

December 10, 2021

Ms. Cindy Koepke
Wisconsin Department of Natural Resources – South Central Region
Remediation and Redevelopment Program
3911 Fish Hatchery Road
Madison, WI 53711-5397

RE: Additional Investigation/Remediation – Phase I Update
Shorewood Commons
3330 University Avenue
Shorewood Hills, WI
BRRTS # 02-13-560698

Dear Ms. Koepke:

As outlined in the August 9, 2021, *Additional Investigation/Remediation Work Plan – Phase I*, Resource Engineering Associates, Inc. (REA) performed additional vapor sampling in the new building at 3320 University Avenue (the former location of 3310 University Avenue), installed an additional monitoring well (MW-5) and piezometer (PZ-3) on the north side of Locust Drive, developed them and sampled the new wells, along with the existing wells at the site in July through September 2021. The work performed and the sample results are outlined below.

Vapor Sampling

On July 27, 2021, REA installed a Cox-Colvin Vapor Pin in the floor of the parking garage under the building at 3320 University Avenue (SS-21). The Vapor Pin was installed according to manufacturer's guidance. After installation, REA collected a sub-slab vapor sample from the Vapor Pin. A 1.5" PVC coupler was first affixed around the Vapor Pin using non-volatile organic compound (VOC) containing modeling clay to provide a seal at the floor to form a dam around the pin. The PVC coupler dam was then filled with water to check for leaks around the dam and to ensure no short circuiting through the vapor point. Teflon ¼" tubing was attached to the Vapor Pin hose barb and then connected to a photoionization detector (PID). The PID reading at the vapor point was 0.0 parts per million (ppm). The PID was used to remove air from beneath the slab to insure the presence of undiluted soil gas. The Teflon tubing was then connected to a 6 liter Summa canister equipped with a regulator so that the sample was collected over a 30 minute period. This ensured a sampling rate of less than 200 mL/min as recommended by the DNR. The Summa canister was then opened and allowed to collect a sample for 30 minutes. The initial vacuum on SS-21 was 30.0 psi. The vacuum reading after 30 minutes was 8.0 psi. The location of SS-21 is shown on **Figure 1**. Two additional 6 liter Summa canisters equipped with regulators to collect a 24 hour sample were opened in the east portion (AI-21) and west portion (AI-22) of the parking garage under 3320 University Avenue and allowed to collect indoor air samples. The initial vacuum on both indoor air sample canisters were 30.0 psi. The vacuum readings on July 28, 2021, after 24 hours, were 4.0 in AI-21 and 3.0 in AI-22. All three summa canisters were shipped to the Pace Analytical in Minneapolis, Minnesota on July 28, 2021, where they were analyzed for VOCs. Tetrachloroethene (PCE) was detected in the sub slab sample (SS-21) at a level of 0.46 parts per billion by volume (ppbv) and trichloroethene (TCE) was detected in the same sample at 0.25 ppbv. Both levels are well below the Residential Sub Slab Standards of 210 ppbv for PCE and 70 ppbv for TCE. PCE was not detected in either indoor air sample. TCE was detected at 0.071 ppbv in AI-21 and at 0.18 ppbv in AI-22; both levels are below the Residential Indoor Air Standard of 0.39 ppbv. The location of SS-21 is shown on **Figure 1**. The laboratory analytical results are shown on **Table 1** and the analytical reports are shown in **Appendix A**.

Monitoring Well Installation/Groundwater Sampling

On August 26 and 27, 2021, REA, with the help of Probe Technologies, installed a monitoring well (MW-5) and a piezometer (PZ-3) on the north side of Locust Drive in the vicinity of former soil boring B-402. Ground penetrating radar was used to locate the wells because of the difficulty drilling in this area because of the setbacks from the railroad and several utilities in the area. The monitoring well, MW-5, was screened between 15 and 25 feet below grade and the piezometer, PZ-3, between 35 and 40 feet below grade. The bore holes were made with 4.25 inch hollow stem augers and then converted to 2 inch diameter monitoring wells. Soil samples were collected continuously until the groundwater was intersected for the monitoring well (MW-5) and recorded on the boring log (**Appendix B**). The piezometer (PZ-3) was blind drilled. The well/piezometer were constructed using Schedule 40 PVC riser and 0.010-inch slot PVC screen. The wells have flush mounted covers and well caps with padlocks. The monitoring well and piezometer were developed on September 16, 2021, by surging them and then removing 10 well volumes to establish a hydraulic connection with the surrounding formation. Approximately 15 gallons were removed from MW-5, and 25 gallons from PZ-3. The well casing elevations were surveyed to Mean Sea Level. Well construction and development were recorded on WDNR Forms 4400-113A&B and are shown in **Appendix B**. All soil cuttings and purge water were collected in 55-gallon drums and are staged on site behind the building at 3330 University Avenue until arrangements can be made for proper off-site disposal.

On September 16, 2021, groundwater samples were collected from the six monitoring wells and the four piezometer at the site. Depth to water readings were measured in the monitoring wells, as well as the piezometers, at the time of sampling. The wells and piezometers were first purged of three well volumes and then the samples were collected using new disposable bailers and then placed in containers provided by TestAmerica, Inc. and submitted to the laboratory for analysis of VOCs. Monitoring well/piezometer locations are shown on **Figures 2.1 and 2.2**. Depth to water readings and water table elevations are shown in **Table 2**.

Monitoring well MW-1R was dry and could not be sampled. Monitoring well MW-3 (360 µg/L), PZ-1 (250 µg/L), and PZ-4 (72 µ/L) all contained levels of PCE above the NR 140 Enforcement Standard (ES) of 5 µg/L. MW-2 (4.8 µg/L) and MW-9 (1.2 µg/L) contained PCE at levels above the NR 140 Preventive Action Level (PAL) of 0.5 µg/L. Piezometers PZ-1 (8.1 µg/L) and PZ-4 (90 µg/L) contained TCE at levels above the NR 140 ES of 5 µg/L and monitoring well MW-2 (1.8 µg/L) contained TCE above the NR 140 PAL of 0.5 µg/L. No other wells contained detects for either PCE or TCE. Sample results are shown in **Table 3**. The Groundwater Contour Map for this sampling round is shown on **Figure 2.1**, a Potentiometric Groundwater Map is shown in **Figure 2.2**, and the PCE Isoconcentration Contour Map is shown on **Figure 3**.

Wells MW-1, MW-2, MW-3, MW-9, PZ-1 and PZ-4 have a history of the occurrence of chlorinated compounds in samples. Plots of those compounds for these wells are presented on **Figures 4 through 9**, respectively. Each of those figures also show the linear trend for PCE (dotted lines), and all show a significant downward trend.

Conclusions and Recommendations

Based on the results of the vapor intrusion sampling done in 3320 University Avenue, the vapor mitigation system is effectively limiting vapor intrusion in the building. Additionally, groundwater sample results indicate that PCE and TCE contamination have not migrated north of Locust Drive

As **Figures 4 through 9** show, the concentrations of chlorinated compounds are declining at a significant rate. Although there have been slight rebounds recently, the trend is still clear, indicating that natural attenuation and degradation is occurring at the site. Wells MW-4 and PZ-2 have continuously yielded samples with no detected contaminants. Based on these results, Flad Development and Investment Corporation is requesting that the Shorewood Commons site be considered for closure.

If you have any questions concerning this letter report, or the project in general, feel free to contact Ryan Nehls at (920) 210-0922 or rnehls@reaeng.com, or Bill Buckingham at (608) 220-3804 or bill@reaeng.com.

Sincerely,



William W. Buckingham, P.E.
Senior Engineer

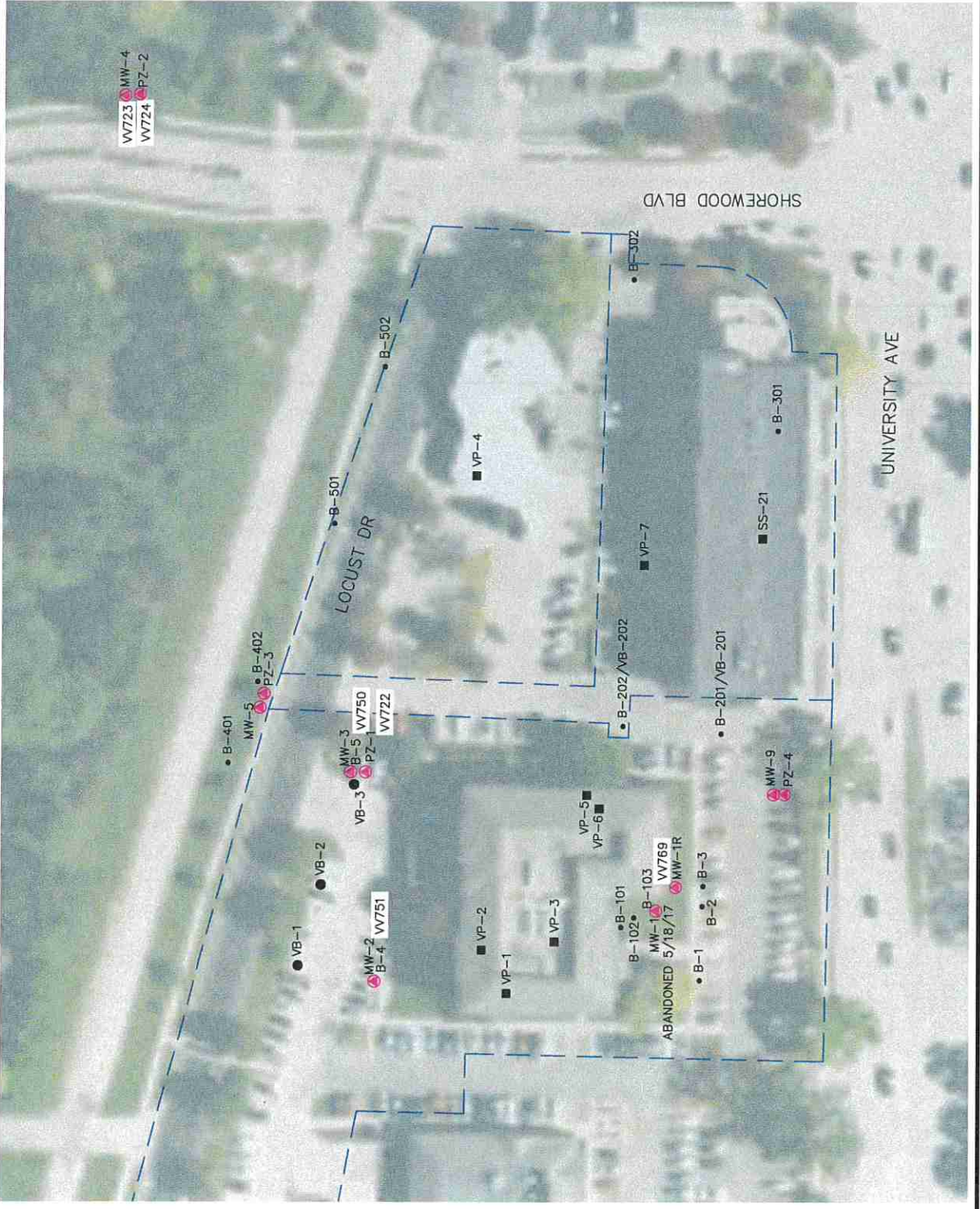


Robert J. Nauta, P.G.
Hydrogeologist

Atch: Figure 1: Monitoring Well and Vapor Intrusion Sampling Map
Figure 2.1: Groundwater Contour Map
Figure 2.2: Potentiometric Contour Map
Figure 3: Isoconcentration Contour (PCE) Map
Figure 4: Groundwater VOCs in MW-1
Figure 5: Groundwater VOCs in MW-2
Figure 6: Groundwater VOCs in MW-3
Figure 7: Groundwater VOCs in MW-9
Figure 8: Groundwater VOCs in PZ-1
Figure 9: Groundwater VOCs in PZ-4
Table 1: Vapor Sampling Results
Table 2: Depth to Groundwater Measurements/Water Table Elevations
Table 3: Groundwater Sample Results
Appendix A: Laboratory Reports
Appendix B: WDNR Forms 4400-113A&B/Boring Logs

LEGEND:

- MW-1 Monitoring well location constructed on
6/22/12
11/23/13
5/1/17
8/26/21
- VP-1 Existing subslab vapor point sampled:
6/26/13 (1 & 2)
12/4/13 (3)
1/22/13 (4)
1/27/15 (5 & 6)
5/8/16 (1, 3, 6, & 7)
- B-1 Geoprobe borings made by Soil Essentials on:
8/17/13 (1-5)
11/23/13 (101-103)
9/22/14 (301-302)
12/20/14 (401-402)
4/28/15 (201-202)
9/26/15 (501-502)
- VB-1 Vapor Points Installed
6/21/14 & 4/28/15
& Sampled 6/22/14 & 5/14/15
- SS-21 Existing subslab vapor point sampled:
7/27/21
- - - Property Boundary



REVISIONS:

NO.	DATE	DESCRIPTION

Resource Engineering Associates, Inc.
310 Farmiter Street, Suite 100
Middleton, Wisconsin 53629-2507
Phone: 608-831-5132
Fax: 608-831-0564
Web: www.reaeng.com



SHOREWOOD COMMONS
3330 UNIVERSITY AVENUE
SHOREWOOD, WI 53705

DATE: FEB. 2015
DRAWN: RAN
CHECKED: WWB
APPROVED: WWB
DRAWING NAME:
13581figures.dwg
PROJECT NUMBER:
130058.1

FIGURE 1

N:\REA13\PhaseII\Fig03330U\Ave\13581figures.dwg

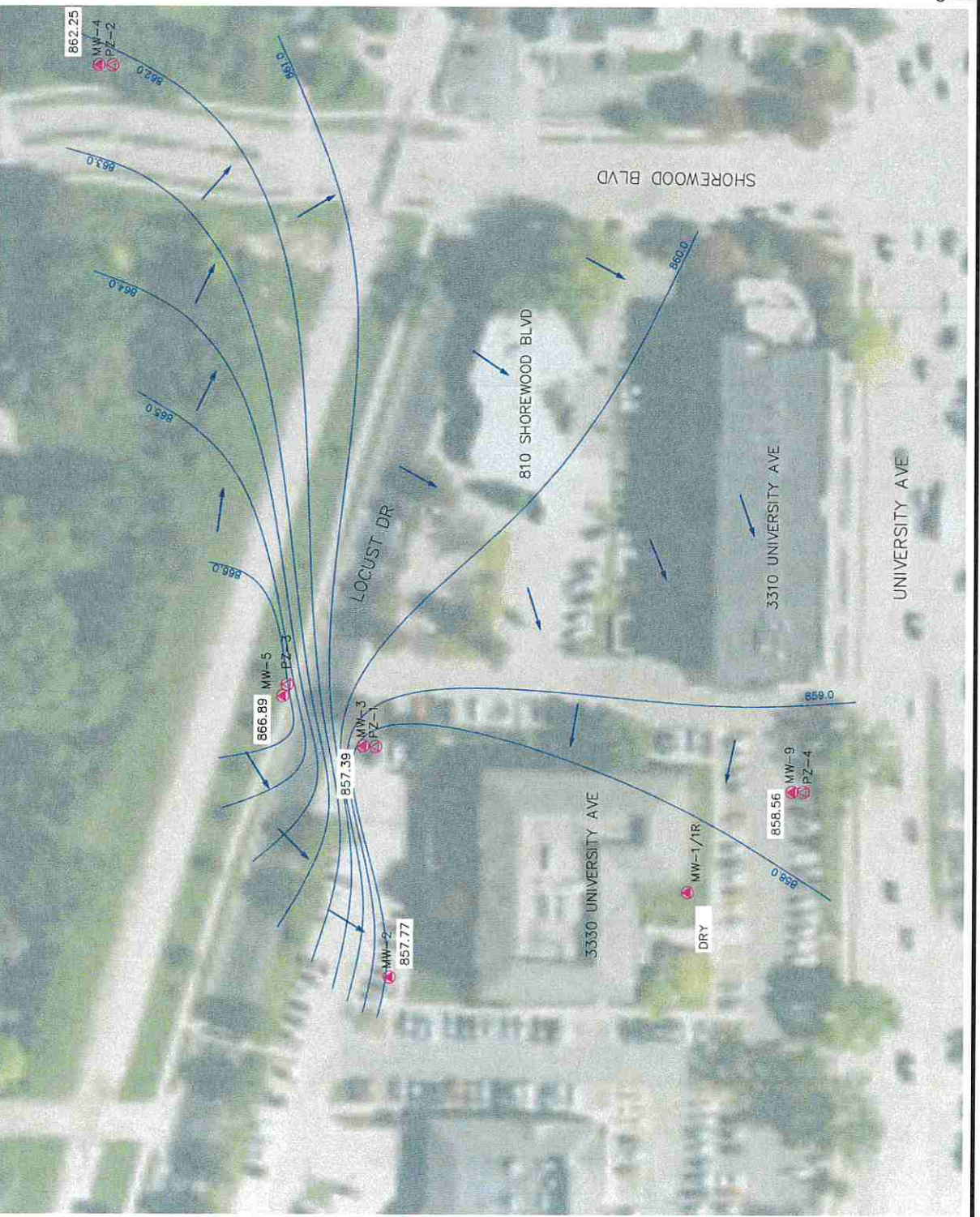
GROUNDWATER CONTOUR MAP (9/16/21)
 PHASE II INVESTIGATION
 SHOREWOOD COMMONS
 3330 UNIVERSITY AVENUE
 SHOREWOOD, WI 53705

RESEARCH RESOURCE ENGINEERING ASSOCIATES, INC.
 3510 Parkview Street, Suite 100
 Middleton, Wisconsin 53562-2507
 Phone: 608-831-5522
 Fax: 608-831-6564
 Web: www.reeng.com

DATE: DEC 2018
 DRAWN BY: WWP
 CHECKED BY: WWP
 APPROVED BY: WWP

PROJECT NO: 13588figres.dwg
 DRAWING NO: 13588figres.dwg
 SHEET NO: 13588S1

0 60 120



LEGEND

- MW-1 Existing Monitoring Well
- PZ-1 Existing Piezometer
- Property Boundary
- 865.0 Groundwater Contour (9/16/21)
- Groundwater Flow

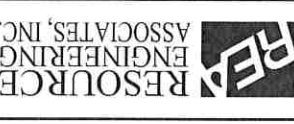
REVISIONS

NO.	DATE	DESCRIPTION

REVISIONS:

NO.	DATE	DESCRIPTION

Resource Engineering Associates, Inc.
 3510 Farmington Street, Suite 100
 Middleton, Wisconsin 53502-2507
 Phone: 608-831-5522
 Fax: 608-831-6504
 Web: www.reaeng.com



- LEGEND:**
- MW-1 Existing Monitoring Well
 - PZ-1 Existing Piezometer
 - Property Boundary
 - 865.0 Potentiometric Groundwater Contour (9/16/21)
 - Potentiometric Groundwater Flow Direction



REVISIONS:	DATE	DATE	DATE

Resource Engineering Associates, Inc.
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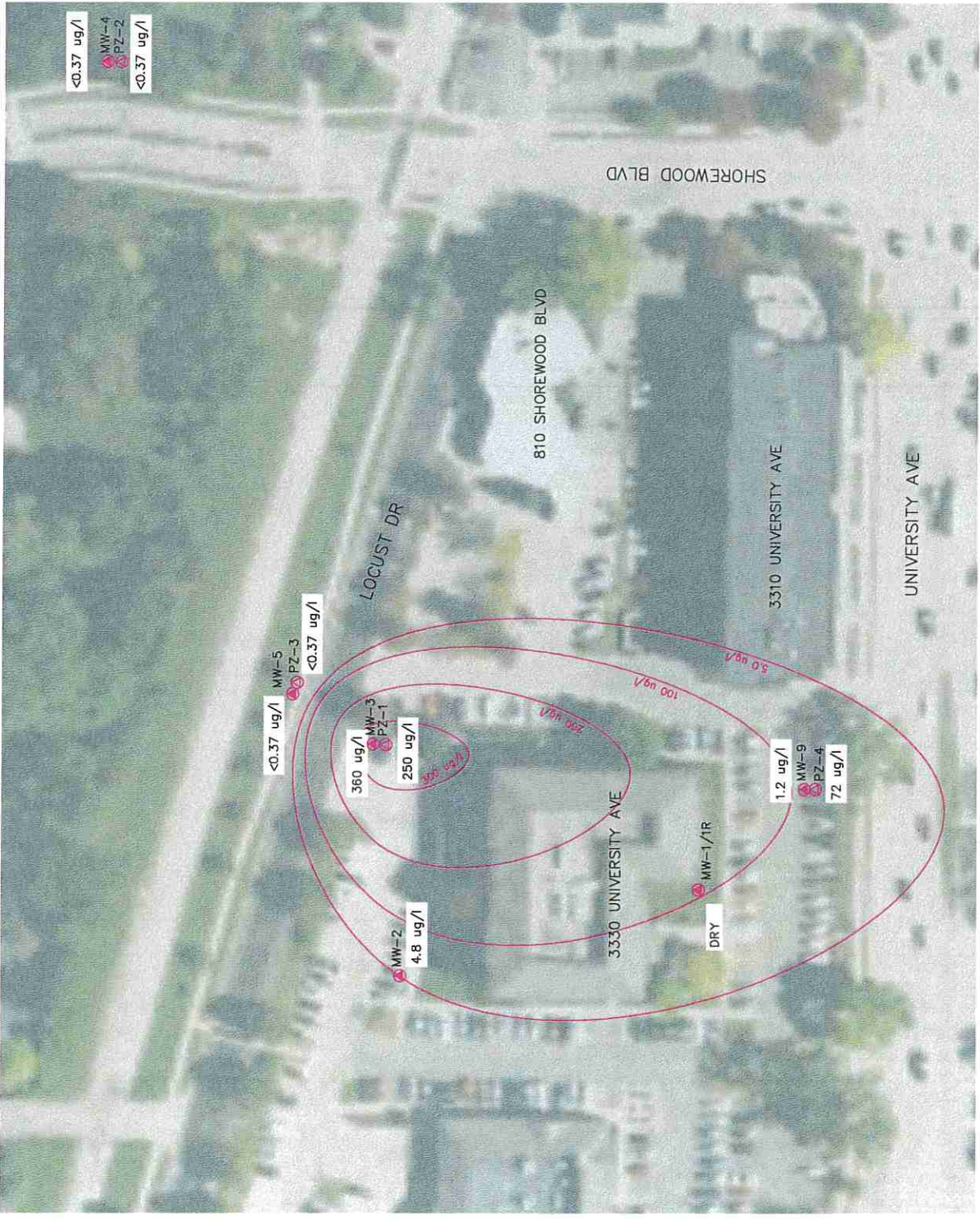
PHASE II INVESTIGATION
 SHOREWOOD COMMONS
 3330 UNIVERSITY AVENUE
 SHOREWOOD, WI 53705

