

From: Matthew Karl <mkarl@olympusventures.com>
Sent: Tuesday, September 03, 2019 5:00 PM
To: Recker-Jones, Jennifer
Subject: 801 So. 70th Street, West Allis
Attachments: J Recker-Jones - Ascension Health - Soil Gas Survey 09-03-19.pdf; Certificate of Completion of Response Actions (00742607xC2E86).pdf; West Allis- Shallow Soil Gas Report (00758324xC2E86).pdf

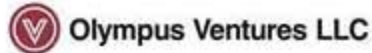
Jennifer:

I'm following up on the voice mail I left you a few moments ago. Please see the letter and additional attachments referenced in my letter. We are working with the prospective buyer and the Wisconsin Department of Natural Resources on next steps and would like to engage you in those discussions as well.

I will call you tomorrow to follow up on this matter.

Best regards, Matt

Matthew Karl | *Vice President - Real Estate*



**6600 FRANCE AVENUE, S., SUITE 550
MINNEAPOLIS, MN 55435**

OFFICE 952.324.8917 | MOBILE 612.309.4327 | FAX 952.324.8999

State of Wisconsin
Department of Natural Resources

**CERTIFICATE OF COMPLETION
OF RESPONSE ACTIONS
UNDER SECTION 292.15(2)(a), WIS. STATS.**

Whereas, City of West Allis has applied for an exemption from liability under s. 292.15, Wis. Stats., for the property located at 801 South 70th Street, West Allis, Wisconsin, which is commonly referred to as the MPS site (“the Property”), further described in the legal description found on Attachment A.

Whereas, an environmental investigation of the Property has been conducted and has determined that contamination exists at the Property;

Whereas, City of West Allis has submitted to the Wisconsin Department of Natural Resources (“WDNR”) investigation reports and a remedial action plan for the Property which comply with the requirements set forth in chs. NR 700-754, Wis. Adm. Code, consisting of the documents and reports listed in Attachment B;

Whereas, in accordance with s. 292.15(2)(a), Wis. Stats., the WDNR has determined that an environmental investigation has been conducted which adequately identified and evaluated the nature and extent of the hazardous substance discharges on the Property and WDNR has approved of the remedial action plan for the Property; and

Whereas, on September 26, 2000, WDNR determined that response actions necessary to restore the environment to the extent practicable with respect to the discharges and minimize the harmful effects from the discharges to the air, land, and waters of the state were completed.

Therefore, based upon the information that has been submitted to the WDNR, the WDNR hereby certifies that the response actions set forth in the WDNR approved remedial action plan for the Property and any other necessary response actions have been completed.

Upon issuance of this Certificate, City of West Allis and the persons qualified for protection under s. 292.15(3), Wis. Stats., are exempt from the provisions of ss. 289.05(1), (2), (3) and (4), 289.42(1), 289.67, 291.25(1) to (5), 291.29, 291.37, 292.11(3), (4), and (7)(b) and (c)

and 292.31(8), Wis. Stats., with respect to the existence of hazardous substances on or originating from the Property, the release of which occurred prior to the date the department approved the environmental investigation required under s. 292.15(2)(a)1., Wis. Stats. However, **City of West Allis** and a person otherwise qualified for protection under s. 292.15(3), Wis. Stats. who owns or controls the Property would no longer qualify for this liability exemption if that person fails to maintain or monitor the Property as required by rules promulgated by the WDNR. Any releases of a hazardous substance to or from the Property that occur after the date that the environmental investigation was approved will be the responsibility of the current Property owner and any other person who possesses or controls that discharge and any person who caused the discharge.

The protection from liability provided under s. 292.15(2), Wis. Stats., does not apply to any person who has obtained a Certificate of Completion by fraud or misrepresentation, or by the knowing failure to disclose material information or under circumstances in which **City of West Allis** knew or should have known about more discharges of hazardous substances than was revealed by the investigation approved by the WDNR.

Nothing in this Certificate or in s. 292.15, Wis. Stats., affects the authority of the WDNR to exercise any powers or duties under applicable laws other than ss. 289.05(1), (2), (3) and (4), 289.42(1), 289.67, 291.25(1) to (5), 291.29, 291.37, 292.11(3), (4), and (7)(b) and (c) and 292.31(8), Wis. Stats., with respect to any release or threatened release of contaminants at the Property, or the right of the WDNR to seek relief available against any person who is not entitled to protection from liability under s. 292.15, Wis. Stats., with respect to such release or threatened release.

SIGNED AND CERTIFIED this 11th day of NOVEMBER, 2003.



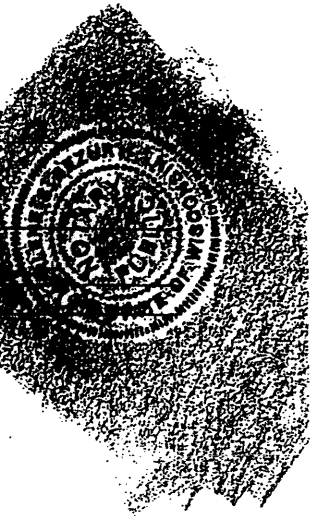
Scott Hassett, Secretary
Wisconsin Department of Natural Resources

State of Wisconsin)
 : SS
County of Milwaukee)

This instrument was acknowledged before me on October
Leslie A. Blum as Senior Vice President of Opus North Corporation

Merlene S. Blum

(Merlene S. Blum)
Notary Public, State of Wisconsin
My commission expires _____



This instrument was drafted by:

Jerome M. Janzer, Esq.
Reinhart, Boerner, Van Deuren,
Norris & Rieselbach, s.c.
1000 North Water Street, Suite 2100
Milwaukee, Wisconsin 53202

REEL 4670 IMAG 737

EXHIBIT "A"

Legal Description

Parcel A:

Parcel 2 of Certified Survey Map No. 6578, recorded on October 20, 1998, Reel 4418, Images 990-993, as Document No. 7618861, being a Redivision of Lot 1, Block 2, Assessors Plat No. 263, being a Division of the Northwest 1/4 and the Northeast 1/4 of the Southwest 1/4 of Section 34, Town 7 North, Range 21 East, in the City of West Allis, County of Milwaukee, State of Wisconsin.

Parcel B:

Easement for parking and utilities for the benefit of Parcel A, as set forth in Parking Facilities and Utilities Easement Agreement, recorded December 7, 1998, as Document No. 7646807.

For informational purposes only:

Parcel Identification Number: 440-0003-002
Street Address: 801 South 70th Street

EXHIBIT "B"

Permitted Encumbrances

1. Taxes which are a lien, but which are not yet billed, or are billed but are not yet delinquent and assessments which are not yet levied.
2. Any laws, regulations or ordinances (including, but not limited to, zoning, building and environmental matters) as to the use, occupancy, subdivision or improvement of the Subject Property adopted or imposed by any governmental agency.
3. Matters disclosed by the survey of the Real Property dated August 6, 1999, prepared by Donald C. Chaput of National Survey & Engineering.
4. Covenants, conditions and restrictions set forth in Declaration of Covenants and Restrictions, recorded as Document No. 6823312, as amended by First Amendment to Declaration of Covenants and Restrictions recorded as Document No. 7134080 and by Second Amendment to Declaration of Covenants and Restrictions recorded as Document No. 7552541.
5. Rights of the Community Development Authority of the City of West Allis as disclosed by the fact that the subject premises are included in the Redevelopment Plan for the South 70th Street-West Walker Street Redevelopment Project No. 1. A copy of said renewal Plan was recorded on April 18, 1991 on Reel 2557, Image 694, as Document No. 6473670 and amended by Amendment to the Redevelopment Plan for the South 70 Street-West Walker Street Redevelopment Project recorded as Document No. 7268995.
6. Possible adverse rights of adjoining owners in so much of the subject premises as lies North of the North fence and wall, due to the fact that said fence is not on the boundary line but is wholly located on the subject premises, to an extent ranging up to .4 of a foot in from the boundary line, as shown on survey dated August 6, 1999, prepared by National Survey & Engineering, Inc., No. 158652-MHK.
7. Terms, conditions and provision relating to the use and maintenance of the easement as set forth in Parking Facilities and Utilities Easement Agreement, recorded December 7, 1998, as Document No. 7646807.
8. Covenants, conditions and restrictions set forth in Development Agreement dated November 20, 1998, by and between the Community Development Authority of

the City of West Allis and Opus North Corporation, as disclosed by Memorandum of Agreement recorded December 7, 1998, as Document No. 7646804.

9. Covenants, conditions and restrictions set forth in Purchase and Sale Agreement entered into by and between the Community Development Authority of the City of West Allis and Opus North Corporation, dated November 20, 1998, as disclosed by Memorandum of Agreement recorded December 7, 1998, as Document No. 7646805.
10. Possible lien for charges and/or taxes and assessments due the City of West Allis, by reason of the inclusion of the subject premises in Tax Incremental District No. 1, City of West Allis, and pursuant to a Shortfall Agreement contained in the Purchase and Sale Agreement described in Document No. 7646805, above; none now due or payable.
11. Wisconsin Electric Distribution Easement Underground granted to Wisconsin Electric Power Company, recorded as Document No. 7786645.
12. Rights of St. Mary's Hospital of Milwaukee under Net Lease Agreement dated November 23, 1998 between Opus North Corporation as Landlord and St. Mary's Hospital of Milwaukee as Tenant.

ATTACHMENT A
Legal Description
MPS Site, 801 South 70th Street, West Allis, Wisconsin

See Exhibit "A" of attached Special Warranty Deed

ATTACHMENT B
INVESTIGATION AND REMEDIAL ACTION PLAN REPORTS
MPS Site, 801 South 70th Street, West Allis, Wisconsin

1. March 3, 1994, Leaking Underground Storage Tank (case tracking) Form 4400-146, RE: Underground tanks at MPS Site, 801 S. 70th Street, West Allis, Wisconsin.
2. March 3, 1994, letter to David Thollander, Atkinson & Atkinson from Giselle Red, WDNR RE: Vaughan Manufacturing Company, 801 S. 70th Street, West Allis, Wisconsin.
3. March 6, 1994, Toxic and Hazardous Spill Report Form 4400-91, RE: Spill related to Trichloroethylene at MPS Site, 801 S. 70th Street, West Allis, Wisconsin.
4. March 8, 1994, Leaking Underground Storage Tank (case tracking) Form 4400-146, RE: Underground tanks at MPS Site, 801 S. 70th Street, West Allis, Wisconsin.
5. March 9, 1994, letter to Giselle Red, WDNR from David Thollander, Atkinson & Atkinson RE: Vaughan Manufacturing Company, 801 S. 70th Street, West Allis, Wisconsin.
6. April 4, 1994, File Note, Telephone conversation between Candice Lindstrom, WDNR and Foster Johnson, Fox Environmental Services, Inc., RE: Potential USTs at MPS Site, 801 S. 70th Street, West Allis, Wisconsin
7. April 11, 1994, File Note, Telephone conversation between Candice Lindstrom, WDNR and Foster Johnson, Fox Environmental Services, Inc., RE: Potential USTs at MPS Site, 801 S. 70th Street, West Allis, Wisconsin
8. April 11, 1994, File Note, Telephone conversation between Candice Lindstrom, WDNR and Foster Johnson, Fox Environmental Services, Inc., RE: Spill related to Trichloroethylene at MPS Site, 801 S. 70th Street, West Allis, Wisconsin.
9. April 15, 1994 letter to Margaret Graefe, WDNR from Foster Johnson, Fox Environmental Services, Inc. RE: Site Investigation Results, Vaughan Manufacturing Company, 801 S. 70th Street, West Allis, Wisconsin.
10. July 12, 1994, letter to Vaughan Manufacturing Company from Linda Michalets, WDNR RE: Trichloroethylene Spill at Vaughan Manufacturing Facility, 801 S. 70th Street, West Allis, Wisconsin.
11. July 18, 1994, letter to Linda Michalets, WDNR from David Thollander, Atkinson & Atkinson RE: Vaughan Manufacturing Company, 801 S. 70th Street, West Allis, Wisconsin.
12. May 1, 1996, letter to Charles Krohn, WDNR from David A. Crass, Michael, Best & Friedrich RE: Vaughan MFC. Co., Former MPS Building Site 801 S. 70th Street,

West Allis, Wisconsin.

13. May 29, 1996, letter to Margaret Graefe, WDNR from David A. Crass, Michael, Best & Friedrich RE: Vaughan Manufacturing, Inc. Property, Former MPS Building Site 801 S. 70th Street, West Allis, Wisconsin.
14. June 18, 1996, letter to Margaret Graefe, WDNR from Thomas P. McElligott, Quarles & Brady, RE: City of West Allis, 801 S. 70th Street, West Allis, Wisconsin.
15. June 19, 1996, letter to Margaret Graefe, WDNR from Michael J. Sachen, City of West Allis, RE: Vaughan Manufacturing, Inc., 801 S. 70th Street, West Allis, Wisconsin.
16. October 6, 1997, letter to Mike Farley, WDNR, from Timothy Mulvey, Fox Environmental Services, Inc. RE: Borehole Abandonment, 801 S. 70th Street, West Allis, Wisconsin.
17. October 28, 1997, letter to Mike Farley, WDNR, from John Weber, Fox Environmental Services, Inc. RE: Monitoring Well Abandonment, 801 S. 70th Street, West Allis, Wisconsin.
18. "Site Investigation Report and Remedial Action Plan, MPS Site", Fox Environmental Services, Inc., November 1997.
19. "Site Investigation Report and Remedial Action Plan, MPS Site, Appendices A and B", Fox Environmental Services, Inc., November 1997.
20. "Site Investigation Report and Remedial Action Plan, MPS Site, Appendices C", Fox Environmental Services, Inc., November 1997.
21. "Site Investigation Report and Remedial Action Plan, MPS Site, Appendices D - G", Fox Environmental Services, Inc., November 1997.
22. "Site Investigation Report and Remedial Action Plan, MPS Site, Appendices H - J", Fox Environmental Services, Inc., November 1997.
23. November 5, 1997, State of Wisconsin DNR Substance Release Notification, RE: Spill related to Transformer at MPS Site, 801 S. 70th Street, West Allis, Wisconsin.
24. December 11, 1997, letter to John Stibal, City of West Allis, from Michael Farley, WDNR, RE: Reported Contamination at 801 S. 70th Street, West Allis, Wisconsin.
25. December 18, 1997, letter to Michael Farley, WDNR, from Foster Johnson, Fox Environment Service, Inc. and RE: Consultant Verification at 801 S. 70th Street, West Allis, Wisconsin. "
26. March 26, 1998, letter to Michigan Department of Natural Resources, Waste Management Division, from Lawrence L. Fox, Fox Environment Service, Inc., RE:

Hazardous Waste Manifests for 801 S. 70th Street, West Allis, Wisconsin.

