



We Energies
231 W. Michigan Street
Milwaukee, WI 53203

www.we-energies.com

January 2, 2024

Ms. Jennifer Meyer
Environmental Program Associate
Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
1027 W. St. Paul Avenue
Milwaukee, WI 53233

**Subject: VAPOR MITIGATION SYSTEM OPERATION AND MAINTENANCE
REPORT**
3100 West North Avenue, Milwaukee, Wisconsin
WDNR BRRTS # 02-41-583015
WDNR FID # 241311510

Dear Ms. Meyer,

Please find attached the *Vapor Mitigation System Operation and Maintenance Report* (Report) for the subject site.

This Report is being submitted via WDNR's online RR Program Submittal Portal. Pursuant to WDNR's current submittal policy, a hard copy of the Report is not being submitted.

Please feel free to contact me at your convenience at (414) 587-4467 (cell) or via email at frank.dombrowski@wecenergygroup.com if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Frank Dombrowski".

Frank Dombrowski
Principal Environmental Consultant
WEC Energy Group – Business Services

Attachment

Cc: Project File
Jeremiah Johnson, Geosyntec Consultants
Linda Stanek, WDNR

January 2, 2024

Ms. Jennifer Meyer
Environmental Program Associate
Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
1027 W. St. Paul Avenue
Milwaukee, WI 53233

Subject: Vapor Mitigation System Operation and Maintenance Report
Metro North Service Center
3100 West North Avenue
Milwaukee, Wisconsin 53208
WDNR BRRTS # 02-41-583015
WDNR FID # 241311510

Dear Ms. Meyer,

This *Vapor Mitigation System Operation and Maintenance Report* (“Report”) was prepared by Geosyntec Consultants (Geosyntec) on behalf of Wisconsin Electric Power Company (d.b.a, We Energies) for Metro North Service Center (MNSC) located at 3100 West North Avenue, Milwaukee, Wisconsin 53208 (Site).

This Report is being submitted to the Wisconsin Department of Natural Resources (WDNR) pursuant to the June 23, 2023 *Vapor Mitigation System Construction Documentation Report and Operation and Maintenance Plan* and in general accordance with NR 724.13(3) of the Wisconsin Administrative Code. The NR 712.09 submittal certification is provided in **Attachment 1**.

This Report includes salient background information and documents October 2023 vapor mitigation system (VMS) inspection and testing [pressure field extension (PFE) testing and indoor air sampling], maintenance and emissions sampling.

1. BACKGROUND

The Site VMS is an active submembrane depressurization system (SSDS) installed during the reconstruction of the southwest portion of the Site building in 2021. The VMS was commissioned in 2022 and 2023. The VMS mitigates the vapor intrusion pathway at the Site related to post-source

remedial action¹ residual soil and groundwater impacts. Tetrachloroethene (PCE) is the primary Site contaminant.

The VMS location is depicted on **Figure 1 (Attachment 2)**. The VMS generally includes a submembrane venting system [venting layer (6-inch coarse granular layer with incorporated GEOVENT™ conveyance units) with three (3) riser pipes, blowers, and exhaust stacks], a barrier layer (20-mil polyethylene geomembrane overlain by a minimum 60-mil LIQUID BOOT® spray-applied barrier) above the venting layer, and five (5) sub-slab vapor probes. The VMS layout is depicted on **Figure 2 (Attachment 2)**.

The construction, as-built conditions and commissioning of the VMS are documented in the June 23, 2023 *Vapor Mitigation System Construction Documentation Report and Operation and Maintenance Plan*.

2. INSPECTION AND TESTING

VMS inspection, pressure field extension (PFE) testing and indoor air sampling were conducted on October 5, 2023 in accordance with the June 23, 2023 *Vapor Mitigation System Construction Documentation Report and Operation and Maintenance Plan*.