DATE: DEC, 2018
 DRAWN: RAN
 CHECKED: WWB
 APPROVED: WWB
 DRAWING NO: 1508figres.dwg
 PROJECT NUMBER: 1508S.1

FIGURE 3

LEGEND:

- MW-1 Existing Monitoring Well
- PZ-1 Existing Piezometer
- ND No Detect
- Property Boundary
- 20 ug/l Isoconcentration Contour (PCE) on 9/16/21



N:\REA13\PhaseII\Fig3\330U Ave\1508figres.dwg

Figure 4: Groundwater VOCs in MW-1

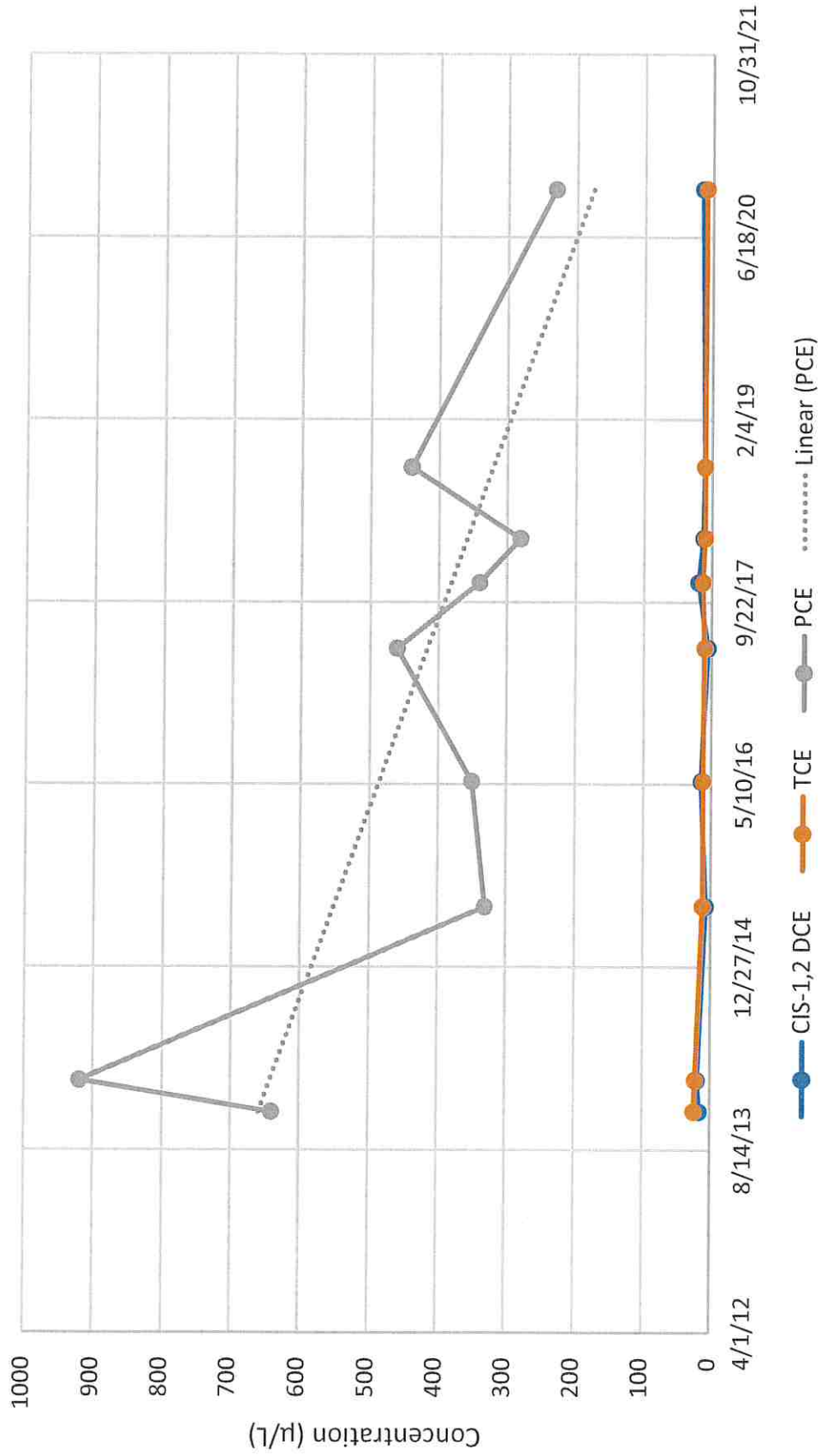


Figure 5: Groundwater VOCs in MW-2

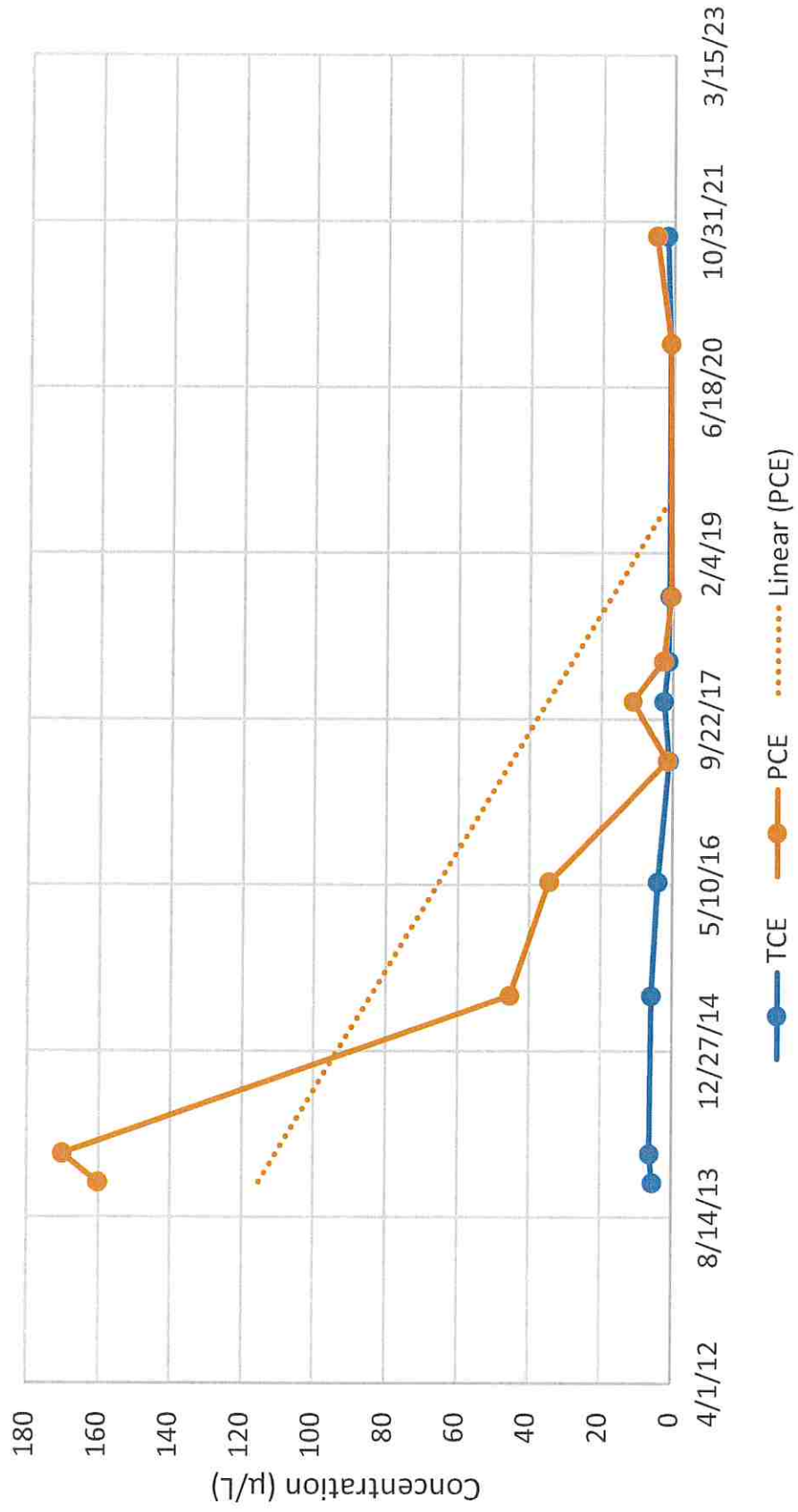


Figure 6: Groundwater VOCs in MW-3

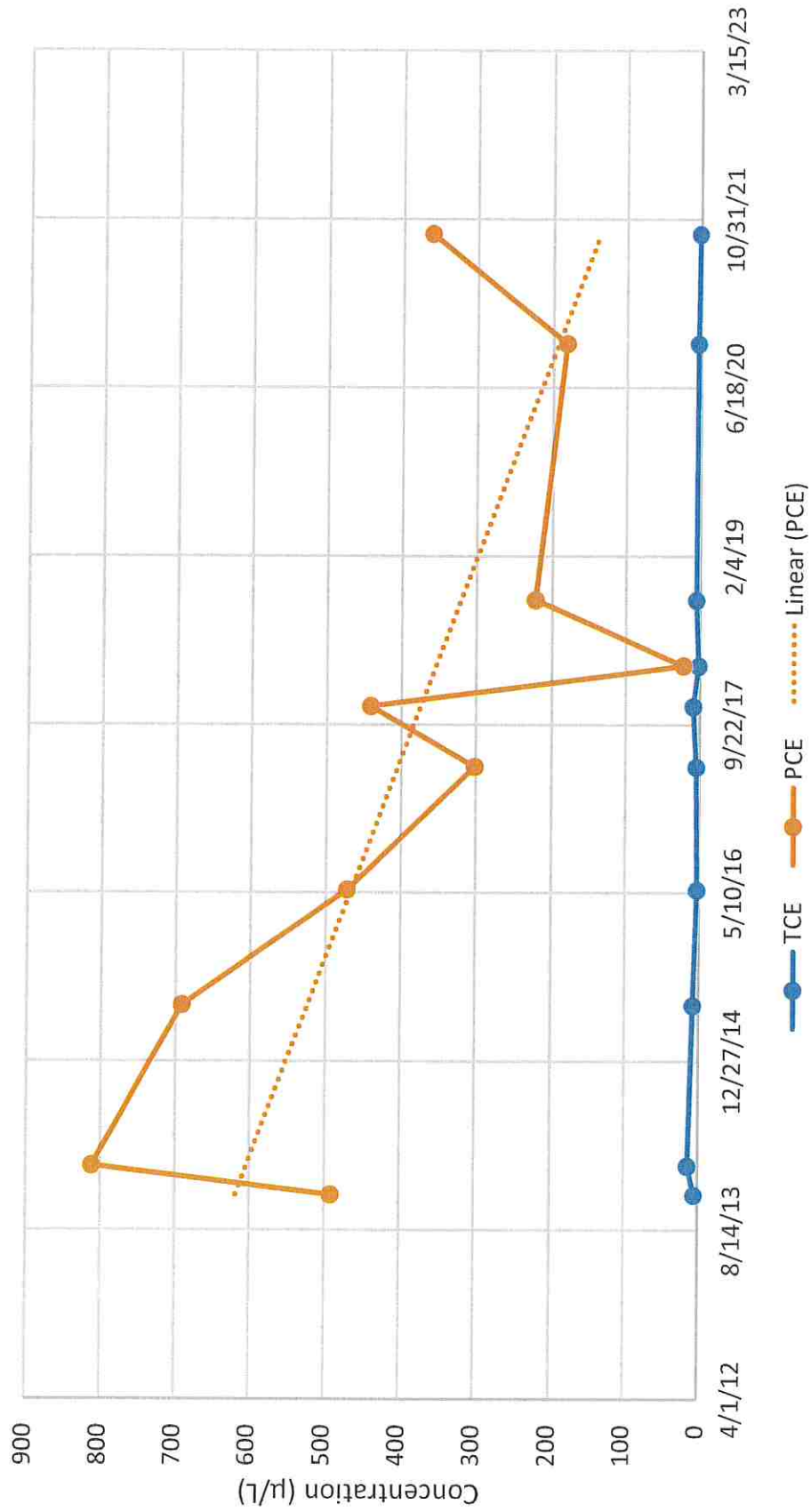


Figure 7: Groundwater VOCs in MW-9

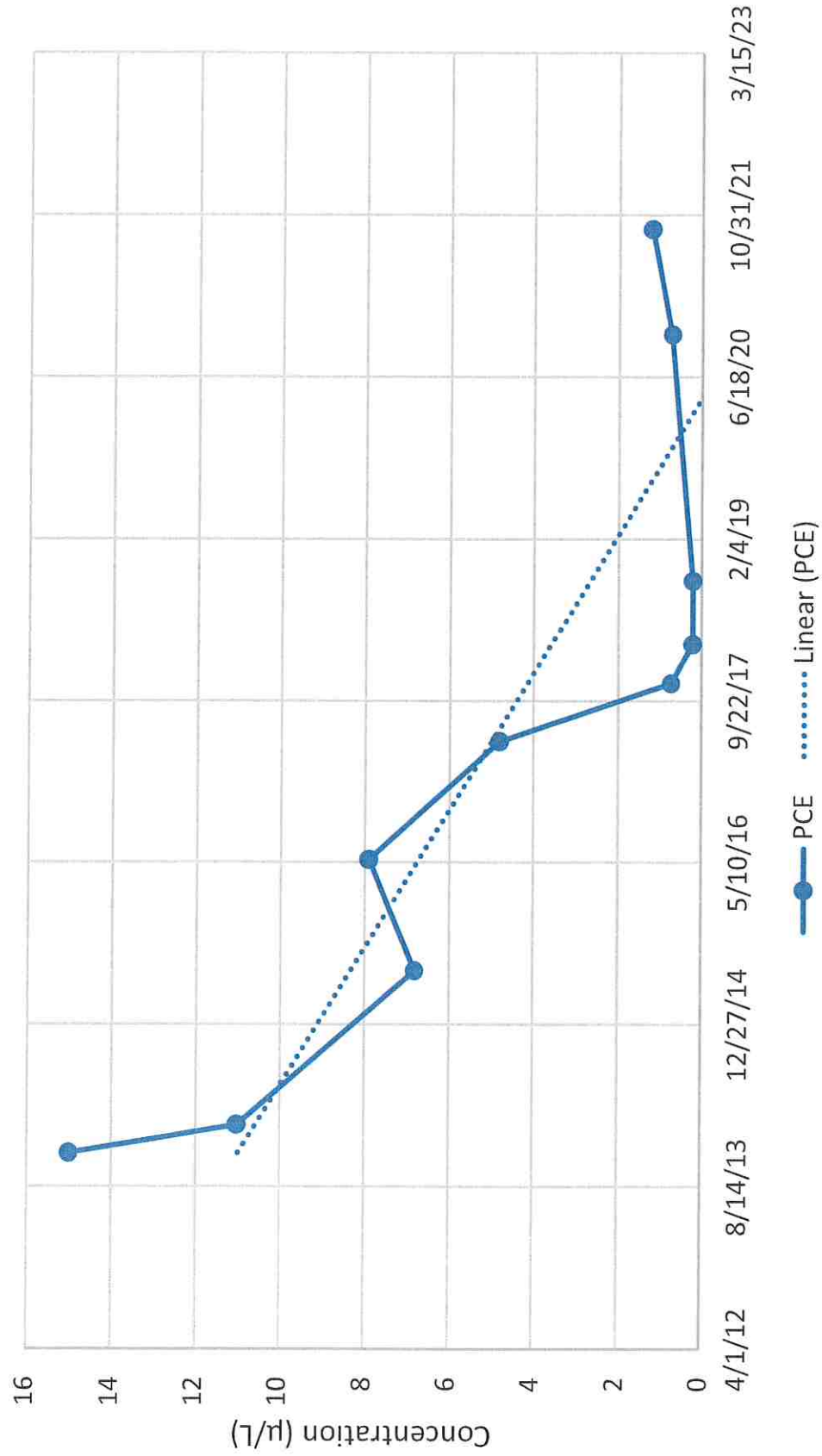


Figure 8: Groundwater VOCs in PZ-1

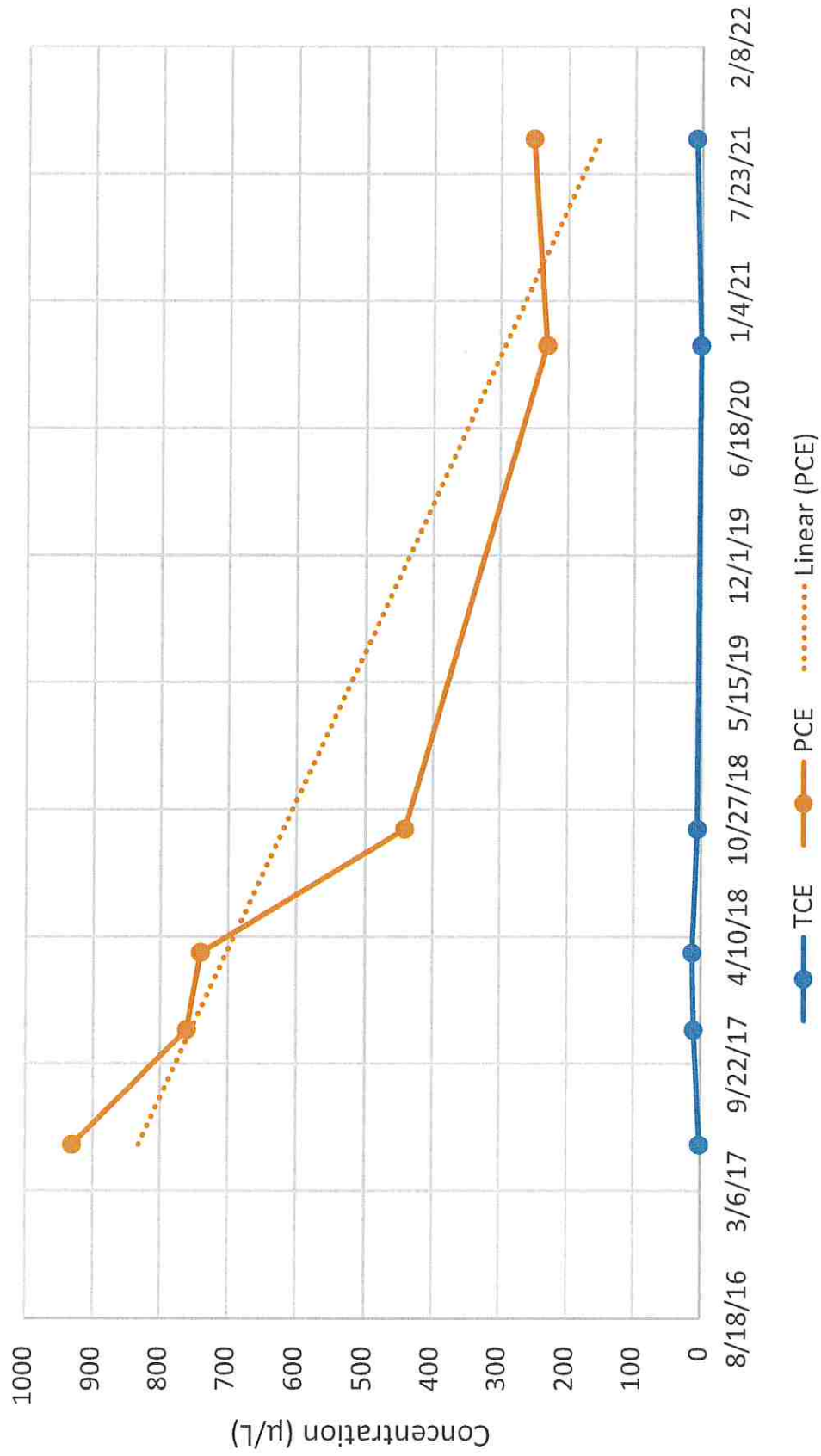


Figure 9: Groundwater VOCs in PZ-4



	Tetrachloro-ethene	Trichloro-ethene	Trans-1,2-Dichloroethyene	Cis-1,2-Dichloro-ethyene	Vinyl Chloride
VB-3 5/22/14	25	ND	ND	ND	ND
VB-201 5/14/15	67	ND	ND	ND	ND
VB-202 5/14/15	130	ND	ND	ND	ND
Residential					
Indoor Air Standard	42 ug/m3	2.1 ug/m3	NE	NE	1.7 ug/m3
Indoor Air Standard	6.2 ppbv	0.39 ppbv	NE	NE	0.65 ppbv
Sub-Slab Standard (AF=0.03)	210 ppbv	70 ppbv	NE	NE	22 ppbv
Small Commercial					
Indoor Air Standard	180 ug/m3	8.8 ug/m3	NE	NE	28 ug/m3
Indoor Air Standard	27 ppbv	1.6 ppbv	NE	NE	11 ppbv
Sub-Slab Standard (AF=0.03)	900 ppbv	53 ppbv	NE	NE	370 ppbv
OSHA TWA	100,000				

Notes:

ND = None Detected
 IS = The internal standard QC Limit is exceeded
 D = LOD not achievable due to dilution
 VP-1, VP-2, VP-3, VP-5, VP-6 are in 3330 University Avenue (Small Commercial Building)
 VP-4 is in Shorewood Hills Village Hall, 810 Shorewood Boulevard (Small Commercial Building)
 VP-7 and SS-21 are in 3310/3320 University Avenue (Residential Building)
Underline indicates compound concentration exceeds the Residential Standard
Underline indicates compound concentration exceeds the Small Commercial Standard

NE = None Established

F= Result is between LOD and LOQ

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

Table 2
Depth to Groundwater Measurements & Water Table Elevations
3330 University Avenue