27. "Work Plan", Fox Environmental Services, Inc., April 1998.
28. "Site Investigation Report and Remedial Action Documentation Report, High Voltage Transformer, MPS Site, 801 South 70th Street, West Allis, Wisconsin", Fox Environmental Services, Inc., May 1998.
29. "Site Investigation Report, MPS #3 Site, 801 South 70th Street, West Allis, Wisconsin, ", Fox Environmental Services, Inc., June 1998.
30. "Soil Boring Log Information Form 4400-122", Fox Environmental Services, Inc., July 1998 - April 1999.
31. "Well/Drill/Borehole Abandonment Form 3300-5B", Fox Environmental Services, Inc., March 1998 - April 1999.
32. October 6, 1998, letter to John Stibal, City of West Allis, from Michelle McGee, WDNR, RE: Closure Request transformer spill at 801 S. 70th Street, West Allis, Wisconsin.
33. "Soil Boring Log Information Form 4400-122 and Well/Drill/Borehole Abandonment Form 3300-5B MPS Site #4", Fox Environmental Services, Inc., February 17, 1999.
34. "Remedial Action Report, MPS Site #2, Parcel #2, 801 South 70th Street, West Allis, Wisconsin", Fox Environmental Services, Inc., April 1999.
35. "Site Investigation Report and Remedial Action Documentation Report, MPS Site #4, 801 South 70th Street, West Allis, Wisconsin", Fox Environmental Services, Inc., April 1999.
36. "Site Investigation Report and Remedial Action Documentation Report Appendices D-K, MPS Site #4, 801 South 70th Street, West Allis, Wisconsin", Fox Environmental Services, Inc., April 1999.
37. "Closure Assessment Report *Fuel Oil and Unknown Petroleum USTs*, MPS Site #1, 801 South 70th Street, West Allis, Wisconsin", Fox Environmental Services, Inc., May 1999.
38. December 13, 1999, letter to P. Chung, WDNR, from Jon K. Wactor, Luce, Forward, Hamilton & Scripps, RE: Request for Purchaser's Assurance Letter for MPS Site, 801 S. 70th Street, West Allis, Wisconsin.
39. "Soil Boring Log Information Form 4400-122 and Well/Drill/Borehole Abandonment Form 3300-5B, MPS Site #2", Fox Environmental Services, Inc., December 14, 1999.



Matthew L. Karl
Direct Dial: 952-324-8917
Cell: 612-309-4327
mkarl@OlympusVentures.com

Via email jennifer.recker-jones@acension.org
& US Mail

September 3, 2019

Ms. Jennifer Recker-Jones
Ascension Health
Regional Director - Ascension Wisconsin Real Estate
4300 W. Brown Deer Road
Brown Deer, WI 53223

Re: 801 S. 70th Street, West Allis, WI / Recent Soil Gas Survey Results

Dear Ms. Recker-Jones:

As you know, we have executed a contract to sell your leased facility to GAHC4 West Allis WI MOB, LLC, a Delaware limited liability company ("Buyer"). Also, as referenced in Article IX of the Net Lease Agreement dated November 23, 1998, as amended, the City of West Allis completed response actions related to soil and groundwater contamination on this property as part of the state's Voluntary Party Cleanup Exemption program ("VPLE") and a Completion Certificate was issued by the Wisconsin Department of Natural Resources ("WDNR") in 2003 when all the investigation and cleanup required for the property was completed by West Allis, all of which occurred before our ownership of the property. According to state law, the issuance of the Completion Certificate means that the WDNR, and not a property owner, is responsible for any further assessment or cleanup activities for contamination that existed on or originated from the Property that was released prior to date of an approved site investigation conducted as part of the VPLE program. I have enclosed with this letter a copy of the Completion Certificate.

Recently, the WDNR has adopted guidance for assessing whether an inhalation risk may be associated with groundwater impacted by volatile organic compounds or VOCs ("DNR Guidance"). As part of its due diligence, Buyer has retained EMG, an environmental consulting firm, to perform shallow soil gas sampling on the ground adjacent to the building footprint to determine if the pre-existing VOC-impacted groundwater may represent an inhalation risk to the leased facility according to the DNR Guidance. I have enclosed with the letter the EMG report dated August 6, 2019, which includes the soil gas sampling results. You will note that EMG is suggesting some additional sub slab and/or interior air sampling to further assess conditions within the leased facility.

Since the property is covered by the Completion Certificate under the VPLE program, the WDNR, not the property owner, is responsible for conducting the additional environmental assessment work connected with the recent soil gas sampling results.

Ms. Jennifer Recker-Jones
September 3, 2019
Page 2

Late last week, Westwood, our consultant, contacted the WDNR about the EMG sampling results and the WDNR is considering performing the additional assessment sampling to address whether a vapor inhalation risk exists within the leased property. If the additional interior sampling identifies a vapor intrusion risk associated with the groundwater plume, the WDNR will also likely take the lead in the installation of any vapor mitigation systems that may be required for the leased property.

Our technical point of contact with the WDNR on this topic is Nancy Ryan, who will receive a copy of this letter. We anticipate that Ms. Ryan will be contacting you in the near future to make arrangements for the WDNR to conduct the additional vapor assessment work. While it is expected that WDNR will be taking the lead on next steps, we will continue to keep you as informed as possible about the process as it moves forward.

We value our tenant relationship with you and for this reason we wanted to promptly share with you these sampling results and our recent communication with the WDNR on this topic.

Please feel free to contact me or Ms. Ryan at WDNR about any questions or concerns you have on this topic. Ms. Ryan can be reached at 414-263-8533.

Sincerely,
Olympus Ventures LLC, as agent for
RMS ST ALLIS LLC



Matthew L. Karl
Vice President - Real Estate

Enclosures

Cc: Mr. Michael Prager, Wisconsin Dept. of Natural Resources
Ms. Nancy Ryan, Wisconsin Dept. of Natural Resources



SHALLOW SOIL GAS SURVEY



Prepared for:

American Healthcare Investors, LLC
18191 Von Karman Avenue, Suite 300
Irvine, California 92612
Phillip Han

SHALLOW SOIL GAS SURVEY

Saint Mary's MOB
801 South 70th Street
West Allis, Wisconsin 53214

PREPARED BY:

EMG
10461 Mill Run Circle, Suite 1100
Owings Mills, Maryland 21117
800.733.0660
www.EMGcorp.com

EMG CONTACT:

Mark W. Fischer, C.P.G.
Phase II Assessor
Manager of Expanded Environmental Services
800.733.0660 x2722
mwfischer@emgcorp.com

EMG Project Number:

138584.19R000-002.075

Date of Report:

August 6, 2019

On Site Date:

July 29, 2019



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1 Introduction

EMG performed a Shallow Soil Gas Survey (SGS) of Saint Mary's MOB (the "Project"), located at 801 South 70th Street, West Allis, Wisconsin 53214. This Shallow SGS was completed in accordance with scope of work prepared as part of EMG's Proposal Authorization Form (incorporated herein by reference), dated July 3, 2019, and agreed to and authorized by American Healthcare Investors, LLC (the "Client" and "User") on July 15, 2019. Additional Users, if any, are listed on the cover page of this report.

EMG previously completed a DRAFT Phase I Environmental Site Assessment (ESA) report in accordance with ASTM E1527-13: *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, as part of ongoing environmental due diligence efforts (EMG Project #138584.19R000-002.135; dated June 21, 2019) at the Project.

Based on the results of the Phase I ESA, EMG was contracted by the Client to perform a more comprehensive investigation of the Project, specifically to complete a Shallow SGS of the Project to determine if shallow soil gas were impacted by a groundwater plume (volatile organic compounds [VOCs] in groundwater) present beneath the Project.

The Shallow SGS included the collection of soil gas samples, specifically to identify the possible presence of VOCs in shallow soil gas at the Project.

2 Background

2.1 Site Description and Features

Land use in the Project area generally consists of commercial and industrial land. A Site Location Plan is included in Appendix A, Figure 1.

Project site use history is as follows:

- Prior to 1892: No historical data available
- 1892 to 1900s: Undeveloped land
- 1900s to 1990s: An industrial facility, including a gasoline tank in the south portion of the Project from at least in the 1920s and two gasoline tanks in the north portion of the Project at least between the 1920s and 1950s
- 1999 to Current: Office

2.2 Historical Recognized Environmental Condition

As fully described in EMG's DRAFT Phase I ESA (EMG Project #138584.19R000-002.135; dated June 21, 2019) relative to MPS Site 2, Parcel 2, VOC contamination was identified in shallow groundwater at the Project, including residual trichloroethene (TCE), vinyl chloride, and bromodichloromethane impacts. This represents a potential vapor intrusion concern within the Project building.

3 Work Performed and Rationale

Prior to execution of this Shallow SGS, EMG submitted a proposal (incorporated herein by reference) to the Client, including a general scope of work. This scope of work was approved by the Client and EMG subsequently completed the same, unless specifically noted in Section 5.3, Scope Limitations and/or Qualifications of Assessment, of this report.

3.1 Overview of Historical Recognized Environmental Condition

- Shallow VOC-groundwater plume beneath the Project representing a potential vapor intrusion concern

3.2 Target Analytes

- Volatile Organic Compounds (VOCs)

3.3 Environmental Medium of Concern

- Shallow Soil Gas

3.4 Quality Assurance/Quality Control for Sampling and Chemical Testing

A quality assurance/quality control (QA/QC) plan was followed to provide assurance that the samples collected were representative of the environmental media and locations specified in the sampling plan, that sample integrity was not compromised with regard to target analyte presence and levels (as a result of the sampling and sample handling procedures), and that the chemical testing results were properly evaluated to ensure reliability. The Phase II Assessor incorporated provisions in the QA/QC plan to require appropriate sample handling prior to delivery to the laboratory, including ensuring that samples were properly preserved (e.g., refrigerated, or combined with appropriate preservative chemicals), that samples were available for chemical testing within required holding times, and that sample chain of custody was documented prior to being relinquished to the appropriately accredited laboratory. Deviations from the sampling plan, if any, were noted and justified or reconciled prior to completion of the investigation.

3.5 Exploration, Screening, and Sampling Methods

3.5.1 Subsurface Exploration Methodologies and Field Screening Procedures

Temporary, soil gas probe installations were completed by Seratech Drilling, with drilling at the Project completed using a track-mounted, direct-push (Geoprobe®) rig. EMG monitored the advancement of the ½-inch, stainless steel, soil gas probes to a depth of 5 feet below the ground surface at six (6) locations around the Project building.

All tooling equipment and sampling equipment with potential contact with soil were decontaminated between locations using a solution of detergent and water and a distilled water rinse. Sampling personnel used fresh nitrile gloves in handling each sample and related equipment and bottleware.

Each soil gas probe was sealed using hydrated bentonite. Each probe's tubing was subsequently purged for 5 minutes using a photo-ionization detector.

3.5.2 Soil Gas Sampling Procedures

One (1) soil gas sample was extracted from each shallow soil gas probe. Each soil gas sample was collected over a 10-minute duration using a laboratory-supplied regulator and 1-liter stainless steel Summa canister.

The soil gas sample containers were then delivered to an accredited laboratory for chemical testing. The chemical testing of the soil gas samples was performed within the respective holding times. Chain-of-custody was maintained utilizing laboratory chain-of custody tracking forms.

3.6 Chemical Testing Method

All soil gas samples were accompanied by a chain of custody form and were transported via courier to Pace Analytical of Mt. Juliet, Tennessee, a Wisconsin-accredited laboratory for applicable chemical testing.

Soil gas samples were tested for the following target analytes via the corresponding United States Environmental Protection Agency (USEPA) analytical methodology:

- VOCs: TO-15

4 Presentation and Evaluation of Results

4.1 Soil Gas Survey

Shallow soil gas samples were collected along the north, south, east, and west exterior sides of the Project building. Soil gas probe locations are shown in Appendix A, Figure 2. Photographs of the soil gas sampling operations are included in Appendix B.

4.2 Chemical Testing Results

The soil gas results are presented in Appendix C, Table 1 — Soil Gas Sample Results. Copies of the laboratory analytical report and chain-of-custody are included in Appendix D.

As indicated in Table 1, target analytes were detected above their respective method detection limits in the following soil gas samples:

- Soil gas sample SG-1
- Soil gas sample SG-3
- Soil gas sample SG-4
- Soil gas sample SG-5
- Soil gas sample SG-6

Soil gas sample results were compared to Wisconsin Department of Natural Resources (WDNR) Residential Vapor Risk Screening Levels (VRSLs).

As indicated in Table 1, no target analyte was detected above its respective WDNR VRSL in any of the soil gas samples, with the exception of the following soil gas samples and respective target analytes:

- Soil gas sample SG-1: 1,3-butadiene, naphthalene, and trichloroethene (TCE)
- Soil gas sample SG-3: 1,3-butadiene, naphthalene, and TCE
- Soil gas sample SG-6: naphthalene and TCE

Based on these results, selected VOCs in soil gas are considered a potential environmental concern with respect to this assessment; see Sections 5 and 6 for further discussion of this concern.

