☒ No. **Proceed to question 7.**

A. Will chemicals be used to dechlorinate the wastewater prior to discharge to surface water?

☐ Yes. **The wastewater will be dechlorinated with chemicals. Proceed to question 7.**

☐ No. **The wastewater will not be dechlorinated with chemicals. Proceed to question 7.**

7. Is a discharge management plan attached to this NOI that includes all the information necessary from Section 3 of the permit?

☒ Yes. **Proceed to question 8.**

☐ No. **This form will be considered incomplete and returned to you.**

8. Has the groundwater at the site been analyzed for contaminants and are the results attach to the discharge management plan?

☒ Yes. **Proceed to question 9.**

☐ No. **This form will be considered incomplete and returned to you.**

9. If a treatment facility is required for the treatment of contaminated groundwater, have the plans and specifications been submitted to or approved by the department under s. 281.41, Wis. Stats., and ch. NR 108, Wis. Adm. Code?

☐ Yes. **Proceed to Section VI.**

☐ No. **Please contact wastewater plan review staff to find out how to get the plans approved. Proceed to Section VI.**

Note: Department wastewater plan review staff can be found here: http://dnr.wi.gov/topic/wastewater/planreviewers.html.

Additionally, department plan submittal requirements can be found here: http://dnr.wi.gov/topic/wastewater/AdequateSubmittal.html.

SECTION VI: CERTIFICATION

This form must be signed by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2., Wis. Adm. Code. To delegate signatory authority to a duly authorized representative, please submit a Delegation of Signature Authority (DSA) form (Form 3400-220).

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Representative Name Mark Woppert	Title Owner
Authorized Representative Signature Mark Woppert	Date Signed 12-26-2019
Submitter Name (If different from Authorized Representative) Scott Hodgson	Title Senior Geologist
Submitter Signature Scott D. Hodgson	Date Signed 1/7/2020

State of Wisconsin
Department of Natural Resources
Bureau of Water Quality
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Please print and sign this certification page. Scan and email the completed form, certification page and any other supporting information to the department regional general permit reviewer at least thirty (30) business days before the expected start date of discharge. A listing of the general permit reviewers for each region with mailing addresses and phone numbers can be found at http://dnr.wi.gov/topic/wastewater/GeneralPermits.html. Please scroll to the "How to Apply" section and click the department region that the discharge is located in.