Monitoring Well	Screened Interval	PVC Elevation	11/26/13	2/20/14	6/10/15	5/18/16	5/18/17
MW-1/R	17-27 /14-24 feet bg	882.61/882.47	25.09	25.49	20.71	22.57	19.82
			857.52	857.12	861.90	860.04	862.79
MW-2	17.5-27.5 feet bg	880.34	23.79	23.98	19.58	21.46	17.77
			856.55	856.36	860.76	858.88	862.57
MW-3	17-27 feet bg	881.05	24.95	25.16	20.49	22.27	18.86
			856.10	855.89	860.56	858.78	862.19
MW-9	20-30 feet bg	880.41	22.91	23.26	18.37	20.46	17.86
			857.50	857.15	862.04	859.95	862.55
MW-4	8-18 feet bg	879.50	NA	NA	NA	NA	16.95
			NA	NA	NA	NA	862.55
PZ-1	38-43 feet bg	881.23	NA	NA	NA	NA	18.94
			NA	NA	NA	NA	862.29
PZ-2	28-33 feet bg	879.25	NA	NA	NA	NA	16.98
			NA	NA	NA	NA	862.27
PZ-4	45-50 feet bg	880.06	22.74	NA	18.01	20.03	17.37
			857.32	NA	862.05	860.03	862.69

Table 2 (Continued)
 Depth to Groundwater Measurements & Water Table Elevations
 3330 University Avenue

Monitoring Well	Screened Interval	PVC Elevation		11/6/17	11/14/17	3/15/18	9/26/18	10/26/20
MW-1/R	17-27/14-24 feet bg	882.61/882.47	Depth to Water (feet)	14.95	15.01	16.57	15.39	19.02
			Water Table Elevation	867.52	867.46	865.90	867.08	863.59
MW-2	17.5-27.5 feet bg	880.34	Depth to Water (feet)	13.78	13.42	14.60	14.29	17.61
			Water Table Elevation	866.56	866.92	865.74	866.05	862.73
MW-3	17-27 feet bg	881.05	Depth to Water (feet)	14.91	14.58	15.84	15.30	18.71
			Water Table Elevation	866.14	866.47	865.21	865.75	862.34
MW-9	20-30 feet bg	880.41	Depth to Water (feet)	13.38	13.08	14.69	13.45	17.05
			Water Table Elevation	867.03	867.33	865.72	866.96	863.36
MW-4	8-18 feet bg	879.50	Depth to Water (feet)	14.50	14.55	14.43	8.03	16.40
			Water Table Elevation	865.00	864.95	865.07	871.47	863.10
PZ-1	38-43 feet bg	881.23	Depth to Water (feet)	15.02	14.72	15.91	15.72	19.03
			Water Table Elevation	866.21	866.51	865.32	865.51	862.20
PZ-2	28-33 feet bg	879.25	Depth to Water (feet)	14.80	14.57	14.74	10.63	16.86
			Water Table Elevation	864.45	864.68	864.51	868.62	862.39
PZ-4	45-50 feet bg	880.06	Depth to Water (feet)	12.79	12.68	14.27	13.02	16.65
			Water Table Elevation	867.27	867.38	865.79	867.04	863.41

Table 2 (Continued)
 Depth to Groundwater Measurements & Water Table Elevations
 3330 University Avenue

Monitoring Well	Screened Interval	PVC Elevation	9/16/21
MW-1R	14-24 feet bg	882.47	dry
			n/a
MW-2	17.5-27.5 feet bg	880.34	22.57
			857.77
MW-3	17-27 feet bg	881.05	23.66
			857.39
MW-9	20-30 feet bg	880.41	21.85
			858.56
MW-4	8-18 feet bg	879.50	17.25
			862.25
MW-5	15-25 feet bg	881.62	14.73
			866.89
PZ-1	38-43 feet bg	881.23	23.90
			857.33
PZ-2	28-33 feet bg	879.25	21.45
			857.80
PZ-3	35-40 feet bg	881.59	23.61
			857.98
PZ-4	45-50 feet bg	880.06	21.47
			858.59

Abbreviations:

ug/l = micrograms per liter NA = Not Analyzed and/or Not Yet Installed
MTBE = methyl-tertiary-butyl-ether J = Result is Less than RL but greater than or equal to the MDL
ES = Enforcement Standard PAL = Preventive Action Level

Notes:

- 1) **Bold** indicates parameter exceeded the NR 140 ES
- 2) Underline indicates parameter exceeded the NR 140 PAL
- 3) Only compounds of interest or above the detection level in at least 1 sample are shown in the table.



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Middleton, WI 53562

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**Appendix A:
Laboratory Reports**

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-205369-1
Client Project/Site: 3330 University Ave

For:
Resource Engineering
3510 Parmenter Street
Middleton, Wisconsin 53562

Attn: Mr. Ryan Nehls



Authorized for release by:
9/29/2021 4:52:27 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	5
Sample Summary	6
Client Sample Results	7
Definitions	29
QC Association	30
Surrogate Summary	31
QC Sample Results	32
Chronicle	38
Certification Summary	40
Chain of Custody	41
Receipt Checklists	42

Case Narrative

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Job ID: 500-205369-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative 500-205369-1

Comments

No additional comments.

Receipt

The samples were received on 9/17/2021 11:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.3° C.

GC/MS VOA

Method 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-3 (500-205369-2) and PZ-1 (500-205369-6). Elevated reporting limits (RLs) are provided.

Methods 624, 8260B: Methylene chloride was detected in the following samples: Field Blank (500-205369-10). The method blank associated with these samples was below the reporting limit for Methylene chloride. Methylene chloride is a known lab contaminant; therefore all low level detects for this compound could be suspected as lab contamination.

Method 8260B: The laboratory control sample (LCS) for 620340 recovered outside control limits for 1,1,2,2-Tetrachloroethane. This analyte was biased low in the LCS and was not detected in the associated samples. The data have been reported. MW-2 (500-205369-1), MW-3 (500-205369-2), MW-4 (500-205369-3), MW-5 (500-205369-4), MW-9 (500-205369-5), PZ-1 (500-205369-6), PZ-2 (500-205369-7), PZ-3 (500-205369-8), PZ-4 (500-205369-9), Field Blank (500-205369-10) and Trip Blank (500-205369-11)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Detection Summary

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: MW-2

Lab Sample ID: 500-205369-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	4.8		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	1.8		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: MW-3

Lab Sample ID: 500-205369-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene - DL	360		10	3.7	ug/L	10		8260B	Total/NA

Client Sample ID: MW-4

Lab Sample ID: 500-205369-3

No Detections.

Client Sample ID: MW-5

Lab Sample ID: 500-205369-4

No Detections.

Client Sample ID: MW-9

Lab Sample ID: 500-205369-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1.2		1.0	0.37	ug/L	1		8260B	Total/NA

Client Sample ID: PZ-1

Lab Sample ID: 500-205369-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.9		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	8.1		0.50	0.16	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	250		10	3.7	ug/L	10		8260B	Total/NA

Client Sample ID: PZ-2

Lab Sample ID: 500-205369-7

No Detections.

Client Sample ID: PZ-3

Lab Sample ID: 500-205369-8

No Detections.

Client Sample ID: PZ-4

Lab Sample ID: 500-205369-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.3		1.0	0.41	ug/L	1		8260B	Total/NA
Isopropyl ether	0.85	J	1.0	0.28	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.4		1.0	0.39	ug/L	1		8260B	Total/NA
Tetrachloroethene	72		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	90		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 500-205369-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	3.3	J	5.0	1.6	ug/L	1		8260B	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 500-205369-11

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Chicago

Method Summary

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Sample Summary

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-205369-1	MW-2	Water	09/16/21 11:45	09/17/21 11:10
500-205369-2	MW-3	Water	09/16/21 13:20	09/17/21 11:10
500-205369-3	MW-4	Water	09/16/21 13:30	09/17/21 11:10
500-205369-4	MW-5	Water	09/16/21 12:20	09/17/21 11:10
500-205369-5	MW-9	Water	09/16/21 12:50	09/17/21 11:10
500-205369-6	PZ-1	Water	09/16/21 11:35	09/17/21 11:10
500-205369-7	PZ-2	Water	09/16/21 10:35	09/17/21 11:10
500-205369-8	PZ-3	Water	09/16/21 13:00	09/17/21 11:10
500-205369-9	PZ-4	Water	09/16/21 13:15	09/17/21 11:10
500-205369-10	Field Blank	Water	09/16/21 11:05	09/17/21 11:10
500-205369-11	Trip Blank	Water	09/16/21 00:00	09/17/21 11:10



Client Sample Results

Client: Resource Engineering
 Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: MW-2

Lab Sample ID: 500-205369-1

Date Collected: 09/16/21 11:45

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/27/21 11:41	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/27/21 11:41	1
1,1,2,2-Tetrachloroethane	<0.40	*	1.0	0.40	ug/L			09/27/21 11:41	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/27/21 11:41	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/27/21 11:41	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/27/21 11:41	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/27/21 11:41	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/27/21 11:41	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/27/21 11:41	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/27/21 11:41	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/27/21 11:41	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/27/21 11:41	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/27/21 11:41	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/27/21 11:41	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/27/21 11:41	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/27/21 11:41	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/27/21 11:41	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/27/21 11:41	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/27/21 11:41	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/27/21 11:41	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/27/21 11:41	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/27/21 11:41	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/27/21 11:41	1
Benzene	<0.15		0.50	0.15	ug/L			09/27/21 11:41	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/27/21 11:41	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/27/21 11:41	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/27/21 11:41	1
Bromoform	<0.48		1.0	0.48	ug/L			09/27/21 11:41	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/27/21 11:41	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/27/21 11:41	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/27/21 11:41	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/27/21 11:41	1
Chloroform	<0.37		2.0	0.37	ug/L			09/27/21 11:41	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/27/21 11:41	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/27/21 11:41	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/27/21 11:41	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/27/21 11:41	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/27/21 11:41	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/27/21 11:41	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/27/21 11:41	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/27/21 11:41	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/27/21 11:41	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 11:41	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/27/21 11:41	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/27/21 11:41	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/27/21 11:41	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 11:41	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/27/21 11:41	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/27/21 11:41	1

Client Sample Results

Client: Resource Engineering
 Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: MW-2

Lab Sample ID: 500-205369-1

Date Collected: 09/16/21 11:45

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 11:41	1
Styrene	<0.39		1.0	0.39	ug/L			09/27/21 11:41	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 11:41	1
Tetrachloroethene	4.8		1.0	0.37	ug/L			09/27/21 11:41	1
Toluene	<0.15		0.50	0.15	ug/L			09/27/21 11:41	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/27/21 11:41	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/27/21 11:41	1
Trichloroethene	1.8		0.50	0.16	ug/L			09/27/21 11:41	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/27/21 11:41	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/27/21 11:41	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/27/21 11:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 126					09/27/21 11:41	1
4-Bromofluorobenzene (Surr)	77		72 - 124					09/27/21 11:41	1
Dibromofluoromethane (Surr)	100		75 - 120					09/27/21 11:41	1
Toluene-d8 (Surr)	91		75 - 120					09/27/21 11:41	1



Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: MW-3

Lab Sample ID: 500-205369-2

Date Collected: 09/16/21 13:20

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/28/21 14:13	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/28/21 14:13	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			09/28/21 14:13	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/28/21 14:13	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/28/21 14:13	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/28/21 14:13	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/28/21 14:13	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/28/21 14:13	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/28/21 14:13	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/28/21 14:13	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/28/21 14:13	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/28/21 14:13	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/28/21 14:13	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/28/21 14:13	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/28/21 14:13	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/28/21 14:13	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/28/21 14:13	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/28/21 14:13	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/28/21 14:13	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/28/21 14:13	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/28/21 14:13	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/28/21 14:13	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/28/21 14:13	1
Benzene	<0.15		0.50	0.15	ug/L			09/28/21 14:13	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/28/21 14:13	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/28/21 14:13	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/28/21 14:13	1
Bromoform	<0.48		1.0	0.48	ug/L			09/28/21 14:13	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/28/21 14:13	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/28/21 14:13	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/28/21 14:13	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/28/21 14:13	1
Chloroform	<0.37		2.0	0.37	ug/L			09/28/21 14:13	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/28/21 14:13	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/28/21 14:13	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/28/21 14:13	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/28/21 14:13	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/28/21 14:13	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/28/21 14:13	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/28/21 14:13	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/28/21 14:13	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/28/21 14:13	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/28/21 14:13	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/28/21 14:13	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/28/21 14:13	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/28/21 14:13	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/28/21 14:13	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/28/21 14:13	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/28/21 14:13	1

Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: MW-3
Date Collected: 09/16/21 13:20
Date Received: 09/17/21 11:10

Lab Sample ID: 500-205369-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/28/21 14:13	1
Styrene	<0.39		1.0	0.39	ug/L			09/28/21 14:13	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/28/21 14:13	1
Toluene	<0.15		0.50	0.15	ug/L			09/28/21 14:13	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/28/21 14:13	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/28/21 14:13	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/28/21 14:13	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/28/21 14:13	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/28/21 14:13	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/28/21 14:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 126		09/28/21 14:13	1
4-Bromofluorobenzene (Surr)	94		72 - 124		09/28/21 14:13	1
Dibromofluoromethane (Surr)	95		75 - 120		09/28/21 14:13	1
Toluene-d8 (Surr)	101		75 - 120		09/28/21 14:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	360		10	3.7	ug/L			09/27/21 12:49	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 126		09/27/21 12:49	10
4-Bromofluorobenzene (Surr)	77		72 - 124		09/27/21 12:49	10
Dibromofluoromethane (Surr)	98		75 - 120		09/27/21 12:49	10
Toluene-d8 (Surr)	92		75 - 120		09/27/21 12:49	10

Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: MW-4

Lab Sample ID: 500-205369-3

Date Collected: 09/16/21 13:30

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/27/21 13:17	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/27/21 13:17	1
1,1,2,2-Tetrachloroethane	<0.40	*-	1.0	0.40	ug/L			09/27/21 13:17	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/27/21 13:17	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/27/21 13:17	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/27/21 13:17	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/27/21 13:17	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/27/21 13:17	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/27/21 13:17	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/27/21 13:17	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/27/21 13:17	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/27/21 13:17	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/27/21 13:17	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/27/21 13:17	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/27/21 13:17	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/27/21 13:17	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/27/21 13:17	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/27/21 13:17	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/27/21 13:17	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/27/21 13:17	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/27/21 13:17	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/27/21 13:17	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/27/21 13:17	1
Benzene	<0.15		0.50	0.15	ug/L			09/27/21 13:17	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/27/21 13:17	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/27/21 13:17	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/27/21 13:17	1
Bromoform	<0.48		1.0	0.48	ug/L			09/27/21 13:17	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/27/21 13:17	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/27/21 13:17	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/27/21 13:17	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/27/21 13:17	1
Chloroform	<0.37		2.0	0.37	ug/L			09/27/21 13:17	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/27/21 13:17	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/27/21 13:17	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/27/21 13:17	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/27/21 13:17	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/27/21 13:17	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/27/21 13:17	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/27/21 13:17	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/27/21 13:17	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/27/21 13:17	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 13:17	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/27/21 13:17	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/27/21 13:17	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/27/21 13:17	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 13:17	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/27/21 13:17	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/27/21 13:17	1

Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: MW-4

Lab Sample ID: 500-205369-3

Date Collected: 09/16/21 13:30

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 13:17	1
Styrene	<0.39		1.0	0.39	ug/L			09/27/21 13:17	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 13:17	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/27/21 13:17	1
Toluene	<0.15		0.50	0.15	ug/L			09/27/21 13:17	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/27/21 13:17	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/27/21 13:17	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/27/21 13:17	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/27/21 13:17	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/27/21 13:17	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/27/21 13:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		75 - 126					09/27/21 13:17	1
4-Bromofluorobenzene (Surr)	77		72 - 124					09/27/21 13:17	1
Dibromofluoromethane (Surr)	100		75 - 120					09/27/21 13:17	1
Toluene-d8 (Surr)	91		75 - 120					09/27/21 13:17	1

Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: MW-5

Lab Sample ID: 500-205369-4

Date Collected: 09/16/21 12:20

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/27/21 13:44	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/27/21 13:44	1
1,1,2,2-Tetrachloroethane	<0.40	*	1.0	0.40	ug/L			09/27/21 13:44	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/27/21 13:44	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/27/21 13:44	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/27/21 13:44	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/27/21 13:44	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/27/21 13:44	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/27/21 13:44	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/27/21 13:44	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/27/21 13:44	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/27/21 13:44	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/27/21 13:44	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/27/21 13:44	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/27/21 13:44	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/27/21 13:44	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/27/21 13:44	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/27/21 13:44	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/27/21 13:44	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/27/21 13:44	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/27/21 13:44	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/27/21 13:44	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/27/21 13:44	1
Benzene	<0.15		0.50	0.15	ug/L			09/27/21 13:44	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/27/21 13:44	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/27/21 13:44	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/27/21 13:44	1
Bromoform	<0.48		1.0	0.48	ug/L			09/27/21 13:44	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/27/21 13:44	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/27/21 13:44	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/27/21 13:44	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/27/21 13:44	1
Chloroform	<0.37		2.0	0.37	ug/L			09/27/21 13:44	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/27/21 13:44	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/27/21 13:44	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/27/21 13:44	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/27/21 13:44	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/27/21 13:44	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/27/21 13:44	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/27/21 13:44	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/27/21 13:44	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/27/21 13:44	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 13:44	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/27/21 13:44	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/27/21 13:44	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/27/21 13:44	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 13:44	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/27/21 13:44	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/27/21 13:44	1

Client Sample Results

Client: Resource Engineering
 Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: MW-5

Lab Sample ID: 500-205369-4

Date Collected: 09/16/21 12:20

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 13:44	1
Styrene	<0.39		1.0	0.39	ug/L			09/27/21 13:44	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 13:44	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/27/21 13:44	1
Toluene	<0.15		0.50	0.15	ug/L			09/27/21 13:44	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/27/21 13:44	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/27/21 13:44	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/27/21 13:44	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/27/21 13:44	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/27/21 13:44	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/27/21 13:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 126					09/27/21 13:44	1
4-Bromofluorobenzene (Surr)	77		72 - 124					09/27/21 13:44	1
Dibromofluoromethane (Surr)	98		75 - 120					09/27/21 13:44	1
Toluene-d8 (Surr)	91		75 - 120					09/27/21 13:44	1



Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: MW-9

Lab Sample ID: 500-205369-5

Date Collected: 09/16/21 12:50

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/27/21 14:12	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/27/21 14:12	1
1,1,2,2-Tetrachloroethane	<0.40	*	1.0	0.40	ug/L			09/27/21 14:12	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/27/21 14:12	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/27/21 14:12	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/27/21 14:12	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/27/21 14:12	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/27/21 14:12	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/27/21 14:12	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/27/21 14:12	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/27/21 14:12	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/27/21 14:12	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/27/21 14:12	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/27/21 14:12	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/27/21 14:12	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/27/21 14:12	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/27/21 14:12	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/27/21 14:12	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/27/21 14:12	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/27/21 14:12	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/27/21 14:12	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/27/21 14:12	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/27/21 14:12	1
Benzene	<0.15		0.50	0.15	ug/L			09/27/21 14:12	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/27/21 14:12	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/27/21 14:12	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/27/21 14:12	1
Bromoform	<0.48		1.0	0.48	ug/L			09/27/21 14:12	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/27/21 14:12	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/27/21 14:12	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/27/21 14:12	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/27/21 14:12	1
Chloroform	<0.37		2.0	0.37	ug/L			09/27/21 14:12	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/27/21 14:12	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/27/21 14:12	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/27/21 14:12	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/27/21 14:12	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/27/21 14:12	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/27/21 14:12	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/27/21 14:12	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/27/21 14:12	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/27/21 14:12	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 14:12	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/27/21 14:12	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/27/21 14:12	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/27/21 14:12	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 14:12	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/27/21 14:12	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/27/21 14:12	1

Client Sample Results

Client: Resource Engineering
 Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: MW-9

Lab Sample ID: 500-205369-5

Date Collected: 09/16/21 12:50

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 14:12	1
Styrene	<0.39		1.0	0.39	ug/L			09/27/21 14:12	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 14:12	1
Tetrachloroethene	1.2		1.0	0.37	ug/L			09/27/21 14:12	1
Toluene	<0.15		0.50	0.15	ug/L			09/27/21 14:12	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/27/21 14:12	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/27/21 14:12	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/27/21 14:12	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/27/21 14:12	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/27/21 14:12	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/27/21 14:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 126					09/27/21 14:12	1
4-Bromofluorobenzene (Surr)	76		72 - 124					09/27/21 14:12	1
Dibromofluoromethane (Surr)	98		75 - 120					09/27/21 14:12	1
Toluene-d8 (Surr)	91		75 - 120					09/27/21 14:12	1

Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: PZ-1

Lab Sample ID: 500-205369-6

Date Collected: 09/16/21 11:35

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/27/21 14:40	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/27/21 14:40	1
1,1,2,2-Tetrachloroethane	<0.40	*-	1.0	0.40	ug/L			09/27/21 14:40	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/27/21 14:40	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/27/21 14:40	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/27/21 14:40	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/27/21 14:40	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/27/21 14:40	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/27/21 14:40	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/27/21 14:40	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/27/21 14:40	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/27/21 14:40	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/27/21 14:40	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/27/21 14:40	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/27/21 14:40	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/27/21 14:40	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/27/21 14:40	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/27/21 14:40	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/27/21 14:40	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/27/21 14:40	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/27/21 14:40	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/27/21 14:40	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/27/21 14:40	1
Benzene	<0.15		0.50	0.15	ug/L			09/27/21 14:40	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/27/21 14:40	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/27/21 14:40	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/27/21 14:40	1
Bromoform	<0.48		1.0	0.48	ug/L			09/27/21 14:40	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/27/21 14:40	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/27/21 14:40	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/27/21 14:40	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/27/21 14:40	1
Chloroform	<0.37		2.0	0.37	ug/L			09/27/21 14:40	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/27/21 14:40	1
cis-1,2-Dichloroethene	1.9		1.0	0.41	ug/L			09/27/21 14:40	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/27/21 14:40	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/27/21 14:40	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/27/21 14:40	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/27/21 14:40	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/27/21 14:40	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/27/21 14:40	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/27/21 14:40	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 14:40	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/27/21 14:40	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/27/21 14:40	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/27/21 14:40	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 14:40	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/27/21 14:40	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/27/21 14:40	1

Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: PZ-1

Lab Sample ID: 500-205369-6

Date Collected: 09/16/21 11:35

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 14:40	1
Styrene	<0.39		1.0	0.39	ug/L			09/27/21 14:40	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 14:40	1
Toluene	<0.15		0.50	0.15	ug/L			09/27/21 14:40	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/27/21 14:40	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/27/21 14:40	1
Trichloroethene	8.1		0.50	0.16	ug/L			09/27/21 14:40	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/27/21 14:40	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/27/21 14:40	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/27/21 14:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 126					09/27/21 14:40	1
4-Bromofluorobenzene (Surr)	76		72 - 124					09/27/21 14:40	1
Dibromofluoromethane (Surr)	98		75 - 120					09/27/21 14:40	1
Toluene-d8 (Surr)	93		75 - 120					09/27/21 14:40	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	250		10	3.7	ug/L			09/27/21 15:07	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 126					09/27/21 15:07	10
4-Bromofluorobenzene (Surr)	76		72 - 124					09/27/21 15:07	10
Dibromofluoromethane (Surr)	99		75 - 120					09/27/21 15:07	10
Toluene-d8 (Surr)	90		75 - 120					09/27/21 15:07	10

Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: PZ-2

Lab Sample ID: 500-205369-7

Date Collected: 09/16/21 10:35

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/27/21 15:35	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/27/21 15:35	1
1,1,2,2-Tetrachloroethane	<0.40	*	1.0	0.40	ug/L			09/27/21 15:35	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/27/21 15:35	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/27/21 15:35	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/27/21 15:35	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/27/21 15:35	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/27/21 15:35	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/27/21 15:35	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/27/21 15:35	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/27/21 15:35	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/27/21 15:35	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/27/21 15:35	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/27/21 15:35	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/27/21 15:35	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/27/21 15:35	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/27/21 15:35	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/27/21 15:35	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/27/21 15:35	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/27/21 15:35	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/27/21 15:35	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/27/21 15:35	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/27/21 15:35	1
Benzene	<0.15		0.50	0.15	ug/L			09/27/21 15:35	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/27/21 15:35	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/27/21 15:35	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/27/21 15:35	1
Bromoform	<0.48		1.0	0.48	ug/L			09/27/21 15:35	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/27/21 15:35	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/27/21 15:35	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/27/21 15:35	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/27/21 15:35	1
Chloroform	<0.37		2.0	0.37	ug/L			09/27/21 15:35	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/27/21 15:35	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/27/21 15:35	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/27/21 15:35	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/27/21 15:35	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/27/21 15:35	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/27/21 15:35	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/27/21 15:35	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/27/21 15:35	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/27/21 15:35	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 15:35	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/27/21 15:35	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/27/21 15:35	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/27/21 15:35	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 15:35	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/27/21 15:35	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/27/21 15:35	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: Resource Engineering
 Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: PZ-2

Lab Sample ID: 500-205369-7

Date Collected: 09/16/21 10:35

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 15:35	1
Styrene	<0.39		1.0	0.39	ug/L			09/27/21 15:35	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 15:35	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/27/21 15:35	1
Toluene	<0.15		0.50	0.15	ug/L			09/27/21 15:35	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/27/21 15:35	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/27/21 15:35	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/27/21 15:35	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/27/21 15:35	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/27/21 15:35	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/27/21 15:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 126					09/27/21 15:35	1
4-Bromofluorobenzene (Surr)	76		72 - 124					09/27/21 15:35	1
Dibromofluoromethane (Surr)	98		75 - 120					09/27/21 15:35	1
Toluene-d8 (Surr)	92		75 - 120					09/27/21 15:35	1

Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: PZ-3

Lab Sample ID: 500-205369-8

Date Collected: 09/16/21 13:00

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/27/21 16:02	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/27/21 16:02	1
1,1,2,2-Tetrachloroethane	<0.40	*	1.0	0.40	ug/L			09/27/21 16:02	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/27/21 16:02	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/27/21 16:02	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/27/21 16:02	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/27/21 16:02	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/27/21 16:02	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/27/21 16:02	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/27/21 16:02	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/27/21 16:02	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/27/21 16:02	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/27/21 16:02	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/27/21 16:02	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/27/21 16:02	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/27/21 16:02	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/27/21 16:02	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/27/21 16:02	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/27/21 16:02	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/27/21 16:02	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/27/21 16:02	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/27/21 16:02	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/27/21 16:02	1
Benzene	<0.15		0.50	0.15	ug/L			09/27/21 16:02	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/27/21 16:02	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/27/21 16:02	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/27/21 16:02	1
Bromoform	<0.48		1.0	0.48	ug/L			09/27/21 16:02	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/27/21 16:02	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/27/21 16:02	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/27/21 16:02	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/27/21 16:02	1
Chloroform	<0.37		2.0	0.37	ug/L			09/27/21 16:02	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/27/21 16:02	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/27/21 16:02	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/27/21 16:02	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/27/21 16:02	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/27/21 16:02	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/27/21 16:02	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/27/21 16:02	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/27/21 16:02	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/27/21 16:02	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 16:02	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/27/21 16:02	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/27/21 16:02	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/27/21 16:02	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 16:02	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/27/21 16:02	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/27/21 16:02	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: PZ-3

Lab Sample ID: 500-205369-8

Date Collected: 09/16/21 13:00

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 16:02	1
Styrene	<0.39		1.0	0.39	ug/L			09/27/21 16:02	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 16:02	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/27/21 16:02	1
Toluene	<0.15		0.50	0.15	ug/L			09/27/21 16:02	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/27/21 16:02	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/27/21 16:02	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/27/21 16:02	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/27/21 16:02	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/27/21 16:02	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/27/21 16:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 126					09/27/21 16:02	1
4-Bromofluorobenzene (Surr)	76		72 - 124					09/27/21 16:02	1
Dibromofluoromethane (Surr)	99		75 - 120					09/27/21 16:02	1
Toluene-d8 (Surr)	92		75 - 120					09/27/21 16:02	1



Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: PZ-4

Lab Sample ID: 500-205369-9

Date Collected: 09/16/21 13:15

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/27/21 16:30	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/27/21 16:30	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			09/27/21 16:30	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/27/21 16:30	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/27/21 16:30	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/27/21 16:30	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/27/21 16:30	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/27/21 16:30	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/27/21 16:30	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/27/21 16:30	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/27/21 16:30	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/27/21 16:30	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/27/21 16:30	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/27/21 16:30	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/27/21 16:30	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/27/21 16:30	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/27/21 16:30	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/27/21 16:30	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/27/21 16:30	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/27/21 16:30	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/27/21 16:30	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/27/21 16:30	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/27/21 16:30	1
Benzene	<0.15		0.50	0.15	ug/L			09/27/21 16:30	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/27/21 16:30	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/27/21 16:30	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/27/21 16:30	1
Bromoform	<0.48		1.0	0.48	ug/L			09/27/21 16:30	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/27/21 16:30	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/27/21 16:30	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/27/21 16:30	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/27/21 16:30	1
Chloroform	<0.37		2.0	0.37	ug/L			09/27/21 16:30	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/27/21 16:30	1
cis-1,2-Dichloroethene	3.3		1.0	0.41	ug/L			09/27/21 16:30	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/27/21 16:30	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/27/21 16:30	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/27/21 16:30	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/27/21 16:30	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/27/21 16:30	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/27/21 16:30	1
Isopropyl ether	0.85 J		1.0	0.28	ug/L			09/27/21 16:30	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 16:30	1
Methyl tert-butyl ether	4.4		1.0	0.39	ug/L			09/27/21 16:30	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/27/21 16:30	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/27/21 16:30	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 16:30	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/27/21 16:30	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/27/21 16:30	1

Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: PZ-4

Lab Sample ID: 500-205369-9

Date Collected: 09/16/21 13:15

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 16:30	1
Styrene	<0.39		1.0	0.39	ug/L			09/27/21 16:30	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 16:30	1
Tetrachloroethene	72		1.0	0.37	ug/L			09/27/21 16:30	1
Toluene	<0.15		0.50	0.15	ug/L			09/27/21 16:30	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/27/21 16:30	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/27/21 16:30	1
Trichloroethene	90		0.50	0.16	ug/L			09/27/21 16:30	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/27/21 16:30	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/27/21 16:30	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/27/21 16:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 126					09/27/21 16:30	1
4-Bromofluorobenzene (Surr)	77		72 - 124					09/27/21 16:30	1
Dibromofluoromethane (Surr)	98		75 - 120					09/27/21 16:30	1
Toluene-d8 (Surr)	92		75 - 120					09/27/21 16:30	1

Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: Field Blank

Lab Sample ID: 500-205369-10

Date Collected: 09/16/21 11:05

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/27/21 16:58	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/27/21 16:58	1
1,1,2,2-Tetrachloroethane	<0.40	*	1.0	0.40	ug/L			09/27/21 16:58	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/27/21 16:58	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/27/21 16:58	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/27/21 16:58	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/27/21 16:58	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/27/21 16:58	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/27/21 16:58	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/27/21 16:58	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/27/21 16:58	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/27/21 16:58	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/27/21 16:58	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/27/21 16:58	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/27/21 16:58	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/27/21 16:58	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/27/21 16:58	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/27/21 16:58	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/27/21 16:58	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/27/21 16:58	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/27/21 16:58	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/27/21 16:58	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/27/21 16:58	1
Benzene	<0.15		0.50	0.15	ug/L			09/27/21 16:58	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/27/21 16:58	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/27/21 16:58	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/27/21 16:58	1
Bromoform	<0.48		1.0	0.48	ug/L			09/27/21 16:58	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/27/21 16:58	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/27/21 16:58	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/27/21 16:58	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/27/21 16:58	1
Chloroform	<0.37		2.0	0.37	ug/L			09/27/21 16:58	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/27/21 16:58	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/27/21 16:58	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/27/21 16:58	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/27/21 16:58	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/27/21 16:58	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/27/21 16:58	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/27/21 16:58	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/27/21 16:58	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/27/21 16:58	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 16:58	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/27/21 16:58	1
Methylene Chloride	3.3	J	5.0	1.6	ug/L			09/27/21 16:58	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/27/21 16:58	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 16:58	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/27/21 16:58	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/27/21 16:58	1

Client Sample Results

Client: Resource Engineering
 Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: Field Blank

Lab Sample ID: 500-205369-10

Date Collected: 09/16/21 11:05

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 16:58	1
Styrene	<0.39		1.0	0.39	ug/L			09/27/21 16:58	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 16:58	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/27/21 16:58	1
Toluene	<0.15		0.50	0.15	ug/L			09/27/21 16:58	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/27/21 16:58	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/27/21 16:58	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/27/21 16:58	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/27/21 16:58	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/27/21 16:58	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/27/21 16:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 126					09/27/21 16:58	1
4-Bromofluorobenzene (Surr)	79		72 - 124					09/27/21 16:58	1
Dibromofluoromethane (Surr)	99		75 - 120					09/27/21 16:58	1
Toluene-d8 (Surr)	91		75 - 120					09/27/21 16:58	1



Client Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: Trip Blank

Lab Sample ID: 500-205369-11

Date Collected: 09/16/21 00:00

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/27/21 11:14	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/27/21 11:14	1
1,1,2,2-Tetrachloroethane	<0.40	*-	1.0	0.40	ug/L			09/27/21 11:14	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/27/21 11:14	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/27/21 11:14	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/27/21 11:14	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/27/21 11:14	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/27/21 11:14	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/27/21 11:14	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/27/21 11:14	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/27/21 11:14	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/27/21 11:14	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/27/21 11:14	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/27/21 11:14	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/27/21 11:14	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/27/21 11:14	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/27/21 11:14	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/27/21 11:14	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/27/21 11:14	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/27/21 11:14	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/27/21 11:14	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/27/21 11:14	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/27/21 11:14	1
Benzene	<0.15		0.50	0.15	ug/L			09/27/21 11:14	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/27/21 11:14	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/27/21 11:14	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/27/21 11:14	1
Bromoform	<0.48		1.0	0.48	ug/L			09/27/21 11:14	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/27/21 11:14	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/27/21 11:14	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/27/21 11:14	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/27/21 11:14	1
Chloroform	<0.37		2.0	0.37	ug/L			09/27/21 11:14	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/27/21 11:14	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/27/21 11:14	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/27/21 11:14	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/27/21 11:14	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/27/21 11:14	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/27/21 11:14	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/27/21 11:14	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/27/21 11:14	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/27/21 11:14	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 11:14	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/27/21 11:14	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/27/21 11:14	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/27/21 11:14	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 11:14	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/27/21 11:14	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/27/21 11:14	1

Client Sample Results

Client: Resource Engineering
 Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: Trip Blank

Lab Sample ID: 500-205369-11

Date Collected: 09/16/21 00:00

Matrix: Water

Date Received: 09/17/21 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 11:14	1
Styrene	<0.39		1.0	0.39	ug/L			09/27/21 11:14	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 11:14	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/27/21 11:14	1
Toluene	<0.15		0.50	0.15	ug/L			09/27/21 11:14	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/27/21 11:14	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/27/21 11:14	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/27/21 11:14	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/27/21 11:14	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/27/21 11:14	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/27/21 11:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 126					09/27/21 11:14	1
4-Bromofluorobenzene (Surr)	76		72 - 124					09/27/21 11:14	1
Dibromofluoromethane (Surr)	98		75 - 120					09/27/21 11:14	1
Toluene-d8 (Surr)	91		75 - 120					09/27/21 11:14	1

Definitions/Glossary

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



QC Association Summary

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

GC/MS VOA

Analysis Batch: 620340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-205369-1	MW-2	Total/NA	Water	8260B	
500-205369-2 - DL	MW-3	Total/NA	Water	8260B	
500-205369-3	MW-4	Total/NA	Water	8260B	
500-205369-4	MW-5	Total/NA	Water	8260B	
500-205369-5	MW-9	Total/NA	Water	8260B	
500-205369-6	PZ-1	Total/NA	Water	8260B	
500-205369-6 - DL	PZ-1	Total/NA	Water	8260B	
500-205369-7	PZ-2	Total/NA	Water	8260B	
500-205369-8	PZ-3	Total/NA	Water	8260B	
500-205369-9	PZ-4	Total/NA	Water	8260B	
500-205369-10	Field Blank	Total/NA	Water	8260B	
500-205369-11	Trip Blank	Total/NA	Water	8260B	
MB 500-620340/6	Method Blank	Total/NA	Water	8260B	
LCS 500-620340/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 620559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-205369-2	MW-3	Total/NA	Water	8260B	
MB 500-620559/7	Method Blank	Total/NA	Water	8260B	
LCS 500-620559/5	Lab Control Sample	Total/NA	Water	8260B	

Surrogate Summary

Client: Resource Engineering
 Project/Site: 3330 University Ave

Job ID: 500-205369-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-126)	BFB (72-124)	DBFM (75-120)	TOL (75-120)
500-205369-1	MW-2	92	77	100	91
500-205369-2 - DL	MW-3	91	77	98	92
500-205369-2	MW-3	91	94	95	101
500-205369-3	MW-4	90	77	100	91
500-205369-4	MW-5	91	77	98	91
500-205369-5	MW-9	92	76	98	91
500-205369-6	PZ-1	94	76	98	93
500-205369-6 - DL	PZ-1	94	76	99	90
500-205369-7	PZ-2	93	76	98	92
500-205369-8	PZ-3	93	76	99	92
500-205369-9	PZ-4	92	77	98	92
500-205369-10	Field Blank	91	79	99	91
500-205369-11	Trip Blank	92	76	98	91
LCS 500-620340/4	Lab Control Sample	92	77	102	92
LCS 500-620559/5	Lab Control Sample	92	96	95	100
MB 500-620340/6	Method Blank	92	78	99	91
MB 500-620559/7	Method Blank	94	98	96	98

Surrogate Legend

- DCA = 1,2-Dichloroethane-d4 (Surr)
- BFB = 4-Bromofluorobenzene (Surr)
- DBFM = Dibromofluoromethane (Surr)
- TOL = Toluene-d8 (Surr)



QC Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-620340/6
Matrix: Water
Analysis Batch: 620340

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/27/21 10:46	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/27/21 10:46	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			09/27/21 10:46	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/27/21 10:46	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/27/21 10:46	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/27/21 10:46	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/27/21 10:46	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/27/21 10:46	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/27/21 10:46	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/27/21 10:46	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/27/21 10:46	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/27/21 10:46	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/27/21 10:46	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/27/21 10:46	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/27/21 10:46	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/27/21 10:46	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/27/21 10:46	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/27/21 10:46	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/27/21 10:46	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/27/21 10:46	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/27/21 10:46	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/27/21 10:46	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/27/21 10:46	1
Benzene	<0.15		0.50	0.15	ug/L			09/27/21 10:46	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/27/21 10:46	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/27/21 10:46	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/27/21 10:46	1
Bromoform	<0.48		1.0	0.48	ug/L			09/27/21 10:46	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/27/21 10:46	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/27/21 10:46	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/27/21 10:46	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/27/21 10:46	1
Chloroform	<0.37		2.0	0.37	ug/L			09/27/21 10:46	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/27/21 10:46	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/27/21 10:46	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/27/21 10:46	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/27/21 10:46	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/27/21 10:46	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/27/21 10:46	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/27/21 10:46	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/27/21 10:46	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/27/21 10:46	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 10:46	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/27/21 10:46	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/27/21 10:46	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/27/21 10:46	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/27/21 10:46	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/27/21 10:46	1

Eurofins TestAmerica, Chicago

QC Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-620340/6

Matrix: Water

Analysis Batch: 620340

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/27/21 10:46	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 10:46	1
Styrene	<0.39		1.0	0.39	ug/L			09/27/21 10:46	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/27/21 10:46	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/27/21 10:46	1
Toluene	<0.15		0.50	0.15	ug/L			09/27/21 10:46	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/27/21 10:46	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/27/21 10:46	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/27/21 10:46	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/27/21 10:46	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/27/21 10:46	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/27/21 10:46	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	92		75 - 126		09/27/21 10:46	1
4-Bromofluorobenzene (Surr)	78		72 - 124		09/27/21 10:46	1
Dibromofluoromethane (Surr)	99		75 - 120		09/27/21 10:46	1
Toluene-d8 (Surr)	91		75 - 120		09/27/21 10:46	1

Lab Sample ID: LCS 500-620340/4

Matrix: Water

Analysis Batch: 620340

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1,1,2-Tetrachloroethane	50.0	46.3		ug/L		93	70 - 125
1,1,1-Trichloroethane	50.0	46.1		ug/L		92	70 - 125
1,1,2,2-Tetrachloroethane	50.0	30.1	*-	ug/L		60	62 - 140
1,1,2-Trichloroethane	50.0	36.3		ug/L		73	71 - 130
1,1-Dichloroethane	50.0	44.3		ug/L		89	70 - 125
1,1-Dichloroethene	50.0	50.5		ug/L		101	67 - 122
1,1-Dichloropropene	50.0	46.0		ug/L		92	70 - 121
1,2,3-Trichlorobenzene	50.0	53.6		ug/L		107	51 - 145
1,2,3-Trichloropropane	50.0	32.1		ug/L		64	50 - 133
1,2,4-Trichlorobenzene	50.0	51.2		ug/L		102	57 - 137
1,2,4-Trimethylbenzene	50.0	41.3		ug/L		83	70 - 123
1,2-Dibromo-3-Chloropropane	50.0	30.1		ug/L		60	56 - 123
1,2-Dibromoethane	50.0	37.7		ug/L		75	70 - 125
1,2-Dichlorobenzene	50.0	41.4		ug/L		83	70 - 125
1,2-Dichloroethane	50.0	41.8		ug/L		84	68 - 127
1,2-Dichloropropane	50.0	43.0		ug/L		86	67 - 130
1,3,5-Trimethylbenzene	50.0	42.0		ug/L		84	70 - 123
1,3-Dichlorobenzene	50.0	42.6		ug/L		85	70 - 125
1,3-Dichloropropane	50.0	36.5		ug/L		73	62 - 136
1,4-Dichlorobenzene	50.0	41.6		ug/L		83	70 - 120
2,2-Dichloropropane	50.0	32.9		ug/L		66	58 - 139
2-Chlorotoluene	50.0	37.8		ug/L		76	70 - 125
4-Chlorotoluene	50.0	36.8		ug/L		74	68 - 124
Benzene	50.0	43.3		ug/L		87	70 - 120

Eurofins TestAmerica, Chicago

QC Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-620340/4

Matrix: Water

Analysis Batch: 620340

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Bromobenzene	50.0	38.9		ug/L		78	70 - 122
Bromochloromethane	50.0	49.6		ug/L		99	65 - 122
Bromodichloromethane	50.0	38.3		ug/L		77	69 - 120
Bromoform	50.0	39.3		ug/L		79	56 - 132
Bromomethane	50.0	53.9		ug/L		108	40 - 152
Carbon tetrachloride	50.0	48.3		ug/L		97	59 - 133
Chlorobenzene	50.0	42.6		ug/L		85	70 - 120
Chloroethane	50.0	56.6		ug/L		113	48 - 136
Chloroform	50.0	42.5		ug/L		85	70 - 120
Chloromethane	50.0	41.2		ug/L		82	56 - 152
cis-1,2-Dichloroethene	50.0	45.0		ug/L		90	70 - 125
cis-1,3-Dichloropropene	50.0	34.4		ug/L		69	64 - 127
Dibromochloromethane	50.0	37.6		ug/L		75	68 - 125
Dibromomethane	50.0	42.2		ug/L		84	70 - 120
Dichlorodifluoromethane	50.0	35.8		ug/L		72	40 - 159
Ethylbenzene	50.0	44.9		ug/L		90	70 - 123
Hexachlorobutadiene	50.0	66.7		ug/L		133	51 - 150
Isopropylbenzene	50.0	41.2		ug/L		82	70 - 126
Methyl tert-butyl ether	50.0	35.4		ug/L		71	55 - 123
Methylene Chloride	50.0	44.5		ug/L		89	69 - 125
Naphthalene	50.0	44.8		ug/L		90	53 - 144
n-Butylbenzene	50.0	44.9		ug/L		90	68 - 125
N-Propylbenzene	50.0	39.2		ug/L		78	69 - 127
p-Isopropyltoluene	50.0	49.3		ug/L		99	70 - 125
sec-Butylbenzene	50.0	45.0		ug/L		90	70 - 123
Styrene	50.0	42.0		ug/L		84	70 - 120
tert-Butylbenzene	50.0	46.8		ug/L		94	70 - 121
Tetrachloroethene	50.0	50.1		ug/L		100	70 - 128
Toluene	50.0	40.9		ug/L		82	70 - 125
trans-1,2-Dichloroethene	50.0	45.8		ug/L		92	70 - 125
trans-1,3-Dichloropropene	50.0	31.8		ug/L		64	62 - 128
Trichloroethene	50.0	50.3		ug/L		101	70 - 125
Trichlorofluoromethane	50.0	48.6		ug/L		97	55 - 128
Vinyl chloride	50.0	43.0		ug/L		86	64 - 126
Xylenes, Total	100	89.9		ug/L		90	70 - 125