5 Interpretations and Conclusion

Following completion of an ASTM E1527-13 Phase I ESA, EMG evaluated the Project through the completion of a Shallow SGS. Presented below are EMG's interpretations and conclusions from the data gathered as part of this Shallow SGS.

5.1 Historical Recognized Environmental Condition

As fully described in EMG's DRAFT Phase I ESA (EMG Project #138584.19R000-002.135; dated June 21, 2019) relative to MPS Site 2, Parcel 2, VOC contamination was identified in shallow groundwater at the Project, including residual TCE, vinyl chloride, and bromodichloromethane impacts. This represents a potential vapor intrusion concern within the Project building.

5.2 Conceptual Model Validation/Adequacy of Investigation

The scope of EMG's general evaluation of soil gas at the Project was appropriate to support an evaluation of potential VOC impacts to shallow soil gas from the underlying groundwater plume.

EMG's opinion is that the conceptual model developed for this assessment was validated and no additional data are required to support an opinion regarding environmental conditions at the Project.

5.3 Scope Limitations and/or Qualifications of Assessment

EMG encountered shallow groundwater at one (1) soil gas sampling location (SG-2), located on the north side of the Project building. Therefore, EMG could not collect sufficient soil gas for laboratory analysis. However, based on analytical results from the other five (5) locations, this is not considered a significant limitation.

Therefore, there are no qualifications to this report.

5.4 Objectives Met

The User(s) of this Shallow SGS report provided guidance as to the desired objective to be achieved from the Shallow SGS process. With respect to the Project, the objective was to determine if the underlying groundwater plume impacted shallow soil gas at the Project.

EMG concludes that the objectives were met through execution of this Shallow SGS.

5.5 Conclusion

Chemical testing of soil gas samples indicates that selected VOCs, possibly emanating from the underlying groundwater plume, migrated in a significant manner into shallow soil gas at the Project.

6 Recommendation

Based on the results of this Shallow SGS, EMG recommends additional action with respect to a potential vapor intrusion concern within the Project building. Recommended additional action includes:

- Supplemental, paired, sub-slab soil gas and indoor air quality survey within the Project building to evaluate whether an actual vapor intrusion condition exists within the Project building. Target analytes would be limited to specific chemicals of concern as identified in this Shallow SGS and/or in EMG's Phase I ESA.

7 Limitations and User Reliance, Terminology, and References

7.1 Limitations and User Reliance

EMG has completed a Shallow Soil Gas Survey of Saint Mary's MOB (the "Project"), located at 801 South 70th Street, West Allis, Wisconsin 53214. The assessment was performed at the Client's request using the methods and procedures consistent with good commercial and customary practice designed to conform with acceptable industry standards.

This report has been prepared for and is exclusively for the use and benefit of the Client identified on the cover page of this report. The purpose for which this report shall be used shall be limited to the use as stated in the contract between the client and EMG.

This report, or any of the information contained therein, is not for the use or benefit of, nor may it be relied upon by any other person or entity, for any purpose without the advance written consent of EMG. Any reuse or distribution without such consent shall be at the client's or recipient's sole risk, without liability to EMG.

In expressing the opinions stated in this report, EMG has exercised the degree of skill and care ordinarily exercised by a reasonable prudent environmental professional in the same community and in the same time frame given the same or similar facts and circumstances. Documentation and data provided by the Client, designated representatives of the Client or other interested third parties, or from the public domain, and referred to in the preparation of this assessment, have been used and referenced with the understanding that EMG assumes no responsibility or liability for their accuracy.

EMG's professional services have been performed, our findings obtained, and our recommendations prepared in accordance with customary principles and practices in the fields of environmental engineering and sciences. EMG is not responsible for the independent conclusions, opinions, or recommendations made by others based on the field exploration and laboratory test data presented in this report.

The investigation performed for this project is intended as a description of available information at the time of the investigation. This report does not warrant against future operations or conditions present of a type or at a location not investigated.

7.2 Terminology

Terminology as defined in *Section 3.1* of ASTM Practice E1903-11: *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process* and/or *Section 3.2* of ASTM Practice E1527-13: *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*.

- **Background concentration** — The concentration of a *target analyte* in *groundwater*, surface water, air, soil gas, sediment, or soil at a reference location near an area under investigation, which is not attributable to the area under investigation. Background samples may contain the *target analyte*, due to either naturally occurring or man-made sources, but not due to the *release(s)* in question.
- **Business environmental risk** — A risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues investigated in accordance with these practices.
- **Chain of custody** — A written or printed form that documents information regarding sample possession, condition, and responsibility, including the time from sample container acquisition through transportation, sample collection, and *chemical testing*.
- **Chemical testing** — Measurement of the presence and concentration of *target analytes* by analytical chemistry methods in a laboratory; also, for purposes of this practice, measurement of certain *target analytes* by physical methods.
- **Controlled recognized environmental condition** — A *recognized environmental condition* resulting from a past *release* of *hazardous substances* or *petroleum products* that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with *hazardous substances* or *petroleum products* allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).
- **Data gap** — A lack of or inability to obtain information required by the United States Department of Environmental Protection (USEPA) All Appropriate Inquiries (AAI) Rule despite good faith efforts by the *Environmental Professional* to gather such information.
- **De minimis** — Conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.
- **Environmental media** — Soil, rock, *groundwater*, surface water, air, soil gas, and sediment.
- **Environmental Professional** — A person meeting the education, training, and experience requirements set forth in 40 CFR 312.10(b).

- **Field screening** — The measurement of physical properties or presence and approximate concentration of *target analytes* in *environmental media* by methods or techniques employed in the field during explorations and sampling. Measurements can be qualitative (positive/negative) or quantitative. Accuracy and precision of these methods generally are not equivalent to those achieved in a laboratory environment.
- **Groundwater** — Water below the land surface in a zone of saturation.
- **Groundwater flow** — The movement of water in the zone of saturation.
- **Groundwater flow direction** — The compass bearing of the horizontal component, and the vertical component, of water movement in the zone of saturation.
- **Hazardous substance** — A substance defined as a *hazardous substance* pursuant to Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 42 U.S.C. §9601(14), as interpreted by USEPA regulations and the courts: “(A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title, (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, (42 U.S.C. §6921) (but not including any waste the regulation of which under RCRA (42 U.S.C. §6901 *et seq.*) has been suspended by Act of Congress), (D) any toxic pollutant listed under section 1317(a) of Title 33, (E) any hazardous air pollutant listed under section 112 of the Clean Air Act (42 U.S.C. §7412), and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator (of USEPA) has taken action pursuant to section 2606 of Title 15. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a *hazardous substance* under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas)”.
- **Historical recognized environmental condition** — A past *release* of any *hazardous substances* or *petroleum products* that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restriction, activity and use restrictions, institutional controls, or engineering controls).
- **Likely release area** — A place where a *Phase II Assessor* judges it likely that *target analytes* were first introduced into *environmental media* as a result of a release such that the *target analytes* may now be present in *environmental media* at the property.
- **Migration pathway** — A route through *environmental media* taken by a *target analyte*; the physical feature allowing movement of *target analytes*.
- **Petroleum products** — Those substances included within the meaning of the petroleum exclusion to CERCLA, 42 U.S.C. §9601(14), as interpreted by the courts and EPA, that is: petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a *hazardous substance* under Subparagraphs (A) through (F) of 42 U.S.C. §9601(14), natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
- **Phase II Assessor** — A person meeting the definition of an *Environmental Professional* as provided in Section 3.2.32 of ASTM Practice E1527-13, and possessing sufficient education, professional training, and relevant experience to conduct or be in responsible charge of environmental investigations and other activities in accordance with ASTM Practice 1903-11, and to interpret the resulting data to develop opinions and conclusions regarding the presence of *target analytes* in *environmental media* in connection with the property in question. Overall, a *Phase II Assessor* should understand and be experienced in pertinent aspects of the scientific method, hydrogeology, geochemistry, environmental investigation/exploration techniques, interpretation of *chemical testing* data, and commercial and industrial operations pertaining to the use and handling of site-specific *target analytes* and production and handling of associated wastes.
- **Quality assurance/quality control** — Quality control is the use of standards and procedures designed to promote and ensure the collection of samples and generation of analytical results that are of good and acceptable quality for the purposes intended; quality assurance is the use of standards and procedures to evaluate work products to determine if they achieved good and acceptable quality.
- **Receptor** — A living organism or habitat of a community of organisms; also, an inanimate feature that, if contacted by *target analytes*, would be a proximal means of exposing living organisms to the *target analytes*, e.g., a drinking water well that could convey *groundwater* containing *target analytes* to people.
- **Recognized environmental condition** — The presence or likely presence of any *hazardous substances* or *petroleum products* on property under conditions that indicate an existing *release*, a past *release*, or a material threat of a *release* of any *hazardous substances* or *petroleum products* into structures on the property or into the ground, *groundwater*, or surface water of the property. The term includes *hazardous substances* or *petroleum products* even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that do not present a material risk of harm to public health or the environment and that would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not *recognized environmental conditions*.
- **Release** — A *release* of any *hazardous substance* or *petroleum product* shall have the same meaning as the definition of “release” in CERCLA 42 U.S.C. §9601(22).

- **Remediation/remedial action** — Activities conducted or measures taken to protect human health, safety and the environment. These include evaluating risk, monitoring quality of *environmental media* over time, imposing institutional controls, constructing engineering controls, removing *environmental media* containing *target analytes* from the environment, removing *target analytes* from *environmental media*, and generally designing and operating cleanup systems to isolate, remove, reduce, or destroy *target analytes*.
- **Site characterization** — Evaluation of the presence of target analytes in *environmental media* throughout a site impacted or potentially impacted by a *release* or *releases*. The evaluation typically includes the determination of geological, hydrogeological, hydrological, and engineered aspects of the site that influence the presence of *target analytes* (e.g., *migration pathways*, exposure points) and the existence of *receptors* and mechanisms of exposure.
- **Target analytes** — Substances that are present in, or have been released or potentially have been released to, *environmental media* at the site, and which are of interest in the context of the particular Phase II ESA and its objectives, the presence of which will be sought and concentrations of which will be quantified through *field screening* or *chemical testing*.
- **Water table** — The surface of a *groundwater* body at which surface the water pressure equals atmospheric pressure. Earth material below the *water table* is saturated with water.

7.3 References

- 7½-minute USGS Topographic Quadrangle

8 Certification

EMG certifies that EMG has no undisclosed interest in the Project, that EMG's relationship with the Client is at arms-length, and that EMG's employment and compensation are not contingent upon the findings or recommendations provided in the Report.

If you have any questions regarding this report, please contact Mark Fischer at (800) 733-0660 x2722 or mwfischer@emgcorp.com.

We have appreciated the opportunity to provide you with this service. If you have any questions regarding the Project, please feel free to call us at your convenience.

Field Oversight by: J.C. Sporleader, Environmental Scientist

Written by: John A. Sill, Environmental Scientist

Reviewed by: Mark W. Fischer, C.P.G., Phase II Assessor

This report has been prepared under my direct supervision, and I believe the contents to be true and accurate.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in § 312.10 of 40 CFR 312.



Mark W. Fischer, C.P.G.
Phase II Assessor
Manager of Expanded Environmental Services

9 Appendices

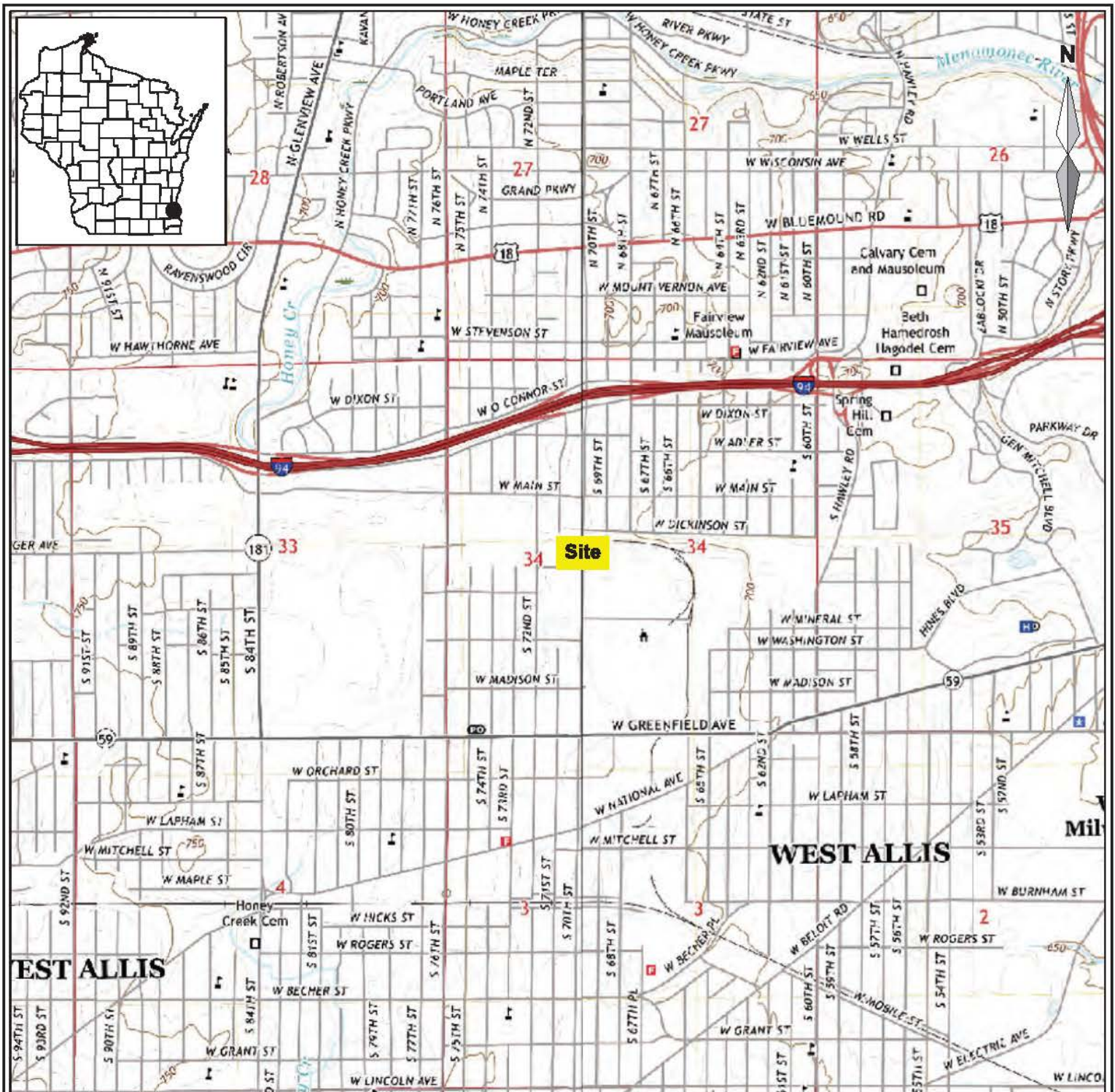
Appendix A: Figures 1 and 2

Appendix B: Photographic Documentation

Appendix C: Table 1

Appendix D: Laboratory Results/Chain of Custody Forms

Appendix A: Figures 1 and 2



Milwaukee County, West Allis city
 Wauwatosa Quadrangle
 Section 34, T7N, R21E

Basemap: U.S. Geological Survey US Topo 2018



Figure 1
 Site Location Map
 Saint Mary's MOB
 801 South 70th Street
 West Allis, Wisconsin 53214