Inspection

The VMS inspection is documented on the Vapor Mitigation System Inspection Log (WDNR Form 4400-321) provided in **Attachment 3**. The primary inspection components and inspection findings are summarized in the following table:

Inspection Component	Inspection Finding
Each blower is operational	✓
Each blower vacuum and air flow are consistent with operational baseline conditions	✓
Blower housing and roof mounts are in good condition	✓
Blower is secure to roof	✓ (see Note 1)
Blower does not exhibit excessive vibration	✓
Blower stack is clear of any obstructions	✓
Each riser pipe pressure gauge is operational	✓
Each blower alarm is operational	✓
Vapor probes and vapor probe seals/covers are in good condition	✓
<i>Note: (1) The blowers were observed to be secure to the roof; however, the sandbags providing supplemental stability were observed to be in poor condition.</i>	

¹ Source area unsaturated soil and shallow groundwater remedial action was completed in 2021, including the removal of approximately 4,630 tons of PCE-impacted soil. Source area remedial action is documented in the June 23, 2023 *Source Area Remedial Action Construction Documentation Report*.

PFE Testing

The PFE testing was conducted at the five (5) vapor probes (VP-1 to VP-5) depicted on **Figure 2** using a TEC DG-8 Digital Pressure Gauge with an accuracy of 0.001 inch-H₂O. The PFE testing results are provided in **Table 1 (Attachment 4)**. Previous startup and commissioning PFE testing data are also included in **Table 1**.

The PFE testing results indicate that the target differential negative pressure of at least 0.004 inch-H₂O was achieved at each vapor probe.

Indoor and Ambient Air Sampling

Six (6) indoor air samples (IA-01 to IA-06) and one (1) ambient (outdoor) air sample (OA-07) were collected. The indoor air samples were collected at consistent locations as previous sampling events. The ambient air sample location was based on wind direction (placed on upwind side of building). The approximate sample locations are depicted on **Figure 3 (Attachment 2)**.

The air samples were collected over an 8-hour period using 6-liter Summa[®] canisters with laboratory-supplied flow controllers (to provide an 8-hour time-weighted average concentration). The Summa[®] canisters were deployed approximately 3 to 5 feet above the floor/ground surface. One (1) duplicate indoor air sample was collected.

The samples were submitted to Pace Analytical under standard chain-of-custody protocols for laboratory analysis of PCE and PCE degradation products [trichloroethene (TCE), cis- and trans-1,2-dichloroethene (DCE), and vinyl chloride] by EPA-Method TO-15. One (1) duplicate sample was collected.

The air sampling results are summarized in **Table 2 (Attachment 3)** and the laboratory report is provided in **Attachment 5**.

PCE was detected in each indoor air sample at concentrations ranging from 2.23 to 5.72 micrograms per cubic meter (ug/m³). These results are at two (2) orders of magnitude less than the WDNR commercial/industrial indoor air Vapor Action Level (VAL) of 180 ug/m³. TCE was detected in one (1) indoor air sample (IA-02) at a concentration of 8.04 ug/m³ which is less than the WDNR indoor air VAL of 8.8 ug/m³. Cis-1,2-DCE, trans-1,2-DCE and vinyl chloride were not detected in any of the indoor air samples. PCE and PCE degradation products were not detected in the ambient (outdoor) air sample.

3. MAINTENANCE

VMS maintenance was limited to replacing the materials providing supplemental stability to the roof-mounted blowers. Sandbags were replaced by concrete blocks on October 6, 2023 as depicted on the photographs in **Attachment 6**.

4. EMISSIONS SAMPLING

VMS emissions samples were collected from each extraction point (EP-1, EP-2 and EP-3) on October 5, 2023 to assess the need for emissions inventory reporting to the WDNR. Annual emissions inventory reporting is required for facilities that emit an air contaminant in quantities greater than NR 438 Reporting Levels (RLs).

The samples were collected with 1-liter Summa[®] canisters connected to the sampling port on each riser pipe. During sampling, the air flow velocity and vacuum were measured. The air flow velocity was measured using a Dwyer Model 471B Digital Thermo Anemometer at the measurement port installed on each riser pipe. Vacuum was measured by the differential pressure gauge mounted on each riser pipe.