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	92		75 - 126
4-Bromofluorobenzene (Surr)	77		72 - 124
Dibromofluoromethane (Surr)	102		75 - 120
Toluene-d8 (Surr)	92		75 - 120

Lab Sample ID: MB 500-620559/7

Matrix: Water

Analysis Batch: 620559

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/28/21 10:12	1

Eurofins TestAmerica, Chicago

QC Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-620559/7

Matrix: Water

Analysis Batch: 620559

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/28/21 10:12	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			09/28/21 10:12	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/28/21 10:12	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/28/21 10:12	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/28/21 10:12	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/28/21 10:12	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/28/21 10:12	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/28/21 10:12	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/28/21 10:12	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/28/21 10:12	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/28/21 10:12	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			09/28/21 10:12	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/28/21 10:12	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/28/21 10:12	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/28/21 10:12	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/28/21 10:12	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/28/21 10:12	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/28/21 10:12	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/28/21 10:12	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/28/21 10:12	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/28/21 10:12	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/28/21 10:12	1
Benzene	<0.15		0.50	0.15	ug/L			09/28/21 10:12	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/28/21 10:12	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/28/21 10:12	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			09/28/21 10:12	1
Bromoform	<0.48		1.0	0.48	ug/L			09/28/21 10:12	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/28/21 10:12	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/28/21 10:12	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/28/21 10:12	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/28/21 10:12	1
Chloroform	<0.37		2.0	0.37	ug/L			09/28/21 10:12	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/28/21 10:12	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/28/21 10:12	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/28/21 10:12	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/28/21 10:12	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/28/21 10:12	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/28/21 10:12	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/28/21 10:12	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/28/21 10:12	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/28/21 10:12	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/28/21 10:12	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/28/21 10:12	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/28/21 10:12	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/28/21 10:12	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/28/21 10:12	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/28/21 10:12	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/28/21 10:12	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/28/21 10:12	1

Eurofins TestAmerica, Chicago

QC Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-620559/7

Matrix: Water

Analysis Batch: 620559

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Styrene	<0.39		1.0	0.39	ug/L			09/28/21 10:12	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/28/21 10:12	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/28/21 10:12	1
Toluene	<0.15		0.50	0.15	ug/L			09/28/21 10:12	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/28/21 10:12	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/28/21 10:12	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/28/21 10:12	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/28/21 10:12	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/28/21 10:12	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/28/21 10:12	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	94		75 - 126		09/28/21 10:12	1
4-Bromofluorobenzene (Surr)	98		72 - 124		09/28/21 10:12	1
Dibromofluoromethane (Surr)	96		75 - 120		09/28/21 10:12	1
Toluene-d8 (Surr)	98		75 - 120		09/28/21 10:12	1

Lab Sample ID: LCS 500-620559/5

Matrix: Water

Analysis Batch: 620559

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1,1,2-Tetrachloroethane	50.0	43.0		ug/L		86	70 - 125
1,1,1-Trichloroethane	50.0	45.3		ug/L		91	70 - 125
1,1,2,2-Tetrachloroethane	50.0	40.1		ug/L		80	62 - 140
1,1,2-Trichloroethane	50.0	42.4		ug/L		85	71 - 130
1,1-Dichloroethane	50.0	50.0		ug/L		100	70 - 125
1,1-Dichloroethene	50.0	47.6		ug/L		95	67 - 122
1,1-Dichloropropene	50.0	46.9		ug/L		94	70 - 121
1,2,3-Trichlorobenzene	50.0	43.4		ug/L		87	51 - 145
1,2,3-Trichloropropane	50.0	39.4		ug/L		79	50 - 133
1,2,4-Trichlorobenzene	50.0	45.5		ug/L		91	57 - 137
1,2,4-Trimethylbenzene	50.0	44.3		ug/L		89	70 - 123
1,2-Dibromo-3-Chloropropane	50.0	35.7		ug/L		71	56 - 123
1,2-Dibromoethane	50.0	42.4		ug/L		85	70 - 125
1,2-Dichlorobenzene	50.0	44.7		ug/L		89	70 - 125
1,2-Dichloroethane	50.0	44.7		ug/L		89	68 - 127
1,2-Dichloropropane	50.0	47.8		ug/L		96	67 - 130
1,3,5-Trimethylbenzene	50.0	44.3		ug/L		89	70 - 123
1,3-Dichlorobenzene	50.0	45.8		ug/L		92	70 - 125
1,3-Dichloropropane	50.0	42.6		ug/L		85	62 - 136
1,4-Dichlorobenzene	50.0	45.0		ug/L		90	70 - 120
2,2-Dichloropropane	50.0	44.5		ug/L		89	58 - 139
2-Chlorotoluene	50.0	45.9		ug/L		92	70 - 125
4-Chlorotoluene	50.0	45.8		ug/L		92	68 - 124
Benzene	50.0	42.6		ug/L		85	70 - 120
Bromobenzene	50.0	45.3		ug/L		91	70 - 122
Bromochloromethane	50.0	44.1		ug/L		88	65 - 122

Eurofins TestAmerica, Chicago

QC Sample Results

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-620559/5

Matrix: Water

Analysis Batch: 620559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	50.0	42.7		ug/L		85	69 - 120
Bromoform	50.0	41.1		ug/L		82	56 - 132
Bromomethane	50.0	69.7		ug/L		139	40 - 152
Carbon tetrachloride	50.0	45.3		ug/L		91	59 - 133
Chlorobenzene	50.0	46.2		ug/L		92	70 - 120
Chloroethane	50.0	61.4		ug/L		123	48 - 136
Chloroform	50.0	44.3		ug/L		89	70 - 120
Chloromethane	50.0	50.4		ug/L		101	56 - 152
cis-1,2-Dichloroethene	50.0	46.2		ug/L		92	70 - 125
cis-1,3-Dichloropropene	50.0	43.1		ug/L		86	64 - 127
Dibromochloromethane	50.0	40.6		ug/L		81	68 - 125
Dibromomethane	50.0	41.8		ug/L		84	70 - 120
Dichlorodifluoromethane	50.0	31.4		ug/L		63	40 - 159
Ethylbenzene	50.0	44.9		ug/L		90	70 - 123
Hexachlorobutadiene	50.0	51.6		ug/L		103	51 - 150
Isopropylbenzene	50.0	45.2		ug/L		90	70 - 126
Methyl tert-butyl ether	50.0	42.8		ug/L		86	55 - 123
Methylene Chloride	50.0	44.5		ug/L		89	69 - 125
Naphthalene	50.0	39.2		ug/L		78	53 - 144
n-Butylbenzene	50.0	46.9		ug/L		94	68 - 125
N-Propylbenzene	50.0	46.6		ug/L		93	69 - 127
p-Isopropyltoluene	50.0	44.2		ug/L		88	70 - 125
sec-Butylbenzene	50.0	44.8		ug/L		90	70 - 123
Styrene	50.0	45.5		ug/L		91	70 - 120
tert-Butylbenzene	50.0	43.7		ug/L		87	70 - 121
Tetrachloroethene	50.0	49.0		ug/L		98	70 - 128
Toluene	50.0	45.5		ug/L		91	70 - 125
trans-1,2-Dichloroethene	50.0	47.6		ug/L		95	70 - 125
trans-1,3-Dichloropropene	50.0	41.8		ug/L		84	62 - 128
Trichloroethene	50.0	43.1		ug/L		86	70 - 125
Trichlorofluoromethane	50.0	52.1		ug/L		104	55 - 128
Vinyl chloride	50.0	56.3		ug/L		113	64 - 126
Xylenes, Total	100	90.6		ug/L		91	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		75 - 126
4-Bromofluorobenzene (Surr)	96		72 - 124
Dibromofluoromethane (Surr)	95		75 - 120
Toluene-d8 (Surr)	100		75 - 120

Lab Chronicle

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: MW-2

Lab Sample ID: 500-205369-1

Date Collected: 09/16/21 11:45

Matrix: Water

Date Received: 09/17/21 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	620340	09/27/21 11:41	JLC	TAL CHI

Client Sample ID: MW-3

Lab Sample ID: 500-205369-2

Date Collected: 09/16/21 13:20

Matrix: Water

Date Received: 09/17/21 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	10	620340	09/27/21 12:49	JLC	TAL CHI
Total/NA	Analysis	8260B		1	620559	09/28/21 14:13	JLC	TAL CHI

Client Sample ID: MW-4

Lab Sample ID: 500-205369-3

Date Collected: 09/16/21 13:30

Matrix: Water

Date Received: 09/17/21 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	620340	09/27/21 13:17	JLC	TAL CHI

Client Sample ID: MW-5

Lab Sample ID: 500-205369-4

Date Collected: 09/16/21 12:20

Matrix: Water

Date Received: 09/17/21 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	620340	09/27/21 13:44	JLC	TAL CHI

Client Sample ID: MW-9

Lab Sample ID: 500-205369-5

Date Collected: 09/16/21 12:50

Matrix: Water

Date Received: 09/17/21 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	620340	09/27/21 14:12	JLC	TAL CHI

Client Sample ID: PZ-1

Lab Sample ID: 500-205369-6

Date Collected: 09/16/21 11:35

Matrix: Water

Date Received: 09/17/21 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	620340	09/27/21 14:40	JLC	TAL CHI
Total/NA	Analysis	8260B	DL	10	620340	09/27/21 15:07	JLC	TAL CHI

Client Sample ID: PZ-2

Lab Sample ID: 500-205369-7

Date Collected: 09/16/21 10:35

Matrix: Water

Date Received: 09/17/21 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	620340	09/27/21 15:35	JLC	TAL CHI



Lab Chronicle

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Client Sample ID: PZ-3

Lab Sample ID: 500-205369-8

Date Collected: 09/16/21 13:00

Matrix: Water

Date Received: 09/17/21 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	620340	09/27/21 16:02	JLC	TAL CHI

Client Sample ID: PZ-4

Lab Sample ID: 500-205369-9

Date Collected: 09/16/21 13:15

Matrix: Water

Date Received: 09/17/21 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	620340	09/27/21 16:30	JLC	TAL CHI

Client Sample ID: Field Blank

Lab Sample ID: 500-205369-10

Date Collected: 09/16/21 11:05

Matrix: Water

Date Received: 09/17/21 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	620340	09/27/21 16:58	JLC	TAL CHI

Client Sample ID: Trip Blank

Lab Sample ID: 500-205369-11

Date Collected: 09/16/21 00:00

Matrix: Water

Date Received: 09/17/21 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	620340	09/27/21 11:14	JLC	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Resource Engineering
Project/Site: 3330 University Ave

Job ID: 500-205369-1

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-22



Eurofins TestAmerica, Chicago
 2417 Bond Street
 University Park IL 60484
 Phone 708-534-5200 Fax 708-534-5211

Chain of Custody Record

Environment Testing
 America



Client Information Client Contact: Mr Bill Buckingham Address: 3510 Parmenter Street City: Middleton State Zip: WI 53562 Phone: 608-220-3804 Email: bill@reaengr.com Project Name: 3330 University Ave Site: 3330 University Ave		Lab PM: Fredrick Sandie E-Mail: sandra.fredrick@eurofinset.com Carrier Tracking No(s): State of Origin:	
Due Date Requested: 9/30/21 TAT Requested (days): Normal Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #: Purchase Order not required WO #: Project #: 50006583 SSOW#:		Analysis Requested:	
Preservation Codes: A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Anchlor H Ascorbic Acid I Ice J DI Water K EDTA L EDA Other:		Preservation Codes: M Hexane N None O AsNaO2 P Na2O4S Q Na2SO3 R Na2S2O3 S H2SO4 T TSP Dodecahydrate U Acetone V MCAA W pH 4-5 Z other (specify)	
Sample Identification Sample ID: MW-2 Matrix: Water Sample Type: G-grab Sample Date: 9/16/21 Sample Time: 11:45 MW-3 MW-4 MW-5 MW-9 PZ-1 PZ-2 PZ-3 PZ-4 Field Blank Trip Blank		Total Number of Containers:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I II III IV Other (specify)		Special Instructions/Note:	
Empty Kit Relinquished by Relinquished by: Bill Buckingham Date/Time: 9/16/21 2:45 PM Relinquished by:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:	
Relinquished by Relinquished by: Bill Buckingham Date/Time: 9/16/21 2:45 PM Relinquished by:		Method of Shipment: Received by: JMS Penna Date/Time: 9/14/21 09:50 Received by:	
Custody Seals Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Custody Seal No:		Cooler Temperature(s) °C and Other Remarks: 7.4 → 4.3	

Login Sample Receipt Checklist

Client: Resource Engineering

Job Number: 500-205369-1

Login Number: 205369

List Source: Eurofins TestAmerica, Chicago

List Number: 1

Creator: James, Jeff A

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	





August 05, 2021

William Buckingham
Resource Engineering Associates
3510 Parmenter Street
Middleton, WI 53562

RE: Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

Dear William Buckingham:

Enclosed are the analytical results for sample(s) received by the laboratory on July 29, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

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

Sincerely,

Matt Ray
matt.ray@pacelabs.com
(612)607-1700
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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



CERTIFICATIONS

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01*
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064

Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #: 74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
Please Note: Applicable air certifications are denoted with an asterisk ().

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10572248001	AI-21	Air	07/28/21 13:10	07/29/21 16:00
10572248002	AI-22	Air	07/28/21 13:12	07/29/21 16:00
10572248003	SS-21	Air	07/27/21 14:36	07/29/21 16:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10572248001	AI-21	TO-15	EMC	61	PASI-M
10572248002	AI-22	TO-15	EMC	61	PASI-M
10572248003	SS-21	TO-15	EMC	61	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

Sample: AI-21 Lab ID: 10572248001 Collected: 07/28/21 13:10 Received: 07/29/21 16:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Pace Analytical Services - Minneapolis									
Acetone	220	ug/m3	9.4	2.8	1.55		08/03/21 20:16	67-64-1	
Benzene	8.9	ug/m3	0.50	0.18	1.55		08/03/21 20:16	71-43-2	
Benzyl chloride	<1.4	ug/m3	4.1	1.4	1.55		08/03/21 20:16	100-44-7	
Bromodichloromethane	<0.37	ug/m3	2.1	0.37	1.55		08/03/21 20:16	75-27-4	
Bromoform	<2.5	ug/m3	8.1	2.5	1.55		08/03/21 20:16	75-25-2	
Bromomethane	<0.23	ug/m3	1.2	0.23	1.55		08/03/21 20:16	74-83-9	
1,3-Butadiene	<0.19	ug/m3	0.70	0.19	1.55		08/03/21 20:16	106-99-0	
2-Butanone (MEK)	5.5	ug/m3	4.6	0.72	1.55		08/03/21 20:16	78-93-3	
Carbon disulfide	1.3	ug/m3	0.98	0.20	1.55		08/03/21 20:16	75-15-0	
Carbon tetrachloride	0.92J	ug/m3	2.0	0.43	1.55		08/03/21 20:16	56-23-5	
Chlorobenzene	<0.24	ug/m3	1.5	0.24	1.55		08/03/21 20:16	108-90-7	
Chloroethane	<0.35	ug/m3	0.83	0.35	1.55		08/03/21 20:16	75-00-3	
Chloroform	<0.28	ug/m3	0.77	0.28	1.55		08/03/21 20:16	67-66-3	
Chloromethane	1.5	ug/m3	0.65	0.13	1.55		08/03/21 20:16	74-87-3	
Cyclohexane	5.1	ug/m3	2.7	0.34	1.55		08/03/21 20:16	110-82-7	
Dibromochloromethane	<0.80	ug/m3	2.7	0.80	1.55		08/03/21 20:16	124-48-1	
1,2-Dibromoethane (EDB)	<0.46	ug/m3	1.2	0.46	1.55		08/03/21 20:16	106-93-4	
1,2-Dichlorobenzene	<0.63	ug/m3	4.7	0.63	1.55		08/03/21 20:16	95-50-1	
1,3-Dichlorobenzene	<0.79	ug/m3	4.7	0.79	1.55		08/03/21 20:16	541-73-1	
1,4-Dichlorobenzene	<1.4	ug/m3	4.7	1.4	1.55		08/03/21 20:16	106-46-7	
Dichlorodifluoromethane	2.6	ug/m3	1.6	0.29	1.55		08/03/21 20:16	75-71-8	
1,1-Dichloroethane	<0.26	ug/m3	1.3	0.26	1.55		08/03/21 20:16	75-34-3	
1,2-Dichloroethane	<0.30	ug/m3	1.3	0.30	1.55		08/03/21 20:16	107-06-2	
1,1-Dichloroethene	<0.21	ug/m3	1.2	0.21	1.55		08/03/21 20:16	75-35-4	
cis-1,2-Dichloroethene	<0.30	ug/m3	1.2	0.30	1.55		08/03/21 20:16	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/m3	1.2	0.26	1.55		08/03/21 20:16	156-60-5	
1,2-Dichloropropane	<0.42	ug/m3	1.5	0.42	1.55		08/03/21 20:16	78-87-5	
cis-1,3-Dichloropropene	<0.40	ug/m3	3.6	0.40	1.55		08/03/21 20:16	10061-01-5	
trans-1,3-Dichloropropene	<0.84	ug/m3	3.6	0.84	1.55		08/03/21 20:16	10061-02-6	
Dichlorotetrafluoroethane	<0.31	ug/m3	2.2	0.31	1.55		08/03/21 20:16	76-14-2	
Ethanol	353	ug/m3	3.0	0.92	1.55		08/03/21 20:16	64-17-5	
Ethyl acetate	6.6	ug/m3	1.1	0.20	1.55		08/03/21 20:16	141-78-6	
Ethylbenzene	5.4	ug/m3	1.4	0.48	1.55		08/03/21 20:16	100-41-4	
4-Ethyltoluene	2.7J	ug/m3	3.9	0.73	1.55		08/03/21 20:16	622-96-8	
n-Heptane	4.5	ug/m3	1.3	0.28	1.55		08/03/21 20:16	142-82-5	
Hexachloro-1,3-butadiene	<1.9	ug/m3	8.4	1.9	1.55		08/03/21 20:16	87-68-3	
n-Hexane	6.4	ug/m3	1.1	0.30	1.55		08/03/21 20:16	110-54-3	
2-Hexanone	<0.69	ug/m3	6.4	0.69	1.55		08/03/21 20:16	591-78-6	
Methylene Chloride	2.0J	ug/m3	5.5	0.92	1.55		08/03/21 20:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	9.7	ug/m3	6.4	0.50	1.55		08/03/21 20:16	108-10-1	
Methyl-tert-butyl ether	<0.20	ug/m3	5.7	0.20	1.55		08/03/21 20:16	1634-04-4	
Naphthalene	3.4J	ug/m3	4.1	3.4	1.55		08/03/21 20:16	91-20-3	
2-Propanol	228	ug/m3	3.9	0.79	1.55		08/03/21 20:16	67-63-0	
Propylene	13.2	ug/m3	1.4	0.20	1.55		08/03/21 20:16	115-07-1	
Styrene	1.8	ug/m3	1.3	0.60	1.55		08/03/21 20:16	100-42-5	

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ANALYTICAL RESULTS

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

Sample: AI-21 Lab ID: 10572248001 Collected: 07/28/21 13:10 Received: 07/29/21 16:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Pace Analytical Services - Minneapolis									
1,1,2,2-Tetrachloroethane	<0.58	ug/m3	2.2	0.58	1.55		08/03/21 20:16	79-34-5	
Tetrachloroethene	<0.45	ug/m3	1.1	0.45	1.55		08/03/21 20:16	127-18-4	
Tetrahydrofuran	<0.28	ug/m3	0.93	0.28	1.55		08/03/21 20:16	109-99-9	
Toluene	30.6	ug/m3	1.2	0.38	1.55		08/03/21 20:16	108-88-3	
1,2,4-Trichlorobenzene	<7.6	ug/m3	11.7	7.6	1.55		08/03/21 20:16	120-82-1	
1,1,1-Trichloroethane	<0.29	ug/m3	1.7	0.29	1.55		08/03/21 20:16	71-55-6	
1,1,2-Trichloroethane	<0.31	ug/m3	0.86	0.31	1.55		08/03/21 20:16	79-00-5	
Trichloroethene	0.39J	ug/m3	0.85	0.30	1.55		08/03/21 20:16	79-01-6	
Trichlorofluoromethane	1.6J	ug/m3	1.8	0.36	1.55		08/03/21 20:16	75-69-4	
1,1,2-Trichlorotrifluoroethane	0.89J	ug/m3	2.4	0.45	1.55		08/03/21 20:16	76-13-1	
1,2,4-Trimethylbenzene	8.5	ug/m3	1.5	0.55	1.55		08/03/21 20:16	95-63-6	
1,3,5-Trimethylbenzene	3.3	ug/m3	1.5	0.45	1.55		08/03/21 20:16	108-67-8	
Vinyl acetate	<0.32	ug/m3	1.1	0.32	1.55		08/03/21 20:16	108-05-4	
Vinyl chloride	<0.13	ug/m3	0.40	0.13	1.55		08/03/21 20:16	75-01-4	
m&p-Xylene	19.2	ug/m3	2.7	1.0	1.55		08/03/21 20:16	179601-23-1	
o-Xylene	7.3	ug/m3	1.4	0.42	1.55		08/03/21 20:16	95-47-6	