Project Number:
 138584.19R000-002.075

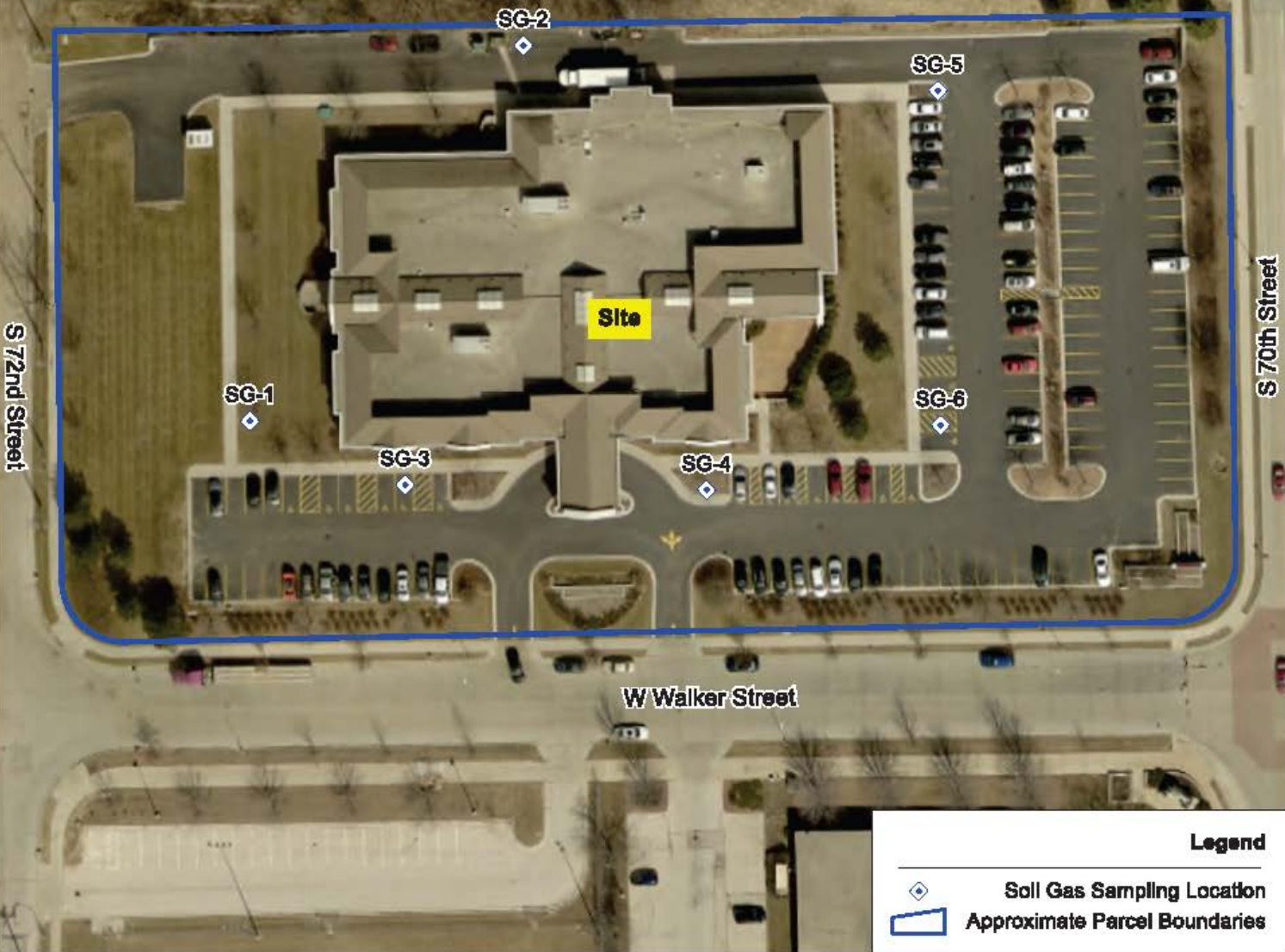
Date:
 8/5/2019

Drawn by:
 JRB

Scale:
 1 in : 2000.00 ft



Hank Aaron State Trail



Milwaukee County, West Allis city
Wauwatosa Quadrangle
Section 34, T7N, R21E

Parcel boundaries, as shown, are approximate and are not suitable for conveyance or property boundary descriptions. This data should not be used as a substitute for a professional land survey.

Basemap: Milwaukee County GIS 2018



Figure 2
Soil Gas Sample Location Map
Saint Mary's MOB
801 South 70th Street
West Allis, Wisconsin 53214

Project Number:
138584.19R000-002.075

Date:
8/5/2019

Drawn by:
JRB

Scale:
1 in : 80.00 ft

Appendix B: Photographic Documentation



#1: SOIL GAS SG-1



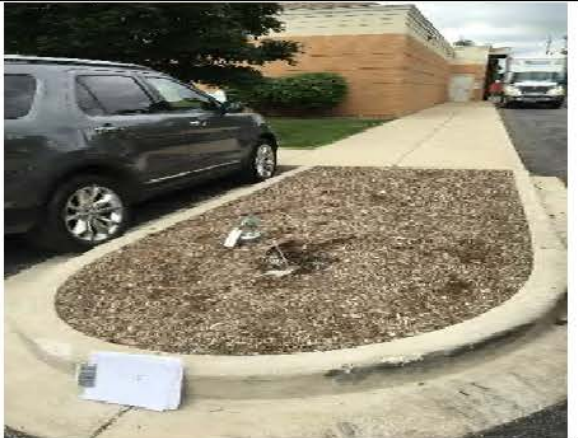
#2: SOIL GAS SG-2



#3: SOIL GAS SG-3



#4: SOIL GAS SG-4



#5: SOIL GAS SG-5



#6: SOIL GAS SG-6

**Appendix C:
Table 1**



Table 1
Soil Gas Sample Results
Saint Mary's MOB
138584.19R000-002.075
(Reported in micrograms per cubic meter [$\mu\text{g}/\text{m}^3$])

Target Analytes	Sample ID#	Sample ID#	Sample ID#	Sample ID#	Sample ID#	WDNR Vapor Risk Screening Levels
	SG-1	SG-3	SG-4	SG-5	SG-6	Soil Gas
Volatile Organic Compounds (Method TO-15)						
Acetone	308	215	38.6	157	200	1,073,333
Allyl Chloride	ND	ND	ND	ND	ND	35
Benzene	29.4	37.7	1.91	8.96	30.7	120
Benzyl Chloride	2.09	ND	ND	ND	2.92	19
Bromodichloromethane	ND	ND	ND	ND	ND	25
Bromoform	ND	ND	ND	ND	ND	850
Bromomethane	ND	ND	ND	ND	ND	174
1,3-Butadiene	32.0	42.5	ND	13.3	29.8	31
Carbon Disulfide	68.1	66.8	1.75	19.1	308	24,333
Carbon Tetrachloride	8.56	ND	ND	ND	ND	156
Chlorobenzene	5.71	ND	ND	ND	ND	1,737
Chloroethane	1.73	3.22	ND	ND	7.53	346,667
Chloroform	ND	ND	ND	ND	3.70	41
Chloromethane	6.71	3.52	2.95	4.64	7.67	3,130
2-Chlorotoluene	ND	ND	ND	ND	ND	NE
Cyclohexane	43.6	46.8	3.56	6.68	28.0	208,667
Dibromochloromethane	ND	ND	ND	ND	ND	NE
1,2-Dibromoethane	ND	ND	ND	ND	ND	1.6
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	6,967
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	NE
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	85
1,2-Dichloroethane	1.81	ND	ND	ND	ND	36
1,1-Dichloroethane	179	38.7	ND	ND	ND	583
1,1-Dichloroethene	32.0	17.0	ND	ND	ND	6,967
cis-1,2-Dichloroethene	151	222	2.88	1.08	11.2	NE
trans-1,2-Dichloroethene	20.1	29.1	ND	ND	1.24	NE
1,2-Dichloropropane	ND	ND	ND	ND	ND	139
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	NE
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	NE
1,4-Dioxane	ND	ND	ND	ND	ND	187
Ethanol	38.5	20.8	64.5	27.6	22.2	NE
Ethylbenzene	30.6	31.5	1.88	6.00	28.1	373



Table 1
Soil Gas Sample Results
Saint Mary's MOB
138584.19R000-002.075
(Reported in micrograms per cubic meter [$\mu\text{g}/\text{m}^3$])

Target Analytes	Sample ID#	Sample ID#	Sample ID#	Sample ID#	Sample ID#	WDNR Vapor Risk Screening Levels
	SG-1	SG-3	SG-4	SG-5	SG-6	Soil Gas
Volatile Organic Compounds (Method TO-15)						
4-Ethyltoluene	8.90	55.2	ND	5.74	38.2	NE
Trichlorofluoromethane	ND	ND	ND	ND	ND	NE
Dichlorodifluoromethane	2.39	2.41	2.52	2.44	2.70	3,467
1,1,2-Trichlorotrifluoroethane	ND	ND	ND	ND	ND	173,667
1,2-Dichlorotetrafluoroethane	ND	ND	ND	ND	ND	NE
Heptane	45.0	57.1	4.2	12.8	45.8	13,900
Hexachloro-1,3-Butadiene	ND	ND	ND	ND	ND	43
n-Hexane	78.0	102	15.8	24.4	86.5	24,333
Isopropylbenzene	3.75	6.91	ND	ND	6.58	13,900
Methylene Chloride	3.83	2.18	2.47	8.40	1.37	20,867
Methyl Butyl Ketone	ND	ND	ND	3.04	5.29	1,043
2-Butanone (MEK)	59.7	56.2	3.69	32.8	47.4	173,667
4-Methyl-2-Pentanone (MIBK)	8.85	14.4	ND	8.55	18.0	104,333
Methyl Methacrylate	6.06	ND	ND	ND	15.6	24,333
Methyl Tert-Butyl Ether (MTBE)	ND	ND	ND	ND	ND	3,600
Naphthalene	414	433	ND	10.3	54.5	28
2-Propanol	41.5	58.1	27.0	ND	ND	6,967
Propene	649	973	ND	136	590	104,333
Styrene	ND	ND	ND	ND	ND	34,667
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	16
Tetrachloroethene	21.8	5.23	ND	4.65	15.1	1,390
Tetrahydrofuran	12.1	ND	ND	1.80	ND	69,667
Toluene	58.2	64.3	11.8	22.3	120	173,667
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	70
1,1,1-Trichloroethane	59.7	ND	ND	ND	ND	173,667
1,1,2-Trichloroethane	1.21	ND	ND	ND	ND	7.0
Trichloroethene	1,150	238	ND	17.8	172	70
1,2,4-Trimethylbenzene	13.8	68.7	2.44	6.14	18.3	2,087
1,3,5-Trimethylbenzene	5.57	23.9	ND	2.25	7.55	2,087
2,2,4-Trimethylpentane	ND	ND	ND	ND	ND	NE
Vinyl Chloride	25.0	26.7	4.16	ND	2.60	56
Vinyl Bromide	ND	ND	ND	ND	ND	29



Table 1
Soil Gas Sample Results
Saint Mary's MOB
138584.19R000-002.075
(Reported in micrograms per cubic meter [$\mu\text{g}/\text{m}^3$])

Target Analytes	Sample ID#	Sample ID#	Sample ID#	Sample ID#	Sample ID#	WDNR Vapor Risk Screening Levels
	SG-1	SG-3	SG-4	SG-5	SG-6	Soil Gas
Volatile Organic Compounds (Method TO-15)						
Vinyl Acetate	1.70	ND	ND	ND	ND	6,967
m&p-Xylene	76.7	83.4	10.2	16.8	59.7	3,467
o-Xylene	56.0	34.8	2.30	6.94	21.0	3,467

Notes:

ND = Not Detected

NA = Not Analyzed or Not Applicable

NE = No Established Screening Level

Bolded = Exceeds Screening Level

Appendix D: Laboratory Results/Chain of Custody Forms

August 02, 2019

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

EMG - Hunt Valley, MD

Sample Delivery Group: L1123496
Samples Received: 07/30/2019
Project Number: 138584.19R000-002075
Description: American Healthcare