The samples were submitted to Pace Analytical under standard chain-of-custody protocols for laboratory analysis of volatile organic compounds (VOCs) by EPA-Method TO-15. The laboratory report is provided in **Attachment 7**.

Table 3 (Attachment 4) provides an emissions data evaluation summary including the detected VOCs, detected concentrations, measured flow velocity, measured vacuum, calculated volumetric flow rate and calculated mass flux (emissions) for each riser pipe; the calculated total VMS emissions VMS (EP-1 + EP-2 + EP-3) for the detected VOCs; and the NR 438 RLs for the detected VOCs.

As documented in **Table 3**, the calculated total VMS emissions for each detected VOC was at least two (2) orders of magnitude less than NR 438 RLs. The calculated emissions for the primary Site contaminant (PCE) of 2.4 pounds per year (lb/yr) was two (2) orders of magnitude less than the NR 438 PCE RL of 151 lb/yr.

Based on the above evaluation, 2023 emissions inventory reporting to WDNR is not required for the Site VMS. In accordance with NR 438.03(4), emissions records will be retained for a minimum of 5 years.

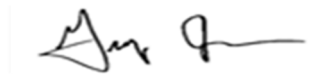
Ms. Jennifer Meyer
Wisconsin Department of Natural Resources
January 2, 2024
Page 5

Please contact us if you have any questions regarding this letter.

Sincerely,



Jeremiah Johnson, P.G.
Senior Geologist
(Licensed P.G. in WI)



Greg Johnson, P.H., P.G., P.E.
Senior Engineer
(Licensed P.E. in WI, P.H. in WI, P.G. in IL, WI)

- Attachment 1 - NR 712.09 Submittal Certification
- Attachment 2 - Figures
- Attachment 3 - Vapor Mitigation System Inspection Logs
- Attachment 4 - Tables
- Attachment 5 - Indoor and Ambient Air Sampling Laboratory Report
- Attachment 6 - Maintenance Photographs
- Attachment 7 - Emissions Sampling Laboratory Report

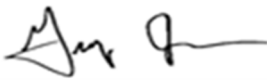

ATTACHMENT 1

NR 712.09 Submittal Certification

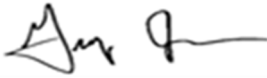
NR 712.09 Submittal certification.

Document Name	VAPOR MITIGATION SYSTEM OPERATION AND MAINTENANCE REPORT
Document Date	January 2, 2024
Site Name	Metro North Service Center
WDNR BRRTS #	02-41-583015

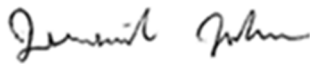
"I, Greg Johnson, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code;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

 Greg Johnson, P.H., P.G., P.E. Senior Engineer P.E. #: 29898-006	 1/2/2024
Signature, title and P.E. number	P.E. stamp