Sample: AI-22 Lab ID: 10572248002 Collected: 07/28/21 13:12 Received: 07/29/21 16:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Pace Analytical Services - Minneapolis									
Acetone	243	ug/m3	9.0	2.7	1.49		08/03/21 20:46	67-64-1	
Benzene	9.4	ug/m3	0.48	0.17	1.49		08/03/21 20:46	71-43-2	
Benzyl chloride	<1.3	ug/m3	3.9	1.3	1.49		08/03/21 20:46	100-44-7	
Bromodichloromethane	<0.35	ug/m3	2.0	0.35	1.49		08/03/21 20:46	75-27-4	
Bromoform	<2.4	ug/m3	7.8	2.4	1.49		08/03/21 20:46	75-25-2	
Bromomethane	<0.22	ug/m3	1.2	0.22	1.49		08/03/21 20:46	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.67	0.18	1.49		08/03/21 20:46	106-99-0	
2-Butanone (MEK)	6.9	ug/m3	4.5	0.69	1.49		08/03/21 20:46	78-93-3	
Carbon disulfide	1.3	ug/m3	0.94	0.19	1.49		08/03/21 20:46	75-15-0	
Carbon tetrachloride	0.95J	ug/m3	1.9	0.42	1.49		08/03/21 20:46	56-23-5	
Chlorobenzene	<0.23	ug/m3	1.4	0.23	1.49		08/03/21 20:46	108-90-7	
Chloroethane	<0.33	ug/m3	0.80	0.33	1.49		08/03/21 20:46	75-00-3	
Chloroform	<0.27	ug/m3	0.74	0.27	1.49		08/03/21 20:46	67-66-3	
Chloromethane	1.5	ug/m3	0.63	0.13	1.49		08/03/21 20:46	74-87-3	
Cyclohexane	5.2	ug/m3	2.6	0.33	1.49		08/03/21 20:46	110-82-7	
Dibromochloromethane	<0.77	ug/m3	2.6	0.77	1.49		08/03/21 20:46	124-48-1	
1,2-Dibromoethane (EDB)	<0.45	ug/m3	1.2	0.45	1.49		08/03/21 20:46	106-93-4	
1,2-Dichlorobenzene	<0.60	ug/m3	4.6	0.60	1.49		08/03/21 20:46	95-50-1	
1,3-Dichlorobenzene	<0.76	ug/m3	4.6	0.76	1.49		08/03/21 20:46	541-73-1	
1,4-Dichlorobenzene	<1.3	ug/m3	4.6	1.3	1.49		08/03/21 20:46	106-46-7	

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ANALYTICAL RESULTS

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

Sample: AI-22 Lab ID: 10572248002 Collected: 07/28/21 13:12 Received: 07/29/21 16:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Pace Analytical Services - Minneapolis									
Dichlorodifluoromethane	2.8	ug/m3	1.5	0.28	1.49		08/03/21 20:46	75-71-8	
1,1-Dichloroethane	<0.25	ug/m3	1.2	0.25	1.49		08/03/21 20:46	75-34-3	
1,2-Dichloroethane	<0.29	ug/m3	1.2	0.29	1.49		08/03/21 20:46	107-06-2	
1,1-Dichloroethene	<0.21	ug/m3	1.2	0.21	1.49		08/03/21 20:46	75-35-4	
cis-1,2-Dichloroethene	<0.29	ug/m3	1.2	0.29	1.49		08/03/21 20:46	156-59-2	
trans-1,2-Dichloroethene	<0.25	ug/m3	1.2	0.25	1.49		08/03/21 20:46	156-60-5	
1,2-Dichloropropane	<0.40	ug/m3	1.4	0.40	1.49		08/03/21 20:46	78-87-5	
cis-1,3-Dichloropropene	<0.38	ug/m3	3.4	0.38	1.49		08/03/21 20:46	10061-01-5	
trans-1,3-Dichloropropene	<0.81	ug/m3	3.4	0.81	1.49		08/03/21 20:46	10061-02-6	
Dichlorotetrafluoroethane	<0.30	ug/m3	2.1	0.30	1.49		08/03/21 20:46	76-14-2	
Ethanol	363	ug/m3	2.9	0.88	1.49		08/03/21 20:46	64-17-5	
Ethyl acetate	6.5	ug/m3	1.1	0.20	1.49		08/03/21 20:46	141-78-6	
Ethylbenzene	5.6	ug/m3	1.3	0.46	1.49		08/03/21 20:46	100-41-4	
4-Ethyltoluene	3.0J	ug/m3	3.7	0.70	1.49		08/03/21 20:46	622-96-8	
n-Heptane	4.4	ug/m3	1.2	0.27	1.49		08/03/21 20:46	142-82-5	
Hexachloro-1,3-butadiene	<1.8	ug/m3	8.1	1.8	1.49		08/03/21 20:46	87-68-3	
n-Hexane	7.3	ug/m3	1.1	0.28	1.49		08/03/21 20:46	110-54-3	
2-Hexanone	2.2J	ug/m3	6.2	0.66	1.49		08/03/21 20:46	591-78-6	
Methylene Chloride	2.0J	ug/m3	5.3	0.88	1.49		08/03/21 20:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	11.7	ug/m3	6.2	0.48	1.49		08/03/21 20:46	108-10-1	
Methyl-tert-butyl ether	<0.19	ug/m3	5.5	0.19	1.49		08/03/21 20:46	1634-04-4	
Naphthalene	3.6J	ug/m3	4.0	3.2	1.49		08/03/21 20:46	91-20-3	
2-Propanol	221	ug/m3	3.7	0.76	1.49		08/03/21 20:46	67-63-0	
Propylene	13.6	ug/m3	1.3	0.19	1.49		08/03/21 20:46	115-07-1	
Styrene	1.8	ug/m3	1.3	0.57	1.49		08/03/21 20:46	100-42-5	
1,1,2,2-Tetrachloroethane	<0.55	ug/m3	2.1	0.55	1.49		08/03/21 20:46	79-34-5	
Tetrachloroethene	<0.44	ug/m3	1.0	0.44	1.49		08/03/21 20:46	127-18-4	
Tetrahydrofuran	<0.27	ug/m3	0.89	0.27	1.49		08/03/21 20:46	109-99-9	
Toluene	32.4	ug/m3	1.1	0.36	1.49		08/03/21 20:46	108-88-3	
1,2,4-Trichlorobenzene	<7.3	ug/m3	11.2	7.3	1.49		08/03/21 20:46	120-82-1	
1,1,1-Trichloroethane	<0.28	ug/m3	1.7	0.28	1.49		08/03/21 20:46	71-55-6	
1,1,2-Trichloroethane	<0.29	ug/m3	0.83	0.29	1.49		08/03/21 20:46	79-00-5	
Trichloroethene	1.0	ug/m3	0.81	0.29	1.49		08/03/21 20:46	79-01-6	
Trichlorofluoromethane	4.8	ug/m3	1.7	0.35	1.49		08/03/21 20:46	75-69-4	
1,1,2-Trichlorotrifluoroethane	1.8J	ug/m3	2.3	0.43	1.49		08/03/21 20:46	76-13-1	
1,2,4-Trimethylbenzene	8.9	ug/m3	1.5	0.53	1.49		08/03/21 20:46	95-63-6	
1,3,5-Trimethylbenzene	3.3	ug/m3	1.5	0.43	1.49		08/03/21 20:46	108-67-8	
Vinyl acetate	<0.31	ug/m3	1.1	0.31	1.49		08/03/21 20:46	108-05-4	
Vinyl chloride	<0.13	ug/m3	0.39	0.13	1.49		08/03/21 20:46	75-01-4	
m&p-Xylene	20.0	ug/m3	2.6	0.96	1.49		08/03/21 20:46	179601-23-1	
o-Xylene	7.7	ug/m3	1.3	0.40	1.49		08/03/21 20:46	95-47-6	

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ANALYTICAL RESULTS

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

Sample: SS-21 Lab ID: 10572248003 Collected: 07/27/21 14:36 Received: 07/29/21 16:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Pace Analytical Services - Minneapolis									
Acetone	157	ug/m3	11.1	3.3	1.83		08/03/21 21:15	67-64-1	
Benzene	6.4	ug/m3	0.59	0.21	1.83		08/03/21 21:15	71-43-2	
Benzyl chloride	<1.6	ug/m3	4.8	1.6	1.83		08/03/21 21:15	100-44-7	
Bromodichloromethane	<0.43	ug/m3	2.5	0.43	1.83		08/03/21 21:15	75-27-4	
Bromoform	<3.0	ug/m3	9.6	3.0	1.83		08/03/21 21:15	75-25-2	
Bromomethane	<0.27	ug/m3	1.4	0.27	1.83		08/03/21 21:15	74-83-9	
1,3-Butadiene	<0.22	ug/m3	0.82	0.22	1.83		08/03/21 21:15	106-99-0	
2-Butanone (MEK)	7.0	ug/m3	5.5	0.85	1.83		08/03/21 21:15	78-93-3	
Carbon disulfide	0.84J	ug/m3	1.2	0.24	1.83		08/03/21 21:15	75-15-0	
Carbon tetrachloride	0.86J	ug/m3	2.3	0.51	1.83		08/03/21 21:15	56-23-5	
Chlorobenzene	<0.28	ug/m3	1.7	0.28	1.83		08/03/21 21:15	108-90-7	
Chloroethane	<0.41	ug/m3	0.98	0.41	1.83		08/03/21 21:15	75-00-3	
Chloroform	<0.33	ug/m3	0.91	0.33	1.83		08/03/21 21:15	67-66-3	
Chloromethane	1.2	ug/m3	0.77	0.16	1.83		08/03/21 21:15	74-87-3	
Cyclohexane	7.3	ug/m3	3.2	0.40	1.83		08/03/21 21:15	110-82-7	
Dibromochloromethane	<0.94	ug/m3	3.2	0.94	1.83		08/03/21 21:15	124-48-1	
1,2-Dibromoethane (EDB)	<0.55	ug/m3	1.4	0.55	1.83		08/03/21 21:15	106-93-4	
1,2-Dichlorobenzene	<0.74	ug/m3	5.6	0.74	1.83		08/03/21 21:15	95-50-1	
1,3-Dichlorobenzene	1.6J	ug/m3	5.6	0.93	1.83		08/03/21 21:15	541-73-1	
1,4-Dichlorobenzene	<1.6	ug/m3	5.6	1.6	1.83		08/03/21 21:15	106-46-7	
Dichlorodifluoromethane	6.7	ug/m3	1.8	0.34	1.83		08/03/21 21:15	75-71-8	
1,1-Dichloroethane	<0.30	ug/m3	1.5	0.30	1.83		08/03/21 21:15	75-34-3	
1,2-Dichloroethane	<0.36	ug/m3	1.5	0.36	1.83		08/03/21 21:15	107-06-2	
1,1-Dichloroethene	<0.25	ug/m3	1.5	0.25	1.83		08/03/21 21:15	75-35-4	
cis-1,2-Dichloroethene	<0.36	ug/m3	1.5	0.36	1.83		08/03/21 21:15	156-59-2	
trans-1,2-Dichloroethene	<0.31	ug/m3	1.5	0.31	1.83		08/03/21 21:15	156-60-5	
1,2-Dichloropropane	<0.49	ug/m3	1.7	0.49	1.83		08/03/21 21:15	78-87-5	
cis-1,3-Dichloropropene	<0.47	ug/m3	4.2	0.47	1.83		08/03/21 21:15	10061-01-5	
trans-1,3-Dichloropropene	<1.0	ug/m3	4.2	1.0	1.83		08/03/21 21:15	10061-02-6	
Dichlorotetrafluoroethane	<0.37	ug/m3	2.6	0.37	1.83		08/03/21 21:15	76-14-2	
Ethanol	159	ug/m3	3.5	1.1	1.83		08/03/21 21:15	64-17-5	
Ethyl acetate	1.2J	ug/m3	1.3	0.24	1.83		08/03/21 21:15	141-78-6	
Ethylbenzene	14.9	ug/m3	1.6	0.57	1.83		08/03/21 21:15	100-41-4	
4-Ethyltoluene	4.2J	ug/m3	4.6	0.86	1.83		08/03/21 21:15	622-96-8	
n-Heptane	7.0	ug/m3	1.5	0.33	1.83		08/03/21 21:15	142-82-5	
Hexachloro-1,3-butadiene	<2.3	ug/m3	9.9	2.3	1.83		08/03/21 21:15	87-68-3	
n-Hexane	7.8	ug/m3	1.3	0.35	1.83		08/03/21 21:15	110-54-3	
2-Hexanone	<0.81	ug/m3	7.6	0.81	1.83		08/03/21 21:15	591-78-6	
Methylene Chloride	2.4J	ug/m3	6.5	1.1	1.83		08/03/21 21:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	9.9	ug/m3	7.6	0.59	1.83		08/03/21 21:15	108-10-1	
Methyl-tert-butyl ether	<0.23	ug/m3	6.7	0.23	1.83		08/03/21 21:15	1634-04-4	
Naphthalene	<4.0	ug/m3	4.9	4.0	1.83		08/03/21 21:15	91-20-3	
2-Propanol	62.5	ug/m3	4.6	0.93	1.83		08/03/21 21:15	67-63-0	
Propylene	<0.24	ug/m3	1.6	0.24	1.83		08/03/21 21:15	115-07-1	
Styrene	1.2J	ug/m3	1.6	0.70	1.83		08/03/21 21:15	100-42-5	

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ANALYTICAL RESULTS

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

Sample: SS-21 Lab ID: 10572248003 Collected: 07/27/21 14:36 Received: 07/29/21 16:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
1,1,2,2-Tetrachloroethane	<0.68	ug/m3	2.6	0.68	1.83		08/03/21 21:15	79-34-5	
Tetrachloroethene	1.7	ug/m3	1.3	0.53	1.83		08/03/21 21:15	127-18-4	
Tetrahydrofuran	<0.33	ug/m3	1.1	0.33	1.83		08/03/21 21:15	109-99-9	
Toluene	35.0	ug/m3	1.4	0.45	1.83		08/03/21 21:15	108-88-3	
1,2,4-Trichlorobenzene	<8.9	ug/m3	13.8	8.9	1.83		08/03/21 21:15	120-82-1	
1,1,1-Trichloroethane	<0.34	ug/m3	2.0	0.34	1.83		08/03/21 21:15	71-55-6	
1,1,2-Trichloroethane	<0.36	ug/m3	1.0	0.36	1.83		08/03/21 21:15	79-00-5	
Trichloroethene	2.5	ug/m3	1.0	0.36	1.83		08/03/21 21:15	79-01-6	
Trichlorofluoromethane	13.5	ug/m3	2.1	0.43	1.83		08/03/21 21:15	75-69-4	
1,1,2-Trichlorotrifluoroethane	2.8J	ug/m3	2.9	0.53	1.83		08/03/21 21:15	76-13-1	
1,2,4-Trimethylbenzene	14.8	ug/m3	1.8	0.65	1.83		08/03/21 21:15	95-63-6	
1,3,5-Trimethylbenzene	5.2	ug/m3	1.8	0.53	1.83		08/03/21 21:15	108-67-8	
Vinyl acetate	<0.38	ug/m3	1.3	0.38	1.83		08/03/21 21:15	108-05-4	
Vinyl chloride	<0.16	ug/m3	0.48	0.16	1.83		08/03/21 21:15	75-01-4	
m&p-Xylene	18.4	ug/m3	3.2	1.2	1.83		08/03/21 21:15	179601-23-1	
o-Xylene	7.5	ug/m3	1.6	0.50	1.83		08/03/21 21:15	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

QC Batch: 760913 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10572248001, 10572248002, 10572248003

METHOD BLANK: 4057171 Matrix: Air
Associated Lab Samples: 10572248001, 10572248002, 10572248003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.19	1.1	08/03/21 10:35	
1,1,2,2-Tetrachloroethane	ug/m3	<0.37	1.4	08/03/21 10:35	
1,1,2-Trichloroethane	ug/m3	<0.20	0.56	08/03/21 10:35	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.29	1.6	08/03/21 10:35	
1,1-Dichloroethane	ug/m3	<0.16	0.82	08/03/21 10:35	
1,1-Dichloroethene	ug/m3	<0.14	0.81	08/03/21 10:35	
1,2,4-Trichlorobenzene	ug/m3	<4.9	7.5	08/03/21 10:35	
1,2,4-Trimethylbenzene	ug/m3	0.55J	1.0	08/03/21 10:35	
1,2-Dibromoethane (EDB)	ug/m3	<0.30	0.78	08/03/21 10:35	
1,2-Dichlorobenzene	ug/m3	<0.40	3.1	08/03/21 10:35	
1,2-Dichloroethane	ug/m3	<0.19	0.82	08/03/21 10:35	
1,2-Dichloropropane	ug/m3	<0.27	0.94	08/03/21 10:35	
1,3,5-Trimethylbenzene	ug/m3	0.30J	1.0	08/03/21 10:35	
1,3-Butadiene	ug/m3	<0.12	0.45	08/03/21 10:35	
1,3-Dichlorobenzene	ug/m3	<0.51	3.1	08/03/21 10:35	
1,4-Dichlorobenzene	ug/m3	<0.88	3.1	08/03/21 10:35	
2-Butanone (MEK)	ug/m3	<0.46	3.0	08/03/21 10:35	
2-Hexanone	ug/m3	<0.44	4.2	08/03/21 10:35	
2-Propanol	ug/m3	<0.51	2.5	08/03/21 10:35	
4-Ethyltoluene	ug/m3	<0.47	2.5	08/03/21 10:35	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.32	4.2	08/03/21 10:35	
Acetone	ug/m3	<1.8	6.0	08/03/21 10:35	
Benzene	ug/m3	<0.11	0.32	08/03/21 10:35	
Benzyl chloride	ug/m3	<0.89	2.6	08/03/21 10:35	
Bromodichloromethane	ug/m3	<0.24	1.4	08/03/21 10:35	
Bromoform	ug/m3	<1.6	5.2	08/03/21 10:35	
Bromomethane	ug/m3	<0.15	0.79	08/03/21 10:35	
Carbon disulfide	ug/m3	<0.13	0.63	08/03/21 10:35	
Carbon tetrachloride	ug/m3	<0.28	1.3	08/03/21 10:35	
Chlorobenzene	ug/m3	<0.16	0.94	08/03/21 10:35	
Chloroethane	ug/m3	<0.22	0.54	08/03/21 10:35	
Chloroform	ug/m3	<0.18	0.50	08/03/21 10:35	
Chloromethane	ug/m3	<0.085	0.42	08/03/21 10:35	
cis-1,2-Dichloroethene	ug/m3	<0.20	0.81	08/03/21 10:35	
cis-1,3-Dichloropropene	ug/m3	<0.26	2.3	08/03/21 10:35	
Cyclohexane	ug/m3	<0.22	1.8	08/03/21 10:35	
Dibromochloromethane	ug/m3	<0.52	1.7	08/03/21 10:35	
Dichlorodifluoromethane	ug/m3	0.58J	1.0	08/03/21 10:35	
Dichlorotetrafluoroethane	ug/m3	<0.20	1.4	08/03/21 10:35	
Ethanol	ug/m3	<0.59	1.9	08/03/21 10:35	

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QUALITY CONTROL DATA

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

METHOD BLANK: 4057171 Matrix: Air
Associated Lab Samples: 10572248001, 10572248002, 10572248003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.13	0.73	08/03/21 10:35	
Ethylbenzene	ug/m3	0.31J	0.88	08/03/21 10:35	
Hexachloro-1,3-butadiene	ug/m3	<1.2	5.4	08/03/21 10:35	
m&p-Xylene	ug/m3	0.66J	1.8	08/03/21 10:35	
Methyl-tert-butyl ether	ug/m3	<0.13	3.7	08/03/21 10:35	
Methylene Chloride	ug/m3	<0.59	3.5	08/03/21 10:35	
n-Heptane	ug/m3	<0.18	0.83	08/03/21 10:35	
n-Hexane	ug/m3	<0.19	0.72	08/03/21 10:35	
Naphthalene	ug/m3	<2.2	2.7	08/03/21 10:35	
o-Xylene	ug/m3	0.28J	0.88	08/03/21 10:35	
Propylene	ug/m3	<0.13	0.88	08/03/21 10:35	
Styrene	ug/m3	<0.38	0.87	08/03/21 10:35	
Tetrachloroethene	ug/m3	<0.29	0.69	08/03/21 10:35	
Tetrahydrofuran	ug/m3	<0.18	0.60	08/03/21 10:35	
Toluene	ug/m3	<0.24	0.77	08/03/21 10:35	
trans-1,2-Dichloroethene	ug/m3	<0.17	0.81	08/03/21 10:35	
trans-1,3-Dichloropropene	ug/m3	<0.54	2.3	08/03/21 10:35	
Trichloroethene	ug/m3	<0.20	0.55	08/03/21 10:35	
Trichlorofluoromethane	ug/m3	0.42J	1.1	08/03/21 10:35	
Vinyl acetate	ug/m3	<0.21	0.72	08/03/21 10:35	
Vinyl chloride	ug/m3	<0.087	0.26	08/03/21 10:35	

LABORATORY CONTROL SAMPLE: 4057172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	59.3	68.2	115	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	75.4	78.8	104	70-132	
1,1,2-Trichloroethane	ug/m3	59.6	66.3	111	70-134	
1,1,2-Trichlorotrifluoroethane	ug/m3	83.6	91.4	109	70-130	
1,1-Dichloroethane	ug/m3	43.9	49.9	113	70-133	
1,1-Dichloroethene	ug/m3	43.5	48.5	111	70-130	
1,2,4-Trichlorobenzene	ug/m3	177	220	124	69-132	
1,2,4-Trimethylbenzene	ug/m3	54	61.3	113	70-142	
1,2-Dibromoethane (EDB)	ug/m3	82.5	90.7	110	70-138	
1,2-Dichlorobenzene	ug/m3	66.2	76.0	115	70-146	
1,2-Dichloroethane	ug/m3	44.4	51.7	116	70-132	
1,2-Dichloropropane	ug/m3	50.6	55.4	109	70-134	
1,3,5-Trimethylbenzene	ug/m3	53.7	61.2	114	70-143	
1,3-Butadiene	ug/m3	24.2	28.5	118	70-136	
1,3-Dichlorobenzene	ug/m3	66.3	76.8	116	70-145	
1,4-Dichlorobenzene	ug/m3	66.3	76.5	115	70-140	
2-Butanone (MEK)	ug/m3	32.3	35.6	110	50-139	
2-Hexanone	ug/m3	44.8	50.0	112	70-148	
2-Propanol	ug/m3	149	164	110	67-135	