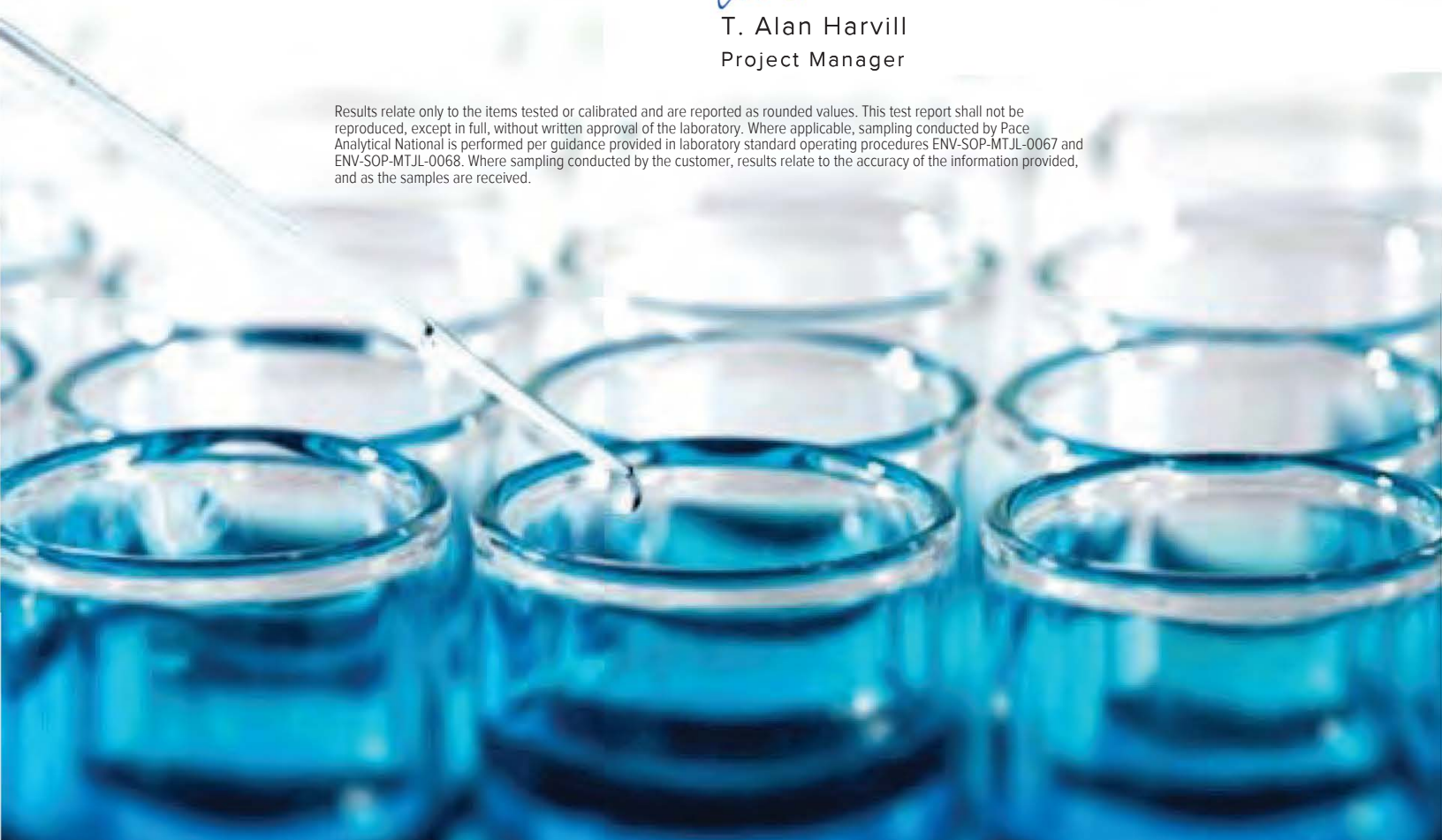
Report To: Mr. Mark Fischer
10461 Mill Run Circle, Ste 1100
Owings Mills, MD 21117

Entire Report Reviewed By:


[Preliminary Report]

T. Alan Harvill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





Cp: Cover Page	1	1 Cp
Tc: Table of Contents	2	2 Tc
Ss: Sample Summary	3	3 Ss
Cn: Case Narrative	4	4 Cn
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SG-3 L1123496-03	7	
SG-4 L1123496-04	9	
SG-5 L1123496-05	11	
SG-6 L1123496-06	13	6 Qc
Qc: Quality Control Summary	15	7 Gl
Volatile Organic Compounds (MS) by Method TO-15	15	
Gl: Glossary of Terms	20	8 Al
Al: Accreditations & Locations	21	
Sc: Sample Chain of Custody	22	9 Sc

SAMPLE SUMMARY

SG-1 L1123496-01 Air

Collected by
Collected date/time
Received date/time
07/29/19 12:46 07/30/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1319834	2	07/31/19 00:13	07/31/19 00:13	CAW	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1320585	20	07/31/19 22:37	07/31/19 22:37	CAW	Mt. Juliet, TN

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

SG-3 L1123496-03 Air

Collected by
Collected date/time
Received date/time
07/29/19 13:02 07/30/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1319834	2	07/31/19 01:05	07/31/19 01:05	CAW	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1320585	25	07/31/19 23:28	07/31/19 23:28	CAW	Mt. Juliet, TN

SG-4 L1123496-04 Air

Collected by
Collected date/time
Received date/time
07/29/19 11:19 07/30/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1319834	2	07/31/19 01:57	07/31/19 01:57	CAW	Mt. Juliet, TN

SG-5 L1123496-05 Air

Collected by
Collected date/time
Received date/time
07/29/19 11:55 07/30/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1319834	2	07/31/19 02:49	07/31/19 02:49	CAW	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1320585	20	08/01/19 00:18	08/01/19 00:18	CAW	Mt. Juliet, TN

SG-6 L1123496-06 Air

Collected by
Collected date/time
Received date/time
07/29/19 11:35 07/30/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1319834	2	07/31/19 03:41	07/31/19 03:41	CAW	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1320585	20	08/01/19 01:08	08/01/19 01:08	CAW	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

[Preliminary Report]

T. Alan Harvill
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Collected date/time: 07/29/19 12:46

L1123496

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	3.80	9.03	130	308		20	WG1320585
Allyl chloride	107-05-1	76.53	0.364	1.14	ND	ND		2	WG1319834
Benzene	71-43-2	78.10	0.306	0.977	9.21	29.4		2	WG1319834
Benzyl Chloride	100-44-7	127	0.398	2.07	0.402	2.09		2	WG1319834
Bromodichloromethane	75-27-4	164	0.290	1.95	ND	ND		2	WG1319834
Bromoform	75-25-2	253	0.524	5.42	ND	ND		2	WG1319834
Bromomethane	74-83-9	94.90	0.406	1.58	ND	ND		2	WG1319834
1,3-Butadiene	106-99-0	54.10	0.376	0.832	14.5	32.0		2	WG1319834
Carbon disulfide	75-15-0	76.10	0.362	1.13	21.9	68.1		2	WG1319834
Carbon tetrachloride	56-23-5	154	0.390	2.46	1.36	8.56		2	WG1319834
Chlorobenzene	108-90-7	113	0.400	1.85	1.24	5.71		2	WG1319834
Chloroethane	75-00-3	64.50	0.326	0.860	0.658	1.73		2	WG1319834
Chloroform	67-66-3	119	0.382	1.86	ND	ND		2	WG1319834
Chloromethane	74-87-3	50.50	0.362	0.748	3.25	6.71		2	WG1319834
2-Chlorotoluene	95-49-8	126	0.404	2.08	ND	ND		2	WG1319834
Cyclohexane	110-82-7	84.20	0.356	1.23	12.7	43.6		2	WG1319834
Dibromochloromethane	124-48-1	208	0.330	2.81	ND	ND		2	WG1319834
1,2-Dibromoethane	106-93-4	188	0.123	0.946	ND	ND		2	WG1319834
1,2-Dichlorobenzene	95-50-1	147	0.402	2.42	ND	ND		2	WG1319834
1,3-Dichlorobenzene	541-73-1	147	0.398	2.39	ND	ND		2	WG1319834
1,4-Dichlorobenzene	106-46-7	147	0.372	2.24	ND	ND		2	WG1319834
1,2-Dichloroethane	107-06-2	99	0.410	1.66	0.446	1.81		2	WG1319834
1,1-Dichloroethane	75-34-3	98	0.342	1.37	44.7	179		2	WG1319834
1,1-Dichloroethene	75-35-4	96.90	0.326	1.29	8.07	32.0		2	WG1319834
cis-1,2-Dichloroethene	156-59-2	96.90	0.260	1.03	38.0	151		2	WG1319834
trans-1,2-Dichloroethene	156-60-5	96.90	0.310	1.23	5.07	20.1		2	WG1319834
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1319834
cis-1,3-Dichloropropene	10061-01-5	111	0.392	1.78	ND	ND		2	WG1319834
trans-1,3-Dichloropropene	10061-02-6	111	0.290	1.32	ND	ND		2	WG1319834
1,4-Dioxane	123-91-1	88.10	0.370	1.33	ND	ND		2	WG1319834
Ethanol	64-17-5	46.10	0.554	1.04	20.4	38.5		2	WG1319834
Ethylbenzene	100-41-4	106	0.338	1.47	7.05	30.6		2	WG1319834
4-Ethyltoluene	622-96-8	120	0.444	2.18	1.81	8.90		2	WG1319834
Trichlorofluoromethane	75-69-4	137.40	0.448	2.52	ND	ND		2	WG1319834
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.483	2.39		2	WG1319834
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.458	3.51	ND	ND		2	WG1319834
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.306	2.14	ND	ND		2	WG1319834
Heptane	142-82-5	100	0.418	1.71	11.0	45.0		2	WG1319834
Hexachloro-1,3-butadiene	87-68-3	261	0.438	4.68	ND	ND		2	WG1319834
n-Hexane	110-54-3	86.20	0.304	1.07	22.1	78.0		2	WG1319834
Isopropylbenzene	98-82-8	120.20	0.376	1.85	0.763	3.75		2	WG1319834
Methylene Chloride	75-09-2	84.90	0.310	1.08	1.10	3.83		2	WG1319834
Methyl Butyl Ketone	591-78-6	100	0.454	1.86	ND	ND		2	WG1319834
2-Butanone (MEK)	78-93-3	72.10	0.328	0.967	20.2	59.7		2	WG1319834
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	0.434	1.78	2.16	8.85		2	WG1319834
Methyl methacrylate	80-62-6	100.12	0.516	2.11	1.48	6.06		2	WG1319834
MTBE	1634-04-4	88.10	0.336	1.21	ND	ND		2	WG1319834
Naphthalene	91-20-3	128	10.3	53.9	79.1	414		20	WG1320585
2-Propanol	67-63-0	60.10	0.588	1.45	16.9	41.5		2	WG1319834
Propene	115-07-1	42.10	6.22	10.7	377	649		20	WG1320585
Styrene	100-42-5	104	0.310	1.32	ND	ND		2	WG1319834
1,1,2,2-Tetrachloroethane	79-34-5	168	0.384	2.64	ND	ND		2	WG1319834
Tetrachloroethylene	127-18-4	166	0.332	2.25	3.21	21.8		2	WG1319834
Tetrahydrofuran	109-99-9	72.10	0.338	0.997	4.09	12.1		2	WG1319834
Toluene	108-88-3	92.10	0.332	1.25	15.5	58.2		2	WG1319834
1,2,4-Trichlorobenzene	120-82-1	181	0.986	7.30	ND	ND		2	WG1319834

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/29/19 12:46

L1123496

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.444	2.42	11.0	59.7		2	WG1319834
1,1,2-Trichloroethane	79-00-5	133	0.191	1.04	0.222	1.21		2	WG1319834
Trichloroethylene	79-01-6	131	3.64	19.5	215	1150		20	WG1320585
1,2,4-Trimethylbenzene	95-63-6	120	0.322	1.58	2.82	13.8		2	WG1319834
1,3,5-Trimethylbenzene	108-67-8	120	0.420	2.06	1.14	5.57		2	WG1319834
2,2,4-Trimethylpentane	540-84-1	114.22	0.304	1.42	ND	ND		2	WG1319834
Vinyl chloride	75-01-4	62.50	0.304	0.777	9.79	25.0		2	WG1319834
Vinyl Bromide	593-60-2	106.95	0.484	2.12	ND	ND		2	WG1319834
Vinyl acetate	108-05-4	86.10	0.426	1.50	0.482	1.70		2	WG1319834
m&p-Xylene	1330-20-7	106	0.630	2.73	17.7	76.7		2	WG1319834
o-Xylene	95-47-6	106	0.422	1.83	12.9	56.0		2	WG1319834
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		109				WG1319834
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		102				WG1320585

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/29/19 13:02

L1123496

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	0.380	0.903	90.7	215		2	WG1319834
Allyl chloride	107-05-1	76.53	0.364	1.14	ND	ND		2	WG1319834
Benzene	71-43-2	78.10	0.306	0.977	11.8	37.7		2	WG1319834
Benzyl Chloride	100-44-7	127	0.398	2.07	ND	ND		2	WG1319834
Bromodichloromethane	75-27-4	164	0.290	1.95	ND	ND		2	WG1319834
Bromoform	75-25-2	253	0.524	5.42	ND	ND		2	WG1319834
Bromomethane	74-83-9	94.90	0.406	1.58	ND	ND		2	WG1319834
1,3-Butadiene	106-99-0	54.10	0.376	0.832	19.2	42.5		2	WG1319834
Carbon disulfide	75-15-0	76.10	0.362	1.13	21.5	66.8		2	WG1319834
Carbon tetrachloride	56-23-5	154	0.390	2.46	ND	ND		2	WG1319834
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1319834
Chloroethane	75-00-3	64.50	0.326	0.860	1.22	3.22		2	WG1319834
Chloroform	67-66-3	119	0.382	1.86	ND	ND		2	WG1319834
Chloromethane	74-87-3	50.50	0.362	0.748	1.71	3.52		2	WG1319834
2-Chlorotoluene	95-49-8	126	0.404	2.08	ND	ND		2	WG1319834
Cyclohexane	110-82-7	84.20	0.356	1.23	13.6	46.8		2	WG1319834
Dibromochloromethane	124-48-1	208	0.330	2.81	ND	ND		2	WG1319834
1,2-Dibromoethane	106-93-4	188	0.123	0.946	ND	ND		2	WG1319834
1,2-Dichlorobenzene	95-50-1	147	0.402	2.42	ND	ND		2	WG1319834
1,3-Dichlorobenzene	541-73-1	147	0.398	2.39	ND	ND		2	WG1319834
1,4-Dichlorobenzene	106-46-7	147	0.372	2.24	ND	ND		2	WG1319834
1,2-Dichloroethane	107-06-2	99	0.410	1.66	ND	ND		2	WG1319834
1,1-Dichloroethane	75-34-3	98	0.342	1.37	9.65	38.7		2	WG1319834
1,1-Dichloroethene	75-35-4	96.90	0.326	1.29	4.28	17.0		2	WG1319834
cis-1,2-Dichloroethene	156-59-2	96.90	0.260	1.03	56.1	222		2	WG1319834
trans-1,2-Dichloroethene	156-60-5	96.90	0.310	1.23	7.35	29.1		2	WG1319834
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1319834
cis-1,3-Dichloropropene	10061-01-5	111	0.392	1.78	ND	ND		2	WG1319834
trans-1,3-Dichloropropene	10061-02-6	111	0.290	1.32	ND	ND		2	WG1319834
1,4-Dioxane	123-91-1	88.10	0.370	1.33	ND	ND		2	WG1319834
Ethanol	64-17-5	46.10	0.554	1.04	11.0	20.8		2	WG1319834
Ethylbenzene	100-41-4	106	0.338	1.47	7.26	31.5		2	WG1319834
4-Ethyltoluene	622-96-8	120	0.444	2.18	11.2	55.2		2	WG1319834
Trichlorofluoromethane	75-69-4	137.40	0.448	2.52	ND	ND		2	WG1319834
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.487	2.41		2	WG1319834
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.458	3.51	ND	ND		2	WG1319834
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.306	2.14	ND	ND		2	WG1319834
Heptane	142-82-5	100	0.418	1.71	14.0	57.1		2	WG1319834
Hexachloro-1,3-butadiene	87-68-3	261	0.438	4.68	ND	ND		2	WG1319834
n-Hexane	110-54-3	86.20	0.304	1.07	28.8	102		2	WG1319834
Isopropylbenzene	98-82-8	120.20	0.376	1.85	1.41	6.91		2	WG1319834
Methylene Chloride	75-09-2	84.90	0.310	1.08	0.628	2.18		2	WG1319834
Methyl Butyl Ketone	591-78-6	100	0.454	1.86	ND	ND		2	WG1319834
2-Butanone (MEK)	78-93-3	72.10	0.328	0.967	19.1	56.2		2	WG1319834
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	0.434	1.78	3.52	14.4		2	WG1319834
Methyl methacrylate	80-62-6	100.12	0.516	2.11	ND	ND		2	WG1319834
MTBE	1634-04-4	88.10	0.336	1.21	ND	ND		2	WG1319834
Naphthalene	91-20-3	128	12.8	67.0	82.8	433		25	WG1320585
2-Propanol	67-63-0	60.10	0.588	1.45	23.6	58.1		2	WG1319834
Propene	115-07-1	42.10	7.78	13.4	565	973		25	WG1320585
Styrene	100-42-5	104	0.310	1.32	ND	ND		2	WG1319834
1,1,2,2-Tetrachloroethane	79-34-5	168	0.384	2.64	ND	ND		2	WG1319834
Tetrachloroethylene	127-18-4	166	0.332	2.25	0.770	5.23		2	WG1319834
Tetrahydrofuran	109-99-9	72.10	0.338	0.997	ND	ND		2	WG1319834
Toluene	108-88-3	92.10	0.332	1.25	17.1	64.3		2	WG1319834
1,2,4-Trichlorobenzene	120-82-1	181	0.986	7.30	ND	ND		2	WG1319834

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/29/19 13:02

L1123496

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.444	2.42	ND	ND		2	WG1319834
1,1,2-Trichloroethane	79-00-5	133	0.191	1.04	ND	ND		2	WG1319834
Trichloroethylene	79-01-6	131	0.364	1.95	44.4	238		2	WG1319834
1,2,4-Trimethylbenzene	95-63-6	120	0.322	1.58	14.0	68.7		2	WG1319834
1,3,5-Trimethylbenzene	108-67-8	120	0.420	2.06	4.87	23.9		2	WG1319834
2,2,4-Trimethylpentane	540-84-1	114.22	0.304	1.42	ND	ND		2	WG1319834
Vinyl chloride	75-01-4	62.50	0.304	0.777	10.4	26.7		2	WG1319834
Vinyl Bromide	593-60-2	106.95	0.484	2.12	ND	ND		2	WG1319834
Vinyl acetate	108-05-4	86.10	0.426	1.50	ND	ND		2	WG1319834
m&p-Xylene	1330-20-7	106	0.630	2.73	19.2	83.4		2	WG1319834
o-Xylene	95-47-6	106	0.422	1.83	8.03	34.8		2	WG1319834
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		109				WG1319834
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		99.4				WG1320585

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Collected date/time: 07/29/19 11:19

L1123496

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	0.380	0.903	16.2	38.6		2	WG1319834
Allyl chloride	107-05-1	76.53	0.364	1.14	ND	ND		2	WG1319834
Benzene	71-43-2	78.10	0.306	0.977	0.598	1.91		2	WG1319834
Benzyl Chloride	100-44-7	127	0.398	2.07	ND	ND		2	WG1319834
Bromodichloromethane	75-27-4	164	0.290	1.95	ND	ND		2	WG1319834
Bromoform	75-25-2	253	0.524	5.42	ND	ND		2	WG1319834
Bromomethane	74-83-9	94.90	0.406	1.58	ND	ND		2	WG1319834
1,3-Butadiene	106-99-0	54.10	0.376	0.832	ND	ND		2	WG1319834
Carbon disulfide	75-15-0	76.10	0.362	1.13	0.563	1.75		2	WG1319834
Carbon tetrachloride	56-23-5	154	0.390	2.46	ND	ND		2	WG1319834
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1319834
Chloroethane	75-00-3	64.50	0.326	0.860	ND	ND		2	WG1319834
Chloroform	67-66-3	119	0.382	1.86	ND	ND		2	WG1319834
Chloromethane	74-87-3	50.50	0.362	0.748	1.43	2.95		2	WG1319834
2-Chlorotoluene	95-49-8	126	0.404	2.08	ND	ND		2	WG1319834
Cyclohexane	110-82-7	84.20	0.356	1.23	1.03	3.56		2	WG1319834
Dibromochloromethane	124-48-1	208	0.330	2.81	ND	ND		2	WG1319834
1,2-Dibromoethane	106-93-4	188	0.123	0.946	ND	ND		2	WG1319834
1,2-Dichlorobenzene	95-50-1	147	0.402	2.42	ND	ND		2	WG1319834
1,3-Dichlorobenzene	541-73-1	147	0.398	2.39	ND	ND		2	WG1319834
1,4-Dichlorobenzene	106-46-7	147	0.372	2.24	ND	ND		2	WG1319834
1,2-Dichloroethane	107-06-2	99	0.410	1.66	ND	ND		2	WG1319834
1,1-Dichloroethane	75-34-3	98	0.342	1.37	ND	ND		2	WG1319834
1,1-Dichloroethene	75-35-4	96.90	0.326	1.29	ND	ND		2	WG1319834
cis-1,2-Dichloroethene	156-59-2	96.90	0.260	1.03	0.727	2.88		2	WG1319834
trans-1,2-Dichloroethene	156-60-5	96.90	0.310	1.23	ND	ND		2	WG1319834
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1319834
cis-1,3-Dichloropropene	10061-01-5	111	0.392	1.78	ND	ND		2	WG1319834
trans-1,3-Dichloropropene	10061-02-6	111	0.290	1.32	ND	ND		2	WG1319834
1,4-Dioxane	123-91-1	88.10	0.370	1.33	ND	ND		2	WG1319834
Ethanol	64-17-5	46.10	0.554	1.04	34.2	64.5		2	WG1319834
Ethylbenzene	100-41-4	106	0.338	1.47	0.434	1.88		2	WG1319834
4-Ethyltoluene	622-96-8	120	0.444	2.18	ND	ND		2	WG1319834
Trichlorofluoromethane	75-69-4	137.40	0.448	2.52	ND	ND		2	WG1319834
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.510	2.52		2	WG1319834
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.458	3.51	ND	ND		2	WG1319834
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.306	2.14	ND	ND		2	WG1319834
Heptane	142-82-5	100	0.418	1.71	1.03	4.21		2	WG1319834
Hexachloro-1,3-butadiene	87-68-3	261	0.438	4.68	ND	ND		2	WG1319834
n-Hexane	110-54-3	86.20	0.304	1.07	4.48	15.8		2	WG1319834
Isopropylbenzene	98-82-8	120.20	0.376	1.85	ND	ND		2	WG1319834
Methylene Chloride	75-09-2	84.90	0.310	1.08	0.712	2.47		2	WG1319834
Methyl Butyl Ketone	591-78-6	100	0.454	1.86	ND	ND		2	WG1319834
2-Butanone (MEK)	78-93-3	72.10	0.328	0.967	1.25	3.69		2	WG1319834
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	0.434	1.78	ND	ND		2	WG1319834
Methyl methacrylate	80-62-6	100.12	0.516	2.11	ND	ND		2	WG1319834
MTBE	1634-04-4	88.10	0.336	1.21	ND	ND		2	WG1319834
Naphthalene	91-20-3	128	1.03	5.39	ND	ND		2	WG1319834
2-Propanol	67-63-0	60.10	0.588	1.45	11.0	27.0		2	WG1319834
Propene	115-07-1	42.10	0.622	1.07	ND	ND		2	WG1319834
Styrene	100-42-5	104	0.310	1.32	ND	ND		2	WG1319834
1,1,2,2-Tetrachloroethane	79-34-5	168	0.384	2.64	ND	ND		2	WG1319834
Tetrachloroethylene	127-18-4	166	0.332	2.25	ND	ND		2	WG1319834
Tetrahydrofuran	109-99-9	72.10	0.338	0.997	ND	ND		2	WG1319834
Toluene	108-88-3	92.10	0.332	1.25	3.12	11.8		2	WG1319834
1,2,4-Trichlorobenzene	120-82-1	181	0.986	7.30	ND	ND		2	WG1319834

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/29/19 11:19

L1123496

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.444	2.42	ND	ND		2	WG1319834
1,1,2-Trichloroethane	79-00-5	133	0.191	1.04	ND	ND		2	WG1319834
Trichloroethylene	79-01-6	131	0.364	1.95	ND	ND		2	WG1319834
1,2,4-Trimethylbenzene	95-63-6	120	0.322	1.58	0.498	2.44		2	WG1319834
1,3,5-Trimethylbenzene	108-67-8	120	0.420	2.06	ND	ND		2	WG1319834
2,2,4-Trimethylpentane	540-84-1	114.22	0.304	1.42	ND	ND		2	WG1319834
Vinyl chloride	75-01-4	62.50	0.304	0.777	1.63	4.16		2	WG1319834
Vinyl Bromide	593-60-2	106.95	0.484	2.12	ND	ND		2	WG1319834
Vinyl acetate	108-05-4	86.10	0.426	1.50	ND	ND		2	WG1319834
m&p-Xylene	1330-20-7	106	0.630	2.73	2.36	10.2		2	WG1319834
o-Xylene	95-47-6	106	0.422	1.83	0.530	2.30		2	WG1319834
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		103				WG1319834

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Collected date/time: 07/29/19 11:55