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QUALITY CONTROL DATA

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

LABORATORY CONTROL SAMPLE: 4057172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	53.7	60.4	113	70-145	
4-Methyl-2-pentanone (MIBK)	ug/m3	44.9	53.0	118	70-139	
Acetone	ug/m3	128	141	110	64-130	
Benzene	ug/m3	34.8	39.5	114	70-131	
Benzyl chloride	ug/m3	57.6	70.4	122	70-130	
Bromodichloromethane	ug/m3	73.1	84.4	115	70-133	
Bromoform	ug/m3	114	130	115	70-137	
Bromomethane	ug/m3	42.5	52.3	123	64-134	
Carbon disulfide	ug/m3	34.4	40.1	117	70-131	
Carbon tetrachloride	ug/m3	69.4	72.9	105	70-131	
Chlorobenzene	ug/m3	50.2	55.0	110	70-130	
Chloroethane	ug/m3	28.8	35.1	122	69-141	
Chloroform	ug/m3	52.4	57.1	109	70-130	
Chloromethane	ug/m3	22.6	25.2	112	70-130	
cis-1,2-Dichloroethene	ug/m3	43.4	48.3	111	70-137	
cis-1,3-Dichloropropene	ug/m3	49.4	53.4	108	70-144	
Cyclohexane	ug/m3	37.4	41.3	110	70-137	
Dibromochloromethane	ug/m3	93.2	103	111	70-132	
Dichlorodifluoromethane	ug/m3	54.6	60.1	110	70-130	
Dichlorotetrafluoroethane	ug/m3	71.2	80.9	114	70-130	
Ethanol	ug/m3	124	140	113	63-133	
Ethyl acetate	ug/m3	38.9	44.6	115	70-136	
Ethylbenzene	ug/m3	47.8	50.8	106	70-142	
Hexachloro-1,3-butadiene	ug/m3	133	162	122	70-135	
m&p-Xylene	ug/m3	95.4	102	107	70-141	
Methyl-tert-butyl ether	ug/m3	39.6	43.4	110	70-143	
Methylene Chloride	ug/m3	190	199	105	70-130	
n-Heptane	ug/m3	44.6	49.4	111	70-137	
n-Hexane	ug/m3	38	43.0	113	70-135	
Naphthalene	ug/m3	65.2	80.5	123	67-132	
o-Xylene	ug/m3	47.6	51.1	107	70-141	
Propylene	ug/m3	18.9	21.2	112	70-130	
Styrene	ug/m3	47	51.1	109	70-142	
Tetrachloroethene	ug/m3	73.4	81.4	111	70-130	
Tetrahydrofuran	ug/m3	32.1	38.5	120	70-136	
Toluene	ug/m3	41.6	49.4	119	70-138	
trans-1,2-Dichloroethene	ug/m3	43.6	48.3	111	70-130	
trans-1,3-Dichloropropene	ug/m3	50.5	57.2	113	70-145	
Trichloroethene	ug/m3	58.4	64.7	111	70-130	
Trichlorofluoromethane	ug/m3	62	69.7	112	69-135	
Vinyl acetate	ug/m3	46.4	50.7	109	70-146	
Vinyl chloride	ug/m3	28	32.9	117	70-137	

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QUALITY CONTROL DATA

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

SAMPLE DUPLICATE: 4060104

Parameter	Units	10572641001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<0.28		25	
1,1,2,2-Tetrachloroethane	ug/m3	ND	<0.57		25	
1,1,2-Trichloroethane	ug/m3	ND	<0.30		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	1.6J		25	
1,1-Dichloroethane	ug/m3	ND	<0.25		25	
1,1-Dichloroethene	ug/m3	ND	<0.21		25	
1,2,4-Trichlorobenzene	ug/m3	ND	<7.4		25	
1,2,4-Trimethylbenzene	ug/m3	16.1	15.9	1	25	
1,2-Dibromoethane (EDB)	ug/m3	ND	<0.46		25	
1,2-Dichlorobenzene	ug/m3	ND	<0.62		25	
1,2-Dichloroethane	ug/m3	ND	<0.29		25	
1,2-Dichloropropane	ug/m3	ND	<0.41		25	
1,3,5-Trimethylbenzene	ug/m3	7.3	7.5	2	25	
1,3-Butadiene	ug/m3	ND	<0.18		25	
1,3-Dichlorobenzene	ug/m3	9.2	9.5	3	25	
1,4-Dichlorobenzene	ug/m3	ND	<1.3		25	
2-Butanone (MEK)	ug/m3	54.4	53.8	1	25	
2-Hexanone	ug/m3	ND	4.1J		25	
2-Propanol	ug/m3	7.1	7.2	1	25	
4-Ethyltoluene	ug/m3	5.9	5.9	0	25	
4-Methyl-2-pentanone (MIBK)	ug/m3	20.9	21.3	2	25	
Acetone	ug/m3	250	248	1	25	
Benzene	ug/m3	24.4	24.1	2	25	
Benzyl chloride	ug/m3	ND	<1.4		25	
Bromodichloromethane	ug/m3	ND	1.3J		25	
Bromoform	ug/m3	ND	<2.5		25	
Bromomethane	ug/m3	ND	<0.23		25	
Carbon disulfide	ug/m3	1.9	1.9	2	25	
Carbon tetrachloride	ug/m3	ND	0.83J		25	
Chlorobenzene	ug/m3	ND	<0.24		25	
Chloroethane	ug/m3	ND	<0.34		25	
Chloroform	ug/m3	ND	<0.28		25	
Chloromethane	ug/m3	1.3	1.1	11	25	
cis-1,2-Dichloroethene	ug/m3	ND	<0.30		25	
cis-1,3-Dichloropropene	ug/m3	ND	<0.39		25	
Cyclohexane	ug/m3	ND	<0.34		25	
Dibromochloromethane	ug/m3	ND	<0.78		25	
Dichlorodifluoromethane	ug/m3	4.7	4.2	11	25	
Dichlorotetrafluoroethane	ug/m3	ND	<0.31		25	
Ethanol	ug/m3	89.6	90.3	1	25	
Ethyl acetate	ug/m3	ND	0.45J		25	
Ethylbenzene	ug/m3	12.8	12.8	0	25	
Hexachloro-1,3-butadiene	ug/m3	ND	<1.9		25	
m&p-Xylene	ug/m3	79.7	79.3	1	25	
Methyl-tert-butyl ether	ug/m3	ND	<0.19		25	
Methylene Chloride	ug/m3	ND	<0.90		25	
n-Heptane	ug/m3	31.7	32.3	2	25	

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QUALITY CONTROL DATA

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

SAMPLE DUPLICATE: 4060104

Parameter	Units	10572641001 Result	Dup Result	RPD	Max RPD	Qualifiers
n-Hexane	ug/m3	47.2	46.9	1	25	
Naphthalene	ug/m3	5.1	5.3	4	25	
o-Xylene	ug/m3	21.6	21.6	0	25	
Propylene	ug/m3	ND	<0.20		25	
Styrene	ug/m3	2.3	2.3	0	25	
Tetrachloroethene	ug/m3	6.1	5.9	2	25	
Tetrahydrofuran	ug/m3	ND	<0.27		25	
Toluene	ug/m3	55.5	55.4	0	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.26		25	
trans-1,3-Dichloropropene	ug/m3	ND	<0.83		25	
Trichloroethene	ug/m3	ND	<0.30		25	
Trichlorofluoromethane	ug/m3	3.5	3.4	2	25	
Vinyl acetate	ug/m3	ND	<0.32		25	
Vinyl chloride	ug/m3	ND	<0.13		25	

SAMPLE DUPLICATE: 4060105

Parameter	Units	10572641002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.49J		25	
1,1,2,2-Tetrachloroethane	ug/m3	ND	<0.59		25	
1,1,2-Trichloroethane	ug/m3	ND	<0.31		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	1.2J		25	
1,1-Dichloroethane	ug/m3	ND	<0.26		25	
1,1-Dichloroethene	ug/m3	ND	<0.22		25	
1,2,4-Trichlorobenzene	ug/m3	ND	<7.7		25	
1,2,4-Trimethylbenzene	ug/m3	82.7	81.4	2	25	
1,2-Dibromoethane (EDB)	ug/m3	ND	<0.47		25	
1,2-Dichlorobenzene	ug/m3	ND	<0.64		25	
1,2-Dichloroethane	ug/m3	ND	0.35J		25	
1,2-Dichloropropane	ug/m3	ND	<0.43		25	
1,3,5-Trimethylbenzene	ug/m3	40.5	39.6	2	25	
1,3-Butadiene	ug/m3	ND	<0.19		25	
1,3-Dichlorobenzene	ug/m3	ND	3.8J		25	
1,4-Dichlorobenzene	ug/m3	ND	<1.4		25	
2-Butanone (MEK)	ug/m3	154	168	9	25	
2-Hexanone	ug/m3	ND	5.0J		25	
2-Propanol	ug/m3	10.7	10.6	0	25	
4-Ethyltoluene	ug/m3	22.1	21.7	2	25	
4-Methyl-2-pentanone (MIBK)	ug/m3	61.2	61.0	0	25	
Acetone	ug/m3	477	468	2	25	
Benzene	ug/m3	44.5	43.7	2	25	
Benzyl chloride	ug/m3	ND	2.2J		25	
Bromodichloromethane	ug/m3	ND	1.5J		25	
Bromoform	ug/m3	ND	<2.6		25	
Bromomethane	ug/m3	ND	<0.24		25	

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QUALITY CONTROL DATA

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

SAMPLE DUPLICATE: 4060105

Parameter	Units	10572641002 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon disulfide	ug/m3	2.8	2.7	3	25	
Carbon tetrachloride	ug/m3	3.5	3.6	5	25	
Chlorobenzene	ug/m3	ND	<0.24		25	
Chloroethane	ug/m3	ND	<0.35		25	
Chloroform	ug/m3	ND	<0.29		25	
Chloromethane	ug/m3	ND	<0.13		25	
cis-1,2-Dichloroethene	ug/m3	ND	<0.31		25	
cis-1,3-Dichloropropene	ug/m3	ND	<0.40		25	
Cyclohexane	ug/m3	ND	<0.35		25	
Dibromochloromethane	ug/m3	ND	<0.81		25	
Dichlorodifluoromethane	ug/m3	8.3	7.8	6	25	
Dichlorotetrafluoroethane	ug/m3	ND	<0.32		25	
Ethanol	ug/m3	96.0	94.1	2	25	
Ethyl acetate	ug/m3	ND	0.55J		25	
Ethylbenzene	ug/m3	31.3	30.8	2	25	
Hexachloro-1,3-butadiene	ug/m3	ND	<1.9		25	
m&p-Xylene	ug/m3	262	257	2	25	
Methyl-tert-butyl ether	ug/m3	ND	<0.20		25	
Methylene Chloride	ug/m3	ND	<0.94		25	
n-Heptane	ug/m3	31.5	27.6	13	25	
n-Hexane	ug/m3	50.9	51.0	0	25	
Naphthalene	ug/m3	5.8	5.4	6	25	
o-Xylene	ug/m3	77.8	76.6	2	25	
Propylene	ug/m3	132	150	13	25	
Styrene	ug/m3	2.4	2.3	7	25	
Tetrachloroethene	ug/m3	22.0	22.0	0	25	
Tetrahydrofuran	ug/m3	ND	<0.28		25	
Toluene	ug/m3	67.1	66.5	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.27		25	
trans-1,3-Dichloropropene	ug/m3	ND	<0.86		25	
Trichloroethene	ug/m3	ND	<0.31		25	
Trichlorofluoromethane	ug/m3	4.8	4.5	6	25	
Vinyl acetate	ug/m3	ND	<0.33		25	
Vinyl chloride	ug/m3	ND	<0.14		25	

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QUALIFIERS

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 130058.3 3330 University Ave
Pace Project No.: 10572248

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10572248001	AI-21	TO-15	760913		
10572248002	AI-22	TO-15	760913		
10572248003	SS-21	TO-15	760913		

REPORT OF LABORATORY ANALYSIS

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information: Company: Resource Eng Associates Address: 3310 Parmenter St #100 Middleton, WI 53562 Email To: bill@reaeng.com Phone: 608-220-3804 Requested Due Date/FAT: 5-7 Bus Days	Section B Required Project Information: Report To: Bill Buckingham Copy To: Purchase Order No.: Project Name: 3350 University Ave Project Number: 130058.3	Section C Invoice Information: Attention: Frank Lowenberg Company Name: Resource Eng Assoc Address: 3310 Parmenter St, Middleton, WI 53562 Pace Quote Reference: 00097445 Page Project Manager/Sales Rep: Christopher Hyska Pace Profile #: Michael Dew	Page: 1 of 1 51008 Program: <input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act <input checked="" type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input type="checkbox"/> Other Location of Sampling by State: WI Reporting Units: <input checked="" type="checkbox"/> ug/m ³ <input type="checkbox"/> ppmv <input type="checkbox"/> ppmw Report Level: II <input checked="" type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> Other
--	---	---	--

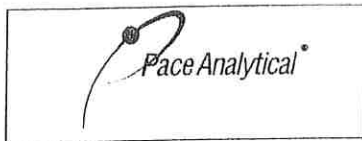
ITEM #	Valid Media Codes	COLLECTED		Canister Pressure (Initial Field - In Hg)	Canister Pressure (Final Field - In Hg)	Summa Can Number	Flow Control Number	Method:	Pace Lab ID
		DATE	TIME						
1	6LC0	7/27/21	1:10	30	4	3358	1067	PM10	001
2	6LC0	7/27/21	1:12	30	3	373	1834	TO-15 Short List VOCs	002
3	6LC0	7/27/21	2:36	30	8	354	3083	TO-15 Short List Chlorinated	003
4								TO-15 Short List VOCs	
5								TO-15 Short List BTEX	
6								TO-15 Short List Chlorinated	
7								TO-15 Full List VOCs	
8								TO-14	
9								TO-3M (Methane)	
10								TO-3 BTEX	
11								3C - Fixed Gas (%)	
12									

RELIQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Bill Buckingham REA	7/27/21	2:00 PM	Michael Dew	7-27-21	16:00	Temp in °C Received on Ice Sealed Cooler Samples Intact
						Y/N
						Y/N
						Y/N
						Y/N
						Y/N
						Y/N
						Y/N

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	DATE Signed (MM / DD / YY)
SIGNATURE of SAMPLER:	

WO# : 10572248

10572248



Document Name:
Sample Condition Upon Receipt (SCUR) - Air
 Document No.:
 ENV-FRM-MIN4-0113 Rev. 00

Document Revised: 24Mar2020
 Page 1 of 1
 Pace Analytical Services -
 Minneapolis

Air Sample Condition Upon Receipt

Client Name: Resource Eng. Assoc.

Project #:

WO#: 10572248
 PM: MR2 Due Date: 08/05/21
 CLIENT: REA

Courier: Fed Ex UPS USPS Client
 Pace SpeeDee Commercial See Exception

Tracking Number: 9753 8444 3041

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

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

Temp. (TO17 and TO13 samples only) (°C): _____ Corrected Temp (°C): _____ Thermometer Used: G87A9170600254 G87A9155100842

Temp should be above freezing to 6°C Correction Factor: _____ Date & Initials of Person Examining Contents: 7-29-21 MRF

Type of ice Received Blue Wet None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? (Tedlar bags not acceptable container for TO-14, TO-15 or APH) -Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Containers Intact? (visual inspection/no leaks when pressurized)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11. Individually Certified Cans Y <u>N</u> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
Do cans need to be pressurized? (DO NOT PRESSURIZE 3C or ASTM 1946!!!)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13.

Gauge # 10AIR26 10AIR34 10AIR35 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
AI-21	3358	1067	-4	+5					
11-22	2373	1834	-3	+5					
SS-21	1354	3083	-6	+5					

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Matt Ray

Date: 07/29/21

EDD

130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE
130058.3	3330 University Ave	10572248	SS-21	10572248003	NONE

EDD

TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air
TO-15	07/27/2021	08/03/2021	Air

EDD

Analyte	CAS Number	Results	Units	PRL	Footnotes
Tetrahydrofuran	109-99-9	<0.093	ppbv	0.31	
Ethylbenzene	100-41-4	1.2	ppbv	0.32	
4-Ethyltoluene	622-96-8	0.54J	ppbv	0.78	
n-Heptane	142-82-5	1.1	ppbv	0.31	
Hexachloro-1,3-butadiene	87-68-3	<0.18	ppbv	0.77	
n-Hexane	110-54-3	1.8	ppbv	0.31	
2-Hexanone	591-78-6	<0.17	ppbv	1.5	
Methylene Chloride	75-09-2	0.57J	ppbv	1.6	
4-Methyl-2-pentanone (MIBK)	108-10-1	2.3	ppbv	1.5	
Methyl-tert-butyl ether	1634-04-4	<0.055	ppbv	1.6	
Naphthalene	91-20-3	0.64J	ppbv	0.77	
2-Propanol	67-63-0	91.2	ppbv	1.6	
Propylene	115-07-1	7.5	ppbv	0.8	
Ethyl acetate	141-78-6	1.8	ppbv	0.3	
Acetone	67-64-1	91.1	ppbv	3.9	
Styrene	100-42-5	0.42	ppbv	0.3	
Toluene	108-88-3	8	ppbv	0.31	
1,2,4-Trichlorobenzene	120-82-1	<1	ppbv	1.6	
1,1,1-Trichloroethane	71-55-6	<0.052	ppbv	0.31	
1,1,2-Trichloroethane	79-00-5	<0.056	ppbv	0.16	
Trichloroethene	79-01-6	0.071J	ppbv	0.16	
Trichlorofluoromethane	75-69-4	0.28J	ppbv	0.32	
1,1,2-Trichlorotrifluoroethane	76-13-1	0.11J	ppbv	0.31	
1,2,4-Trimethylbenzene	95-63-6	1.7	ppbv	0.3	
1,3,5-Trimethylbenzene	108-67-8	0.66	ppbv	0.3	
Vinyl acetate	108-05-4	<0.089	ppbv	0.31	
Vinyl chloride	75-01-4	<0.05	ppbv	0.15	
m&p-Xylene	179601-23-1	4.3	ppbv	0.61	
o-Xylene	95-47-6	1.7	ppbv	0.32	
1,1,2,2-Tetrachloroethane	79-34-5	<0.083	ppbv	0.32	
1,3-Butadiene	106-99-0	<0.084	ppbv	0.31	
Chloromethane	74-87-3	0.71	ppbv	0.31	
Chloroform	67-66-3	<0.056	ppbv	0.16	
Chloroethane	75-00-3	<0.13	ppbv	0.31	
Chlorobenzene	108-90-7	<0.051	ppbv	0.32	
Carbon tetrachloride	56-23-5	0.14J	ppbv	0.31	
Cyclohexane	110-82-7	1.5	ppbv	0.77	
2-Butanone (MEK)	78-93-3	1.8	ppbv	1.5	
Benzyl chloride	100-44-7	<0.27	ppbv	0.78	
Bromomethane	74-83-9	<0.058	ppbv	0.3	
Bromoform	75-25-2	<0.24	ppbv	0.77	

EDD

Bromodichloromethane	75-27-4	<0.054	ppbv	0.31
Ethanol	64-17-5	184	ppbv	1.6
Benzene	71-43-2	2.7	ppbv	0.15
Tetrachloroethene	127-18-4	<0.065	ppbv	0.16
Carbon disulfide	75-15-0	0.41	ppbv	0.31
trans-1,3-Dichloropropene	10061-02-6	<0.18	ppbv	0.78
Dibromochloromethane	124-48-1	<0.092	ppbv	0.31
Dichlorotetrafluoroethane	76-14-2	<0.044	ppbv	0.31
cis-1,3-Dichloropropene	10061-01-5	<0.087	ppbv	0.78
1,2-Dichloropropane	78-87-5	<0.089	ppbv	0.32
trans-1,2-Dichloroethene	156-60-5	<0.065	ppbv	0.3
cis-1,2-Dichloroethene	156-59-2	<0.074	ppbv	0.3
1,1-Dichloroethene	75-35-4	<0.052	ppbv	0.3
1,1-Dichloroethane	75-34-3	<0.063	ppbv	0.32
Dichlorodifluoromethane	75-71-8	0.52	ppbv	0.32
1,4-Dichlorobenzene	106-46-7	<0.23	ppbv	0.77
1,3-Dichlorobenzene	541-73-1	<0.13	ppbv	0.77
1,2-Dichlorobenzene	95-50-1	<0.1	ppbv	0.77
1,2-Dichloroethane	107-06-2	<0.073	ppbv	0.32
1,2-Dibromoethane (EDB)	106-93-4	<0.059	ppbv	0.15
trans-1,2-Dichloroethene	156-60-5	<0.062	ppbv	0.3
1,2-Dibromoethane (EDB)	106-93-4	<0.058	ppbv	0.15
1,2-Dichlorobenzene	95-50-1	<0.098	ppbv	0.75
1,3-Dichlorobenzene	541-73-1	<0.12	ppbv	0.75
1,4-Dichlorobenzene	106-46-7	<0.21	ppbv	0.75
Dichlorodifluoromethane	75-71-8	0.56	ppbv	0.3
1,1-Dichloroethane	75-34-3	<0.061	ppbv	0.29
1,2-Dichloroethane	107-06-2	<0.07	ppbv	0.29
cis-1,3-Dichloropropene	10061-01-5	<0.082	ppbv	0.74
cis-1,2-Dichloroethene	156-59-2	<0.072	ppbv	0.3
1,2-Dichloropropane	78-87-5	<0.085	ppbv	0.3
Dibromochloromethane	124-48-1	<0.089	ppbv	0.3
trans-1,3-Dichloropropene	10061-02-6	<0.18	ppbv	0.74
1,3-Butadiene	106-99-0	<0.08	ppbv	0.3
1,1-Dichloroethene	75-35-4	<0.052	ppbv	0.3
Cyclohexane	110-82-7	1.5	ppbv	0.74
Chloromethane	74-87-3	0.71	ppbv	0.3
Chloroform	67-66-3	<0.054	ppbv	0.15
Chloroethane	75-00-3	<0.12	ppbv	0.3
Chlorobenzene	108-90-7	<0.049	ppbv	0.3
Carbon tetrachloride	56-23-5	0.15J	ppbv	0.3
Acetone	67-64-1	101	ppbv	3.7