L1123496

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	0.380	0.903	66.2	157		2	WG1319834
Allyl chloride	107-05-1	76.53	0.364	1.14	ND	ND		2	WG1319834
Benzene	71-43-2	78.10	0.306	0.977	2.80	8.96		2	WG1319834
Benzyl Chloride	100-44-7	127	0.398	2.07	ND	ND		2	WG1319834
Bromodichloromethane	75-27-4	164	0.290	1.95	ND	ND		2	WG1319834
Bromoform	75-25-2	253	0.524	5.42	ND	ND		2	WG1319834
Bromomethane	74-83-9	94.90	0.406	1.58	ND	ND		2	WG1319834
1,3-Butadiene	106-99-0	54.10	0.376	0.832	6.00	13.3		2	WG1319834
Carbon disulfide	75-15-0	76.10	0.362	1.13	6.15	19.1		2	WG1319834
Carbon tetrachloride	56-23-5	154	0.390	2.46	ND	ND		2	WG1319834
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1319834
Chloroethane	75-00-3	64.50	0.326	0.860	ND	ND		2	WG1319834
Chloroform	67-66-3	119	0.382	1.86	ND	ND		2	WG1319834
Chloromethane	74-87-3	50.50	0.362	0.748	2.25	4.64		2	WG1319834
2-Chlorotoluene	95-49-8	126	0.404	2.08	ND	ND		2	WG1319834
Cyclohexane	110-82-7	84.20	0.356	1.23	1.94	6.68		2	WG1319834
Dibromochloromethane	124-48-1	208	0.330	2.81	ND	ND		2	WG1319834
1,2-Dibromoethane	106-93-4	188	0.123	0.946	ND	ND		2	WG1319834
1,2-Dichlorobenzene	95-50-1	147	0.402	2.42	ND	ND		2	WG1319834
1,3-Dichlorobenzene	541-73-1	147	0.398	2.39	ND	ND		2	WG1319834
1,4-Dichlorobenzene	106-46-7	147	0.372	2.24	ND	ND		2	WG1319834
1,2-Dichloroethane	107-06-2	99	0.410	1.66	ND	ND		2	WG1319834
1,1-Dichloroethane	75-34-3	98	0.342	1.37	ND	ND		2	WG1319834
1,1-Dichloroethene	75-35-4	96.90	0.326	1.29	ND	ND		2	WG1319834
cis-1,2-Dichloroethene	156-59-2	96.90	0.260	1.03	0.271	1.08		2	WG1319834
trans-1,2-Dichloroethene	156-60-5	96.90	0.310	1.23	ND	ND		2	WG1319834
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1319834
cis-1,3-Dichloropropene	10061-01-5	111	0.392	1.78	ND	ND		2	WG1319834
trans-1,3-Dichloropropene	10061-02-6	111	0.290	1.32	ND	ND		2	WG1319834
1,4-Dioxane	123-91-1	88.10	0.370	1.33	ND	ND		2	WG1319834
Ethanol	64-17-5	46.10	0.554	1.04	14.6	27.6		2	WG1319834
Ethylbenzene	100-41-4	106	0.338	1.47	1.38	6.00		2	WG1319834
4-Ethyltoluene	622-96-8	120	0.444	2.18	1.17	5.74		2	WG1319834
Trichlorofluoromethane	75-69-4	137.40	0.448	2.52	ND	ND		2	WG1319834
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.493	2.44		2	WG1319834
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.458	3.51	ND	ND		2	WG1319834
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.306	2.14	ND	ND		2	WG1319834
Heptane	142-82-5	100	0.418	1.71	3.13	12.8		2	WG1319834
Hexachloro-1,3-butadiene	87-68-3	261	0.438	4.68	ND	ND		2	WG1319834
n-Hexane	110-54-3	86.20	0.304	1.07	6.93	24.4		2	WG1319834
Isopropylbenzene	98-82-8	120.20	0.376	1.85	ND	ND		2	WG1319834
Methylene Chloride	75-09-2	84.90	0.310	1.08	2.42	8.40		2	WG1319834
Methyl Butyl Ketone	591-78-6	100	0.454	1.86	0.742	3.04		2	WG1319834
2-Butanone (MEK)	78-93-3	72.10	0.328	0.967	11.1	32.8		2	WG1319834
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	0.434	1.78	2.09	8.55		2	WG1319834
Methyl methacrylate	80-62-6	100.12	0.516	2.11	ND	ND		2	WG1319834
MTBE	1634-04-4	88.10	0.336	1.21	ND	ND		2	WG1319834
Naphthalene	91-20-3	128	1.03	5.39	1.96	10.3		2	WG1319834
2-Propanol	67-63-0	60.10	0.588	1.45	ND	ND		2	WG1319834
Propene	115-07-1	42.10	6.22	10.7	78.7	136		20	WG1320585
Styrene	100-42-5	104	0.310	1.32	ND	ND		2	WG1319834
1,1,2,2-Tetrachloroethane	79-34-5	168	0.384	2.64	ND	ND		2	WG1319834
Tetrachloroethylene	127-18-4	166	0.332	2.25	0.684	4.65		2	WG1319834
Tetrahydrofuran	109-99-9	72.10	0.338	0.997	0.612	1.80		2	WG1319834
Toluene	108-88-3	92.10	0.332	1.25	5.92	22.3		2	WG1319834
1,2,4-Trichlorobenzene	120-82-1	181	0.986	7.30	ND	ND		2	WG1319834

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

EMG - Hunt Valley, MD

PROJECT:

138584.19R000-002075

SDG:

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DATE/TIME:

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Collected date/time: 07/29/19 11:55

L1123496

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.444	2.42	ND	ND		2	WG1319834
1,1,2-Trichloroethane	79-00-5	133	0.191	1.04	ND	ND		2	WG1319834
Trichloroethylene	79-01-6	131	0.364	1.95	3.32	17.8		2	WG1319834
1,2,4-Trimethylbenzene	95-63-6	120	0.322	1.58	1.25	6.14		2	WG1319834
1,3,5-Trimethylbenzene	108-67-8	120	0.420	2.06	0.459	2.25		2	WG1319834
2,2,4-Trimethylpentane	540-84-1	114.22	0.304	1.42	ND	ND		2	WG1319834
Vinyl chloride	75-01-4	62.50	0.304	0.777	ND	ND		2	WG1319834
Vinyl Bromide	593-60-2	106.95	0.484	2.12	ND	ND		2	WG1319834
Vinyl acetate	108-05-4	86.10	0.426	1.50	ND	ND		2	WG1319834
m&p-Xylene	1330-20-7	106	0.630	2.73	3.88	16.8		2	WG1319834
o-Xylene	95-47-6	106	0.422	1.83	1.60	6.94		2	WG1319834
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		102				WG1319834
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		99.2				WG1320585

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Collected date/time: 07/29/19 11:35

L1123496

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	0.380	0.903	84.1	200		2	WG1319834
Allyl chloride	107-05-1	76.53	0.364	1.14	ND	ND		2	WG1319834
Benzene	71-43-2	78.10	0.306	0.977	9.63	30.7		2	WG1319834
Benzyl Chloride	100-44-7	127	0.398	2.07	0.562	2.92		2	WG1319834
Bromodichloromethane	75-27-4	164	0.290	1.95	ND	ND		2	WG1319834
Bromoform	75-25-2	253	0.524	5.42	ND	ND		2	WG1319834
Bromomethane	74-83-9	94.90	0.406	1.58	ND	ND		2	WG1319834
1,3-Butadiene	106-99-0	54.10	0.376	0.832	13.4	29.8		2	WG1319834
Carbon disulfide	75-15-0	76.10	0.362	1.13	99.1	308		2	WG1319834
Carbon tetrachloride	56-23-5	154	0.390	2.46	ND	ND		2	WG1319834
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1319834
Chloroethane	75-00-3	64.50	0.326	0.860	2.86	7.53		2	WG1319834
Chloroform	67-66-3	119	0.382	1.86	0.760	3.70		2	WG1319834
Chloromethane	74-87-3	50.50	0.362	0.748	3.71	7.67		2	WG1319834
2-Chlorotoluene	95-49-8	126	0.404	2.08	ND	ND		2	WG1319834
Cyclohexane	110-82-7	84.20	0.356	1.23	8.14	28.0		2	WG1319834
Dibromochloromethane	124-48-1	208	0.330	2.81	ND	ND		2	WG1319834
1,2-Dibromoethane	106-93-4	188	0.123	0.946	ND	ND		2	WG1319834
1,2-Dichlorobenzene	95-50-1	147	0.402	2.42	ND	ND		2	WG1319834
1,3-Dichlorobenzene	541-73-1	147	0.398	2.39	ND	ND		2	WG1319834
1,4-Dichlorobenzene	106-46-7	147	0.372	2.24	ND	ND		2	WG1319834
1,2-Dichloroethane	107-06-2	99	0.410	1.66	ND	ND		2	WG1319834
1,1-Dichloroethane	75-34-3	98	0.342	1.37	ND	ND		2	WG1319834
1,1-Dichloroethene	75-35-4	96.90	0.326	1.29	ND	ND		2	WG1319834
cis-1,2-Dichloroethene	156-59-2	96.90	0.260	1.03	2.83	11.2		2	WG1319834
trans-1,2-Dichloroethene	156-60-5	96.90	0.310	1.23	0.313	1.24		2	WG1319834
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1319834
cis-1,3-Dichloropropene	10061-01-5	111	0.392	1.78	ND	ND		2	WG1319834
trans-1,3-Dichloropropene	10061-02-6	111	0.290	1.32	ND	ND		2	WG1319834
1,4-Dioxane	123-91-1	88.10	0.370	1.33	ND	ND		2	WG1319834
Ethanol	64-17-5	46.10	0.554	1.04	11.8	22.2		2	WG1319834
Ethylbenzene	100-41-4	106	0.338	1.47	6.48	28.1		2	WG1319834
4-Ethyltoluene	622-96-8	120	0.444	2.18	7.78	38.2		2	WG1319834
Trichlorofluoromethane	75-69-4	137.40	0.448	2.52	ND	ND		2	WG1319834
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.546	2.70		2	WG1319834
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.458	3.51	ND	ND		2	WG1319834
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.306	2.14	ND	ND		2	WG1319834
Heptane	142-82-5	100	0.418	1.71	11.2	45.8		2	WG1319834
Hexachloro-1,3-butadiene	87-68-3	261	0.438	4.68	ND	ND		2	WG1319834
n-Hexane	110-54-3	86.20	0.304	1.07	24.5	86.5		2	WG1319834
Isopropylbenzene	98-82-8	120.20	0.376	1.85	1.34	6.58		2	WG1319834
Methylene Chloride	75-09-2	84.90	0.310	1.08	0.396	1.37		2	WG1319834
Methyl Butyl Ketone	591-78-6	100	0.454	1.86	1.29	5.29		2	WG1319834
2-Butanone (MEK)	78-93-3	72.10	0.328	0.967	16.1	47.4		2	WG1319834
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	0.434	1.78	4.40	18.0		2	WG1319834
Methyl methacrylate	80-62-6	100.12	0.516	2.11	3.80	15.6		2	WG1319834
MTBE	1634-04-4	88.10	0.336	1.21	ND	ND		2	WG1319834
Naphthalene	91-20-3	128	1.03	5.39	10.4	54.5		2	WG1319834
2-Propanol	67-63-0	60.10	0.588	1.45	ND	ND		2	WG1319834
Propene	115-07-1	42.10	6.22	10.7	342	590		20	WG1320585
Styrene	100-42-5	104	0.310	1.32	ND	ND		2	WG1319834
1,1,2,2-Tetrachloroethane	79-34-5	168	0.384	2.64	ND	ND		2	WG1319834
Tetrachloroethylene	127-18-4	166	0.332	2.25	2.23	15.1		2	WG1319834
Tetrahydrofuran	109-99-9	72.10	0.338	0.997	ND	ND		2	WG1319834
Toluene	108-88-3	92.10	0.332	1.25	31.8	120		2	WG1319834
1,2,4-Trichlorobenzene	120-82-1	181	0.986	7.30	ND	ND		2	WG1319834

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

EMG - Hunt Valley, MD

PROJECT:

138584.19R000-002075

SDG:

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L1123496

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.444	2.42	ND	ND		2	WG1319834
1,1,2-Trichloroethane	79-00-5	133	0.191	1.04	ND	ND		2	WG1319834
Trichloroethylene	79-01-6	131	0.364	1.95	32.1	172		2	WG1319834
1,2,4-Trimethylbenzene	95-63-6	120	0.322	1.58	3.74	18.3		2	WG1319834
1,3,5-Trimethylbenzene	108-67-8	120	0.420	2.06	1.54	7.55		2	WG1319834
2,2,4-Trimethylpentane	540-84-1	114.22	0.304	1.42	ND	ND		2	WG1319834
Vinyl chloride	75-01-4	62.50	0.304	0.777	1.02	2.60		2	WG1319834
Vinyl Bromide	593-60-2	106.95	0.484	2.12	ND	ND		2	WG1319834
Vinyl acetate	108-05-4	86.10	0.426	1.50	ND	ND		2	WG1319834
m&p-Xylene	1330-20-7	106	0.630	2.73	13.8	59.7		2	WG1319834
o-Xylene	95-47-6	106	0.422	1.83	4.85	21.0		2	WG1319834
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		104				WG1319834
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		99.2				WG1320585

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3435730-3 07/30/19 10:16

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	0.190
Allyl Chloride	U		0.0546	0.182
Benzene	U		0.0460	0.153
Benzyl Chloride	U		0.0598	0.199
Bromodichloromethane	U		0.0436	0.145
Bromoform	U		0.0786	0.262
Bromomethane	U		0.0609	0.203
1,3-Butadiene	U		0.0563	0.188
Carbon disulfide	U		0.0544	0.181
Carbon tetrachloride	U		0.0585	0.195
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.163
Chloroform	U		0.0574	0.191
Chloromethane	U		0.0544	0.181
2-Chlorotoluene	U		0.0605	0.202
Cyclohexane	U		0.0534	0.178
Dibromochloromethane	U		0.0494	0.165
1,2-Dibromoethane	U		0.0185	0.0617
1,2-Dichlorobenzene	U		0.0603	0.201
1,3-Dichlorobenzene	U		0.0597	0.199
1,4-Dichlorobenzene	U		0.0557	0.186
1,2-Dichloroethane	U		0.0616	0.205
1,1-Dichloroethane	U		0.0514	0.171
1,1-Dichloroethene	U		0.0490	0.163
cis-1,2-Dichloroethene	U		0.0389	0.130
trans-1,2-Dichloroethene	U		0.0464	0.155
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.196
trans-1,3-Dichloropropene	U		0.0435	0.145
1,4-Dioxane	U		0.0554	0.185
Ethylbenzene	U		0.0506	0.169
4-Ethyltoluene	U		0.0666	0.222
Trichlorofluoromethane	U		0.0673	0.224
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.229
1,2-Dichlorotetrafluoroethane	U		0.0458	0.153
Heptane	U		0.0626	0.209
Hexachloro-1,3-butadiene	U		0.0656	0.219
n-Hexane	U		0.0457	0.152
Isopropylbenzene	U		0.0563	0.188

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3435730-3 07/30/19 10:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Methylene Chloride	U		0.0465	0.155
Methyl Butyl Ketone	U		0.0682	0.227
2-Butanone (MEK)	U		0.0493	0.164
4-Methyl-2-pentanone (MIBK)	U		0.0650	0.217
Methyl Methacrylate	U		0.0773	0.258
MTBE	U		0.0505	0.168
Naphthalene	U		0.154	0.513
2-Propanol	U		0.0882	0.294
Propene	U		0.0932	0.311
Styrene	U		0.0465	0.155
1,1,2,2-Tetrachloroethane	U		0.0576	0.192
Tetrachloroethylene	U		0.0497	0.166
Tetrahydrofuran	U		0.0508	0.169
Toluene	U		0.0499	0.166
1,2,4-Trichlorobenzene	U		0.148	0.493
1,1,1-Trichloroethane	U		0.0665	0.222
1,1,2-Trichloroethane	U		0.0287	0.0957
Trichloroethylene	U		0.0545	0.182
1,2,4-Trimethylbenzene	U		0.0483	0.161
1,3,5-Trimethylbenzene	U		0.0631	0.210
2,2,4-Trimethylpentane	U		0.0456	0.152
Vinyl chloride	U		0.0457	0.152
Vinyl Bromide	U		0.0727	0.242
Vinyl acetate	U		0.0639	0.213
m&p-Xylene	U		0.0946	0.315
o-Xylene	U		0.0633	0.211
Ethanol	U		0.0832	0.277
(S) 1,4-Bromofluorobenzene	99.7			60.0-140

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3435730-1 07/30/19 08:28 • (LCSD) R3435730-2 07/30/19 09:21

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Ethanol	3.75	3.21	3.27	85.6	87.2	55.0-148			1.86	25
Propene	3.75	3.83	3.80	102	101	64.0-144			0.816	25
Dichlorodifluoromethane	3.75	3.87	3.89	103	104	64.0-139			0.680	25
1,2-Dichlorotetrafluoroethane	3.75	3.82	3.80	102	101	70.0-130			0.403	25
Chloromethane	3.75	3.90	3.92	104	105	70.0-130			0.515	25



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3435730-1 07/30/19 08:28 • (LCSD) R3435730-2 07/30/19 09:21

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Vinyl chloride	3.75	4.01	3.94	107	105	70.0-130			1.89	25
1,3-Butadiene	3.75	3.86	3.74	103	99.6	70.0-130			3.29	25
Bromomethane	3.75	3.76	3.79	100	101	70.0-130			0.976	25
Chloroethane	3.75	3.86	3.83	103	102	70.0-130			0.843	25
Trichlorofluoromethane	3.75	3.81	3.74	102	99.8	70.0-130			1.91	25
1,1,2-Trichlorotrifluoroethane	3.75	3.82	3.77	102	101	70.0-130			1.23	25
1,1-Dichloroethene	3.75	3.89	3.87	104	103	70.0-130			0.594	25
1,1-Dichloroethane	3.75	3.91	3.90	104	104	70.0-130			0.186	25
Acetone	3.75	3.91	3.95	104	105	70.0-130			0.982	25
2-Propanol	3.75	3.78	3.81	101	101	70.0-139			0.746	25
Carbon disulfide	3.75	3.89	3.80	104	101	70.0-130			2.25	25
Methylene Chloride	3.75	3.83	3.75	102	99.9	70.0-130			2.11	25
MTBE	3.75	3.92	3.93	105	105	70.0-130			0.171	25
trans-1,2-Dichloroethene	3.75	3.95	3.90	105	104	70.0-130			1.19	25
n-Hexane	3.75	3.90	3.90	104	104	70.0-130			0.0862	25
Vinyl acetate	3.75	4.05	4.01	108	107	70.0-130			1.06	25
Methyl Ethyl Ketone	3.75	3.80	3.77	101	101	70.0-130			0.801	25
cis-1,2-Dichloroethene	3.75	3.88	3.85	103	103	70.0-130			0.759	25
Chloroform	3.75	3.83	3.83	102	102	70.0-130			0.0238	25
Cyclohexane	3.75	3.76	3.82	100	102	70.0-130			1.38	25
1,1,1-Trichloroethane	3.75	3.79	3.82	101	102	70.0-130			0.656	25
Carbon tetrachloride	3.75	3.80	3.83	101	102	70.0-130			0.681	25
Benzene	3.75	3.86	3.88	103	103	70.0-130			0.588	25
1,2-Dichloroethane	3.75	3.86	3.90	103	104	70.0-130			1.05	25
Heptane	3.75	3.88	3.87	104	103	70.0-130			0.337	25
Trichloroethylene	3.75	3.83	3.81	102	102	70.0-130			0.592	25
1,2-Dichloropropane	3.75	3.88	3.90	104	104	70.0-130			0.430	25
1,4-Dioxane	3.75	3.89	4.31	104	115	70.0-140			10.3	25
Bromodichloromethane	3.75	3.85	3.91	103	104	70.0-130			1.67	25
cis-1,3-Dichloropropene	3.75	3.90	3.91	104	104	70.0-130			0.152	25
4-Methyl-2-pentanone (MIBK)	3.75	4.02	4.16	107	111	70.0-139			3.39	25
Toluene	3.75	3.85	3.90	103	104	70.0-130			1.18	25
trans-1,3-Dichloropropene	3.75	3.84	3.88	102	103	70.0-130			1.12	25
1,1,2-Trichloroethane	3.75	3.81	3.87	102	103	70.0-130			1.50	25
Tetrachloroethylene	3.75	3.77	3.83	101	102	70.0-130			1.58	25
Methyl Butyl Ketone	3.75	4.01	4.24	107	113	70.0-149			5.47	25
Dibromochloromethane	3.75	3.90	3.92	104	104	70.0-130			0.368	25
1,2-Dibromoethane	3.75	3.86	3.87	103	103	70.0-130			0.231	25
Chlorobenzene	3.75	3.82	3.87	102	103	70.0-130			1.17	25
Ethylbenzene	3.75	3.89	3.93	104	105	70.0-130			1.02	25

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3435730-1 07/30/19 08:28 • (LCSD) R3435730-2 07/30/19 09:21

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
m&p-Xylene	7.50	7.89	7.93	105	106	70.0-130			0.548	25
o-Xylene	3.75	3.84	3.86	102	103	70.0-130			0.689	25
Styrene	3.75	3.90	3.92	104	105	70.0-130			0.666	25
Bromoform	3.75	3.90	3.96	104	106	70.0-130			1.64	25
1,1,2,2-Tetrachloroethane	3.75	3.92	3.96	104	106	70.0-130			1.16	25
4-Ethyltoluene	3.75	3.95	3.99	105	106	70.0-130			1.00	25
1,3,5-Trimethylbenzene	3.75	3.89	3.91	104	104	70.0-130			0.463	25
1,2,4-Trimethylbenzene	3.75	3.93	3.94	105	105	70.0-130			0.222	25
1,3-Dichlorobenzene	3.75	3.90	3.96	104	105	70.0-130			1.41	25
1,4-Dichlorobenzene	3.75	3.94	3.93	105	105	70.0-130			0.305	25
Benzyl Chloride	3.75	4.23	4.20	113	112	70.0-152			0.636	25
1,2-Dichlorobenzene	3.75	3.94	3.89	105	104	70.0-130			1.25	25
1,2,4-Trichlorobenzene	3.75	3.96	4.00	106	107	70.0-160			0.993	25
Hexachloro-1,3-butadiene	3.75	3.76	3.81	100	101	70.0-151			1.25	25
Naphthalene	3.75	4.09	4.17	109	111	70.0-159			1.96	25
Allyl Chloride	3.75	3.95	3.84	105	102	70.0-130			2.83	25
2-Chlorotoluene	3.75	3.84	3.90	102	104	70.0-130			1.53	25
Methyl Methacrylate	3.75	3.87	3.83	103	102	70.0-130			1.03	25
Tetrahydrofuran	3.75	3.99	3.91	106	104	70.0-137			1.87	25
2,2,4-Trimethylpentane	3.75	3.91	3.82	104	102	70.0-130			2.26	25
Vinyl Bromide	3.75	3.81	3.72	102	99.3	70.0-130			2.27	25
Isopropylbenzene	3.75	3.90	3.94	104	105	70.0-130			0.976	25
(S) 1,4-Bromofluorobenzene				101	100	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3436287-3 07/31/19 11:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Acetone	U		0.0569	0.190
Naphthalene	U		0.154	0.513
Propene	U		0.0932	0.311
Trichloroethylene	U		0.0545	0.182
(S) 1,4-Bromofluorobenzene	99.1			60.0-140

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3436287-1 07/31/19 09:27 • (LCSD) R3436287-2 07/31/19 10:20

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Propene	3.75	3.77	3.71	100	98.9	64.0-144			1.54	25
Acetone	3.75	3.73	3.77	99.5	100	70.0-130			1.02	25
Trichloroethylene	3.75	3.71	3.73	98.8	99.5	70.0-130			0.667	25
Naphthalene	3.75	4.30	4.32	115	115	70.0-159			0.441	25
(S) 1,4-Bromofluorobenzene				99.1	101	60.0-140				

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

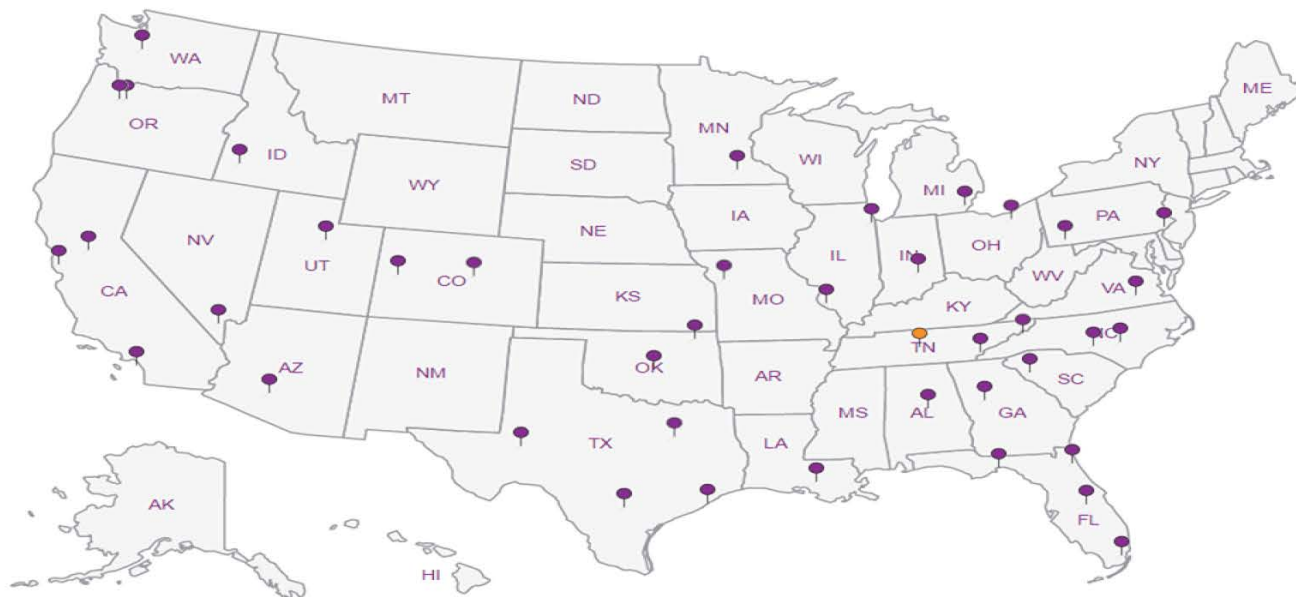
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations


Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



EMG - Hunt Valley, MD
 10461 Mill Run Circle, Ste 1100
 Owings Mills, MD 21117

Billing Information:
Accounts Payable
 10461 Mills Run Circle, Ste 1100
 Owings Mills, MD 18519

Pres Chk
 Analysis / Container / Preservative

Chain of Custody Page ___ of ___

 12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859

Report to:
Mr. Mark Fischer

Email To: **mwfischer@emgcorp.com**

Project
 Description: **American Healthcare**

City/State
 Collected:

Phone: **410-785-6200**
 Fax:

Client Project #
138584.19R000-002193

Lab Project #
EMGHVMD-1998

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
 ___ Same Day Five Day*
 ___ Next Day ___ 5 Day (Rad Only)
 ___ Two Day ___ 10 Day (Rad Only)
 ___ Three Day

Quote #

Immediately Packed on Ice N ___ Y ___

Date Results Needed

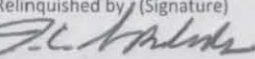
No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	End Time	No. of Cntrs	TO-15 Summa	Remarks	Sample # (lab only)
SG-1		Air	5'	7-29-19	1246	1	X		01
SG-2		Air	5'	7-29-19	1217	1	X		02
SG-3		Air	5'	7-29-19	1302	1	X		03
SG-4		Air	5'	7-29-19	11:19	1	X		04
SG-5		Air	5'	7-29-19	11:55	1	X		05
SG-6		Air	5'	7-29-19	11:35	1	X		06

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks:
5-Day TAT*
 Samples returned via:
 ___ UPS ___ FedEx ___ Courier ___
 Tracking # **1145 2226 9680 / 9727**

Sample Receipt Checklist
 COC Seal Present/Intact: Y ___ N
 COC Signed/Accurate: Y ___ N
 Bottles arrive intact: Y ___ N
 Correct bottles used: Y ___ N
 Sufficient volume sent: Y ___ N
 If Applicable
 VOA Zero Headspace: ___ Y ___ N
 Preservation Correct/Checked: ___ Y ___ N

Relinquished by: (Signature)


Date:
7-29-19

Time:
14:30

Received by: (Signature)
Fed Ex Shipto lab

Trip Blank Received: Yes No ___
 HCL / MeOH
 TBR

Relinquished by: (Signature)
Fed Ex Shipto lab

Date:

Time:

Received by: (Signature)

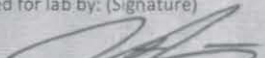
Temp: °C
Ant 6

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)


Date: **7/30/19** Time: **0845**

Hold: Condition: **NCF / OK**