EDD

2-Butanone (MEK)	78-93-3	2.3	ppbv	1.5
Bromomethane	74-83-9	<0.056	ppbv	0.3
Bromoform	75-25-2	<0.23	ppbv	0.74
Bromodichloromethane	75-27-4	<0.051	ppbv	0.29
Benzyl chloride	100-44-7	<0.25	ppbv	0.74
Benzene	71-43-2	2.9	ppbv	0.15
Ethyl acetate	141-78-6	1.8	ppbv	0.3
Carbon disulfide	75-15-0	0.41	ppbv	0.3
1,2,4-Trimethylbenzene	95-63-6	1.8	ppbv	0.3
Toluene	108-88-3	8.5	ppbv	0.29
1,2,4-Trichlorobenzene	120-82-1	<0.97	ppbv	1.5
1,1,1-Trichloroethane	71-55-6	<0.05	ppbv	0.31
1,1,2-Trichloroethane	79-00-5	<0.052	ppbv	0.15
Trichloroethene	79-01-6	0.18	ppbv	0.15
Tetrahydrofuran	109-99-9	<0.09	ppbv	0.3
1,1,2-Trichlorotrifluoroethane	76-13-1	0.23J	ppbv	0.3
m&p-Xylene	179601-23-1	4.5	ppbv	0.59
1,3,5-Trimethylbenzene	108-67-8	0.66	ppbv	0.3
Vinyl acetate	108-05-4	<0.087	ppbv	0.31
Vinyl chloride	75-01-4	<0.05	ppbv	0.15
o-Xylene	95-47-6	1.7	ppbv	0.29
Ethanol	64-17-5	190	ppbv	1.5
Dichlorotetrafluoroethane	76-14-2	<0.042	ppbv	0.3
Trichlorofluoromethane	75-69-4	0.84	ppbv	0.3
n-Hexane	110-54-3	2	ppbv	0.31
Ethylbenzene	100-41-4	1.3	ppbv	0.29
Tetrachloroethene	127-18-4	<0.064	ppbv	0.15
Hexachloro-1,3-butadiene	87-68-3	<0.17	ppbv	0.75
4-Ethyltoluene	622-96-8	0.6J	ppbv	0.74
2-Hexanone	591-78-6	0.53J	ppbv	1.5
Methylene Chloride	75-09-2	0.57J	ppbv	1.5
4-Methyl-2-pentanone (MIBK)	108-10-1	2.8	ppbv	1.5
Methyl-tert-butyl ether	1634-04-4	<0.052	ppbv	1.5
Naphthalene	91-20-3	0.68J	ppbv	0.75
2-Propanol	67-63-0	88.4	ppbv	1.5
Propylene	115-07-1	7.8	ppbv	0.74
Styrene	100-42-5	0.42	ppbv	0.3
1,1,2,2-Tetrachloroethane	79-34-5	<0.079	ppbv	0.3
n-Heptane	142-82-5	1.1	ppbv	0.29
Styrene	100-42-5	0.28J	ppbv	0.37
m&p-Xylene	179601-23-1	4.2	ppbv	0.72
Propylene	115-07-1	<0.14	ppbv	0.91

EDD

2-Propanol	67-63-0	25	ppbv	1.8
Naphthalene	91-20-3	<0.75	ppbv	0.92
Methyl-tert-butyl ether	1634-04-4	<0.063	ppbv	1.8
4-Methyl-2-pentanone (MIBK)	108-10-1	2.4	ppbv	1.8
Methylene Chloride	75-09-2	0.68J	ppbv	1.8
2-Hexanone	591-78-6	<0.19	ppbv	1.8
n-Hexane	110-54-3	2.2	ppbv	0.36
Hexachloro-1,3-butadiene	87-68-3	<0.21	ppbv	0.91
4-Ethyltoluene	622-96-8	0.84J	ppbv	0.92
Trichloroethene	79-01-6	0.46	ppbv	0.18
Ethylbenzene	100-41-4	3.4	ppbv	0.36
n-Heptane	142-82-5	1.7	ppbv	0.36
1,1,2,2-Tetrachloroethane	79-34-5	<0.097	ppbv	0.37
Tetrachloroethene	127-18-4	0.25	ppbv	0.19
Tetrahydrofuran	109-99-9	<0.11	ppbv	0.37
Toluene	108-88-3	9.1	ppbv	0.37
1,2,4-Trichlorobenzene	120-82-1	<1.2	ppbv	1.8
Vinyl chloride	75-01-4	<0.062	ppbv	0.18
1,1,2-Trichloroethane	79-00-5	<0.065	ppbv	0.18
Trichlorofluoromethane	75-69-4	2.4	ppbv	0.37
1,1,2-Trichlorotrifluoroethane	76-13-1	0.36J	ppbv	0.37
1,2,4-Trimethylbenzene	95-63-6	3	ppbv	0.36
1,3,5-Trimethylbenzene	108-67-8	1	ppbv	0.36
Vinyl acetate	108-05-4	<0.11	ppbv	0.36
Ethyl acetate	141-78-6	0.33J	ppbv	0.35
Cyclohexane	110-82-7	2.1	ppbv	0.91
1,1,1-Trichloroethane	71-55-6	<0.061	ppbv	0.36
Dibromochloromethane	124-48-1	<0.11	ppbv	0.37
o-Xylene	95-47-6	1.7	ppbv	0.36
Acetone	67-64-1	65	ppbv	4.6
Benzene	71-43-2	2	ppbv	0.18
Benzyl chloride	100-44-7	<0.3	ppbv	0.91
Bromodichloromethane	75-27-4	<0.063	ppbv	0.37
Bromoform	75-25-2	<0.29	ppbv	0.91
Bromomethane	74-83-9	<0.068	ppbv	0.35
1,3-Butadiene	106-99-0	<0.098	ppbv	0.36
2-Butanone (MEK)	78-93-3	2.3	ppbv	1.8
Carbon disulfide	75-15-0	0.27J	ppbv	0.38
Carbon tetrachloride	56-23-5	0.13J	ppbv	0.36
Chlorobenzene	108-90-7	<0.06	ppbv	0.36
Chloroethane	75-00-3	<0.15	ppbv	0.37
1,2-Dibromoethane (EDB)	106-93-4	<0.07	ppbv	0.18

EDD

1,2-Dichloroethane	107-06-2	<0.088	ppbv	0.36
Dichlorotetrafluoroethane	76-14-2	<0.052	ppbv	0.37
trans-1,3-Dichloropropene	10061-02-6	<0.22	ppbv	0.91
cis-1,3-Dichloropropene	10061-01-5	<0.1	ppbv	0.91
1,2-Dichloropropane	78-87-5	<0.1	ppbv	0.36
trans-1,2-Dichloroethene	156-60-5	<0.077	ppbv	0.37
Chloroform	67-66-3	<0.066	ppbv	0.18
1,1-Dichloroethene	75-35-4	<0.062	ppbv	0.37
Chloromethane	74-87-3	0.57	ppbv	0.37
1,1-Dichloroethane	75-34-3	<0.073	ppbv	0.36
Dichlorodifluoromethane	75-71-8	1.3	ppbv	0.36
1,4-Dichlorobenzene	106-46-7	<0.26	ppbv	0.92
1,3-Dichlorobenzene	541-73-1	0.26J	ppbv	0.92
1,2-Dichlorobenzene	95-50-1	<0.12	ppbv	0.92
Ethanol	64-17-5	83	ppbv	1.8
cis-1,2-Dichloroethene	156-59-2	<0.089	ppbv	0.37



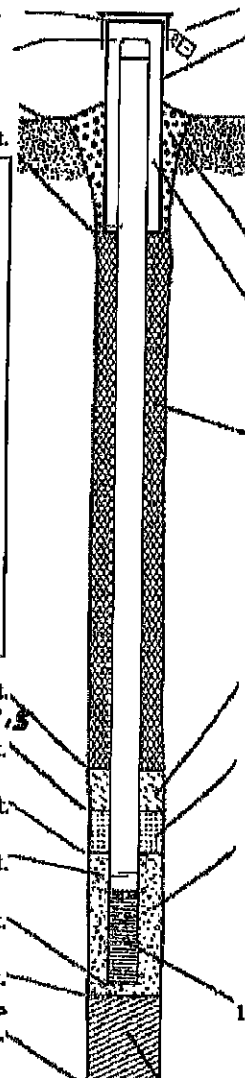
3510 Parmenter Street
Suite 100
Middleton, WI 53562

Phone: 608-831-5522
Fax: 608-831-6564
Web: www.reaeng.com

**Appendix B:
WDNR Forms 4400-113A&B/Boring Logs**

Facility/Project Name 3330 U. Ave	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name MW-5
Facility License, Permit or Monitoring No.	Local Grid Origin (estimated: <input type="checkbox"/>) or Well Location <input type="checkbox"/> Lat. " Long. " or	Wis. Unique Well No. DNR Well ID No.
Facility ID	St. Plane ft. N. ft. E. S/C/N	Date Well Installed 08/26/2021 m m d d y y y y
Type of Well Well Code 11, MW	Section Location of Waste/Source SE 1/4 of SE 1/4 of Sec 17, T. 7 N. R. 9 <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: Name (first, last) and Firm Dan Bendorf Probe Technologies
Distance from Waste/Source ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input checked="" type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	
Ent. Stds. Apply <input type="checkbox"/>	Gov. Lot Number	

A. Protective pipe, top elevation	ft. MSL	1. Cap and lock?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation	881.62 ft. MSL	2. Protective cover pipe:	
C. Land surface elevation	882.01 ft. MSL	a. Inside diameter:	8 in.
D. Surface seal, bottom	ft. MSL or ft.	b. Length:	Flush Mount 1.5 ft.
		c. Material:	Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/>
12. USCS classification of soil near screen:		d. Additional protection?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe:
GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input checked="" type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/>		3. Surface seal:	Bentonite <input type="checkbox"/> 30 Concrete <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/>
13. Sieve analysis performed?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4. Material between well casing and protective pipe:	Bentonite <input type="checkbox"/> 30 Other <input checked="" type="checkbox"/>
14. Drilling method used:	Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/>	Sand	Bentonite <input type="checkbox"/> 30 Other <input checked="" type="checkbox"/>
15. Drilling fluid used:	Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99	5. Annular space seal:	a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 33 b. Lbs/gal mud weight... Bentonite-sand slurry <input type="checkbox"/> 35 c. Lbs/gal mud weight... Bentonite slurry <input type="checkbox"/> 31 d. % Bentonite... Bentonite-cement grout <input type="checkbox"/> 50 e. 2.25 Ft ³ volume added for any of the above
16. Drilling additives used?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	f. How installed:	Tremie <input type="checkbox"/> 01 Tremie pumped <input type="checkbox"/> 02 Gravity <input type="checkbox"/> 08
Describe: N/A		6. Bentonite seal:	a. Bentonite granules <input type="checkbox"/> 33 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/> 32 c. Other <input type="checkbox"/>
17. Source of water (attach analysis, if required): N/A		7. Fine sand material: Manufacturer, product name & mesh size	a. Red Flint #15 b. Volume added 0.5 bags ft ³ = 0.75 ft³
E. Bentonite seal, top	ft. MSL or 1.0 ft.	8. Filter pack material: Manufacturer, product name & mesh size	a. Red Flint Sand/gravel #40 b. Volume added 13 bags 7.5 bags = 3.75 ft³
F. Fine sand, top	ft. MSL or 12.5 ft.	9. Well casing:	Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 23 Flush threaded PVC schedule 80 <input type="checkbox"/> 24 Other <input type="checkbox"/>
G. Filter pack, top	ft. MSL or 13.0 ft.	10. Screen material:	PVC
H. Screen joint, top	ft. MSL or 15.0 ft.	a. Screen type:	Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/>
I. Well bottom	ft. MSL or 25.0 ft.	b. Manufacturer: Johnson Screens	
J. Filter pack, bottom	ft. MSL or 25.5 ft.	c. Slot size:	0.010 in.
K. Borehole, bottom	ft. MSL or 25.5 ft.	d. Slotted length:	10 ft.
L. Borehole, diameter	4.25 in.	11. Backfill material (below filter pack):	None <input type="checkbox"/> 14 Other <input type="checkbox"/>
M. O.D. well casing	2.01 in.		
N. I.D. well casing	1.98 in.		



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

Signature: *[Signature]* Firm: Resource Engineering Assoc

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

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

Facility/Project Name <u>3330 U Ave</u>	County Name <u>Dane</u>	Well Name <u>MW-5</u>
Facility License, Permit or Monitoring Number	County Code <u>13</u>	Wis. Unique Well Number _____
		DNR Well ID Number _____

1. Can this well be purged dry? Yes No

2. Well development method

surged with bailer and bailed	<input type="checkbox"/>	41
surged with bailer and pumped	<input type="checkbox"/>	61
surged with block and bailed	<input checked="" type="checkbox"/>	42
surged with block and pumped	<input type="checkbox"/>	62
surged with block, bailed and pumped	<input type="checkbox"/>	70
compressed air	<input type="checkbox"/>	20
bailed only	<input type="checkbox"/>	10
pumped only	<input type="checkbox"/>	51
pumped slowly	<input type="checkbox"/>	50
Other _____	<input type="checkbox"/>	

3. Time spent developing well 30 min.

4. Depth of well (from top of well casing) 24.4 ft.

5. Inside diameter of well 1.98 in.

6. Volume of water in filter pack and well casing 1.5 gal.

7. Volume of water removed from well 15.5 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added N/A

10. Analysis performed on water added? Yes No
(if yes, attach results) N/A

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. <u>14.73</u> ft.	<u>23.99</u> ft.
Date	b. <u>09/16/2021</u> m m d d y y y y	<u>09/16/2021</u> m m d d y y y y
Time	a. <u>10:45</u> a.m. <input type="checkbox"/> p.m.	<u>10:15</u> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom	<u>6.0</u> inches	<u>00</u> inches
13. Water clarity	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) <u>yellowish</u>	Clear <input type="checkbox"/> 20 Turbid <input checked="" type="checkbox"/> 25 (Describe) <u>yellowish</u>
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	_____ mg/l	_____ mg/l
15. COD	_____ mg/l	_____ mg/l
16. Well developed by: Name (first, last) and Firm		
First Name:	<u>Ryan</u>	Last Name: <u>Nehls</u>
Firm:	<u>REA</u>	

17. Additional comments on development:

Name and Address of Facility Contact/Owner/Responsible Party

First Name: Ryan Last Name: Nehls

Facility/Firm: Resource Engineering Assoc

Street: 3510 Parmestr St Suite 100

City/State/Zip: Madison WI 53562

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

Signature: Ryan Nehls

Print Name: Ryan Nehls

Firm: REA

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

Facility/Project Name 3330 U Ave	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> E. <input type="checkbox"/> S. <input type="checkbox"/> W.		Well Name PZ-3
Facility License, Permit or Monitoring No.	Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Well Location <input type="checkbox"/>	Wis. Unique Well No.	DNR Well ID No.
Facility ID	Lat. _____ " Long. _____ "	Date Well Installed 8/27/2021 m m d d y y y y	
Type of Well Well Code 12/PZ	Section Location of Waste/Source SE 1/4 of SE 1/4 of Sec. 17, T. 7 N, R. 9 E	Well Installed By: Name (first, last) and Firm Dan Bender Probe Technologies	
Distance from Waste/Source _____ ft.	Est. Stds. Apply <input type="checkbox"/>	Location of Well Relative to Waste/Source n <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidgradient d <input checked="" type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Gov. Lot Number

A. Protective pipe, top elevation _____ ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation 881.59 ft. MSL	2. Protective cover pipe: a. Inside diameter: Flush 8.0 in. b. Length: Mount 1.5 ft. c. Material: Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/>
C. Land surface elevation 881.75 ft. MSL	d. Additional protection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____
D. Surface seal, bottom _____ ft. MSL or _____ ft.	3. Surface seal: Bentonite <input type="checkbox"/> 30 Concrete <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/>
12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input checked="" type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/>	4. Material between well casing and protective pipe: Sand Bentonite <input type="checkbox"/> 30 Other <input checked="" type="checkbox"/>
13. Sieve analysis performed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 33 b. _____ Lbs/gal mud weight... Bentonite-sand slurry <input type="checkbox"/> 35 c. _____ Lbs/gal mud weight... Bentonite slurry <input type="checkbox"/> 31 d. _____ % Bentonite... Bentonite-cement grout <input type="checkbox"/> 50 e. 5.0 Ft ³ volume added for any of the above f. How installed: Tremie <input type="checkbox"/> 01 Tremie pumped <input type="checkbox"/> 02 Gravity <input checked="" type="checkbox"/> 08
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/>	6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 33 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/> 32 c. _____ Other <input type="checkbox"/>
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99	7. Fine sand material: Manufacturer, product name & mesh size a. Reel Flint #15 1.0 b. Volume added 0.2505 ft ³ (0.5 bags)
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Describe N/A	8. Filter pack material: Manufacturer, product name & mesh size a. Reel Flint #40 b. Volume added 2.5 ft ³ (5 bags)
17. Source of water (attach analysis, if required): N/A	9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 23 Flush threaded PVC schedule 80 <input type="checkbox"/> 24 Other <input type="checkbox"/>
E. Bentonite seal, top _____ ft. MSL or 1.0 ft.	10. Screen material: PVC a. Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/>
F. Fine sand, top _____ ft. MSL or 278.5 ft.	b. Manufacturer Johnson Screens c. Slot size: 0.010 in. d. Slotted length: 5 ft.
G. Filter pack, top _____ ft. MSL or 31.5 ft.	11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 14 Other <input type="checkbox"/>
H. Screen joint, top _____ ft. MSL or 35.0 ft.	
I. Well bottom _____ ft. MSL or 40.0 ft.	
J. Filter pack, bottom _____ ft. MSL or 40.0 ft.	
K. Borehole, bottom _____ ft. MSL or 40.5 ft.	
L. Borehole, diameter 4.75 in.	
M. O.D. well casing 2.01 in.	
N. I.D. well casing 1.98 in.	

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

Signature *Nep Nuhn* Firm Resource Engineering Associates

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

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

Facility/Project Name <u>3320 U Ave</u>	County Name <u>Dane</u>	Well Name <u>PZ-3</u>
Facility License, Permit or Monitoring Number	County Code <u>13</u>	Wis. Unique Well Number _____
		DNR Well ID Number _____

1. Can this well be purged dry? Yes No
2. Well development method
- surged with bailer and bailed 41
 - surged with bailer and pumped 61
 - surged with block and bailed 42
 - surged with block and pumped 62
 - surged with block, bailed and pumped 70
 - compressed air 20
 - bailed only 10
 - pumped only 51
 - pumped slowly 50
 - Other
3. Time spent developing well 30 min.
4. Depth of well (from top of well casing) 39.3 ft.
5. Inside diameter of well 1.98 in.
6. Volume of water in filter pack and well casing 2.5 gal.
7. Volume of water removed from well 25.0 gal.
8. Volume of water added (if any) 0.0 gal.
9. Source of water added _____
10. Analysis performed on water added? Yes No
(If yes, attach results)

- | | Before Development | After Development |
|---|--|--|
| 11. Depth to Water (from top of well casing) | a. <u>23.6</u> ft. | <u>38.3</u> ft. |
| Date | b. <u>09/16/2021</u>
m m d d y y y y | <u>09/16/2021</u>
m m d d y y y y |
| Time | c. <u>11:00</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m. | <u>11:30</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m. |
| 12. Sediment in well bottom | <u>6.0</u> inches | <u>0.0</u> inches |
| 13. Water clarity | Clear <input type="checkbox"/> 10
Turbid <input checked="" type="checkbox"/> 15
(Describe) <u>gray silt</u>
<u>opaque</u> | Clear <input type="checkbox"/> 20
Turbid <input checked="" type="checkbox"/> 25
(Describe) <u>gray silt</u>
<u>opaque</u> |
| Fill in if drilling fluids were used and well is at solid waste facility: | | |
| 14. Total suspended solids | _____ mg/l | _____ mg/l |
| 15. COD | _____ mg/l | _____ mg/l |

16. Well developed by: Name (first, last) and Firm

First Name: Ryan Last Name: Nehls

Firm: Resource Engineering Assoc

17. Additional comments on development:

Name and Address of Facility Contact/Owner/Responsible Party

First Name: Ryan Last Name: Nehls

Facility/Firm: Resource Engineering Assoc

Street: 3510 Parman St Sutherland

City/State/Zip: Middleton WI 53562

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

Signature: Ryan Nehls

Print Name: Ryan Nehls

Firm: Resource Engineering Assoc

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

JOB NO.		CLIENT		LOCATION		MW-5	
601		Flud - 3530		University Ave		601	
DRILLING METHOD: <i>Beaufort</i>				SAMPLING METHOD: <i> Shelby</i>			
				Drilling			
				SHEET: _____ of _____		Start Time	Finish Time
				SURFACE CONDITIONS: <i>grass/turf</i>		8:15	9:20
						Date	Date
						8/26/21	8/26/21
Inches Driven	BLOWS/FT. SAMPLER	FID READING	DEPTH IN FEET	SOIL GRAPH			
Inches Recovered							
48			1	native soil	10% silt, silt loam, brown, (fill) light brown		
40			2		(SM-ML) Sand some silt, few clay, few gravel		
			3		10% orange and grey mottles, little roots		
		0.0	3		7.5R 3/2 Dark Brown		
48			4				
39			5				
			6	ML	Silt some clay few sand, little roots		
			7		20% orange mottles		
		0.0	7		10R 4/2 Dark greyish brown		
			8				
48			9				
39.5			10				
			11		SM, block, moist Sand few silt, few clay		
			12		no mottles		
		0.0	12		5R 2.5/1		
48			13		wet at bottom of sample		
34			13		ML-CL, silt some clay, few sand		
			14		3% mottles, wet		
		0.0	14		2.5Y 5/2 Grayish Brown		
			15				
			16				
			17				
			18				
			19				
			20		Black, organic smelt, wet		

Gravel and sand

drilled well here to 40" → changed to grey sand some silt

JOB NO. 602 CLIENT Flad LOCATION 3930 - 602 PZ-3

DRILLING METHOD: Gasprobe SAMPLING METHOD: NA
Piezometer

Drilling	
Start Time	Finish Time
<u>9:30</u>	
Date	Date

Inches Driven	BLOWS/FT. SAMPLER	FID READING	DEPTH IN FEET
Inches Recovered			

SHEET: 1 of 1
 SURFACE CONDITIONS: GRASS

			1
			2
			3
			4
			5
			6
			7
			8
			9
			10
			11
			12
			13
			14
			15
			16
			17
			18
			19
			20

SOIL GRAPH

Blind
Drill for Piezometer
0-40ft