"I, Greg Johnson, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

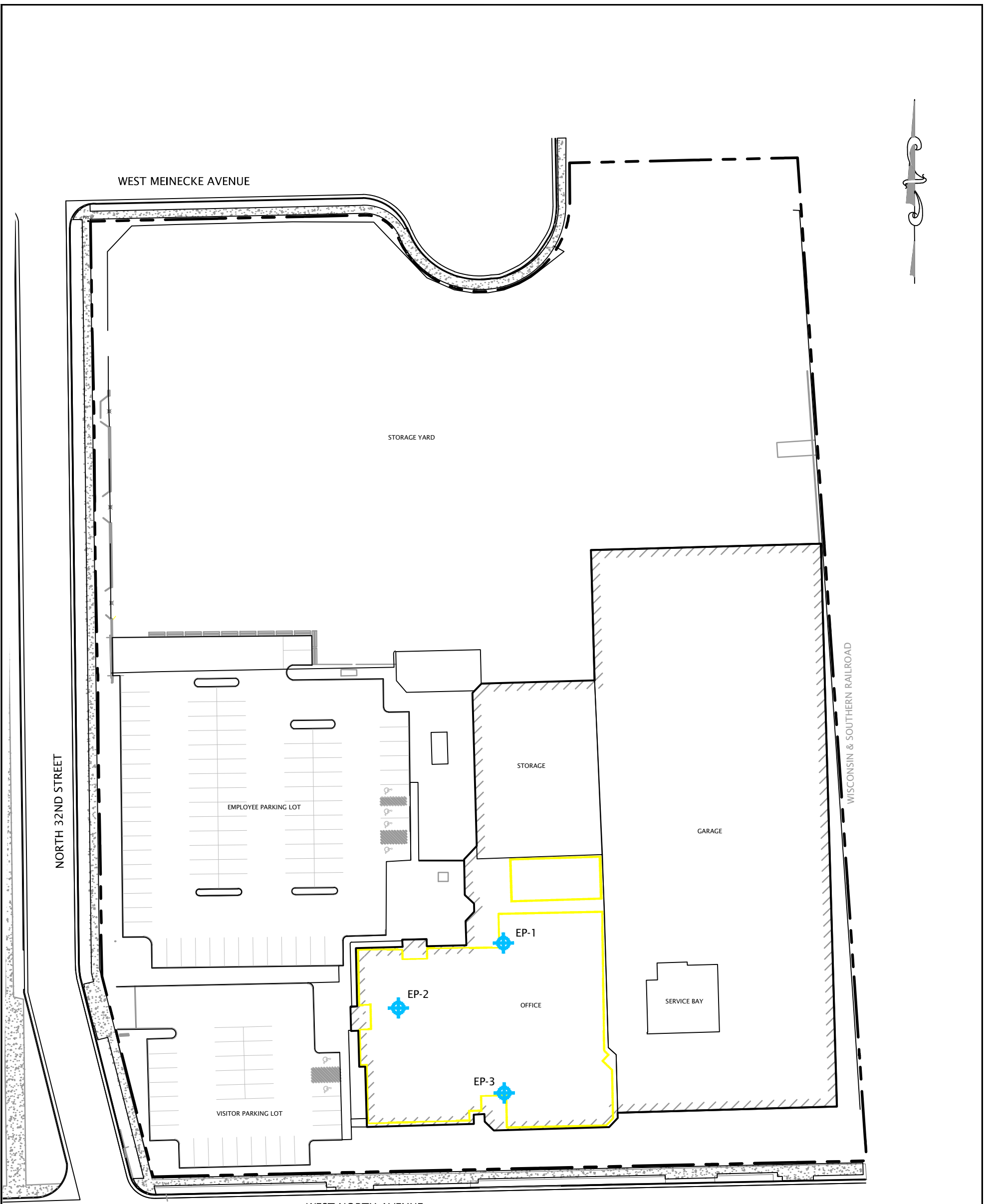
	1/2/2024
Signature and title	Date

"I, Jeremiah Johnson, hereby certify that I am a scientist as that term is defined in s. NR 712.03 (3), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

	1/2/2024
Signature and title	Date

ATTACHMENT 2

Figures



LEGEND:

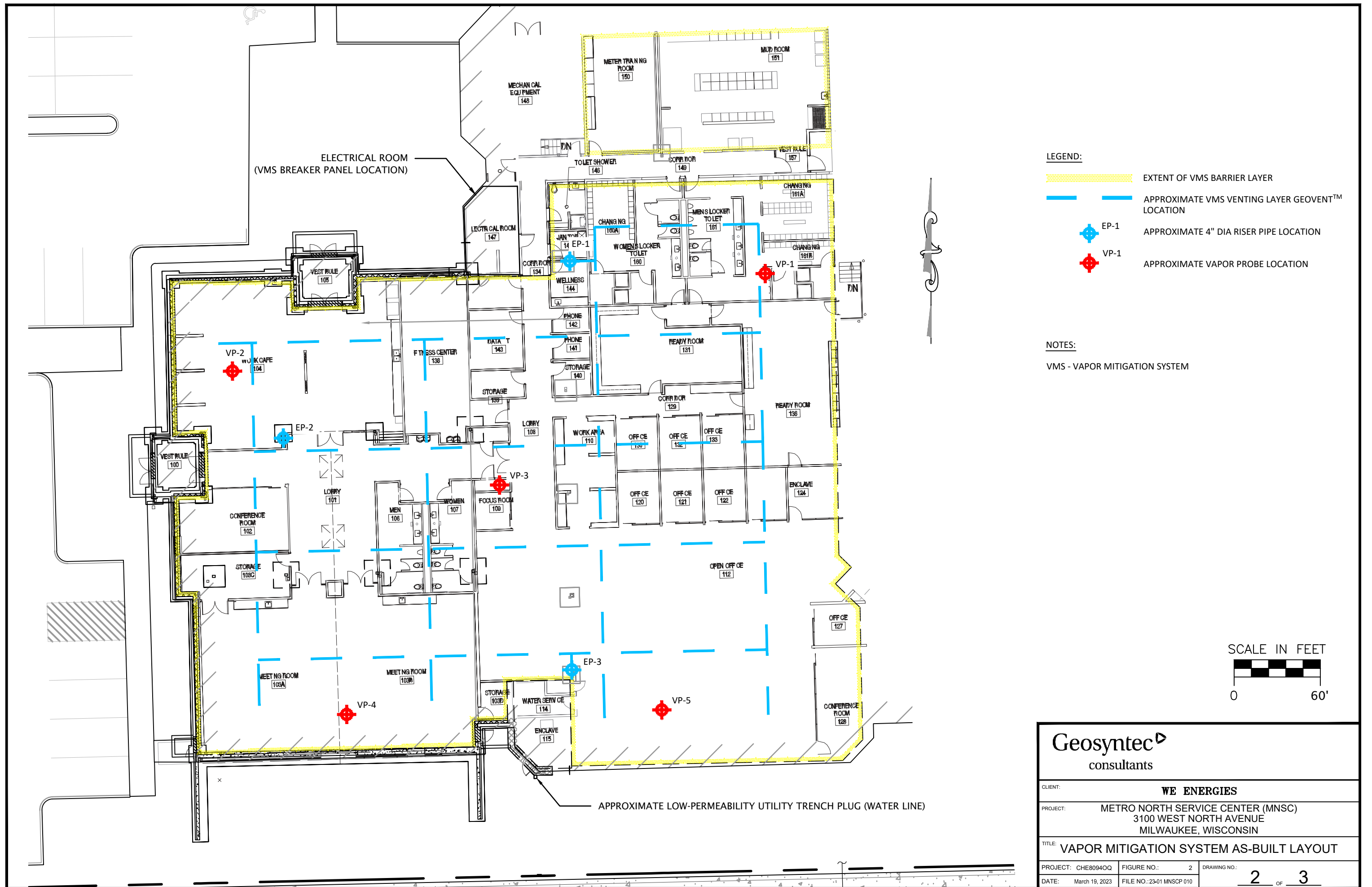
- APPROXIMATE SITE PROPERTY LINE
- EXISTING SITE PROPERTY BUILDING
- EXTENT OF VMS BARRIER LAYER
- EP-1 APPROXIMATE VMS VENTING SYSTEM BLOWER/EXHAUST STACK LOCATION

NOTES:

VMS - VAPOR MITIGATION SYSTEM

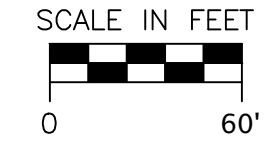


Geosyntec consultants		
CLIENT:		WE ENERGIES
PROJECT:		METRO NORTH SERVICE CENTER (MNSC) 3100 WEST NORTH AVENUE MILWAUKEE, WISCONSIN
TITLE:		VMS EXHAUST STACK LOCATIONS
PROJECT: CHE80940Q	FIGURE NO.:	DRAWING NO.:
DATE: March 19, 2023	FILE NO.: 2301 MNSC011	1 OF 1

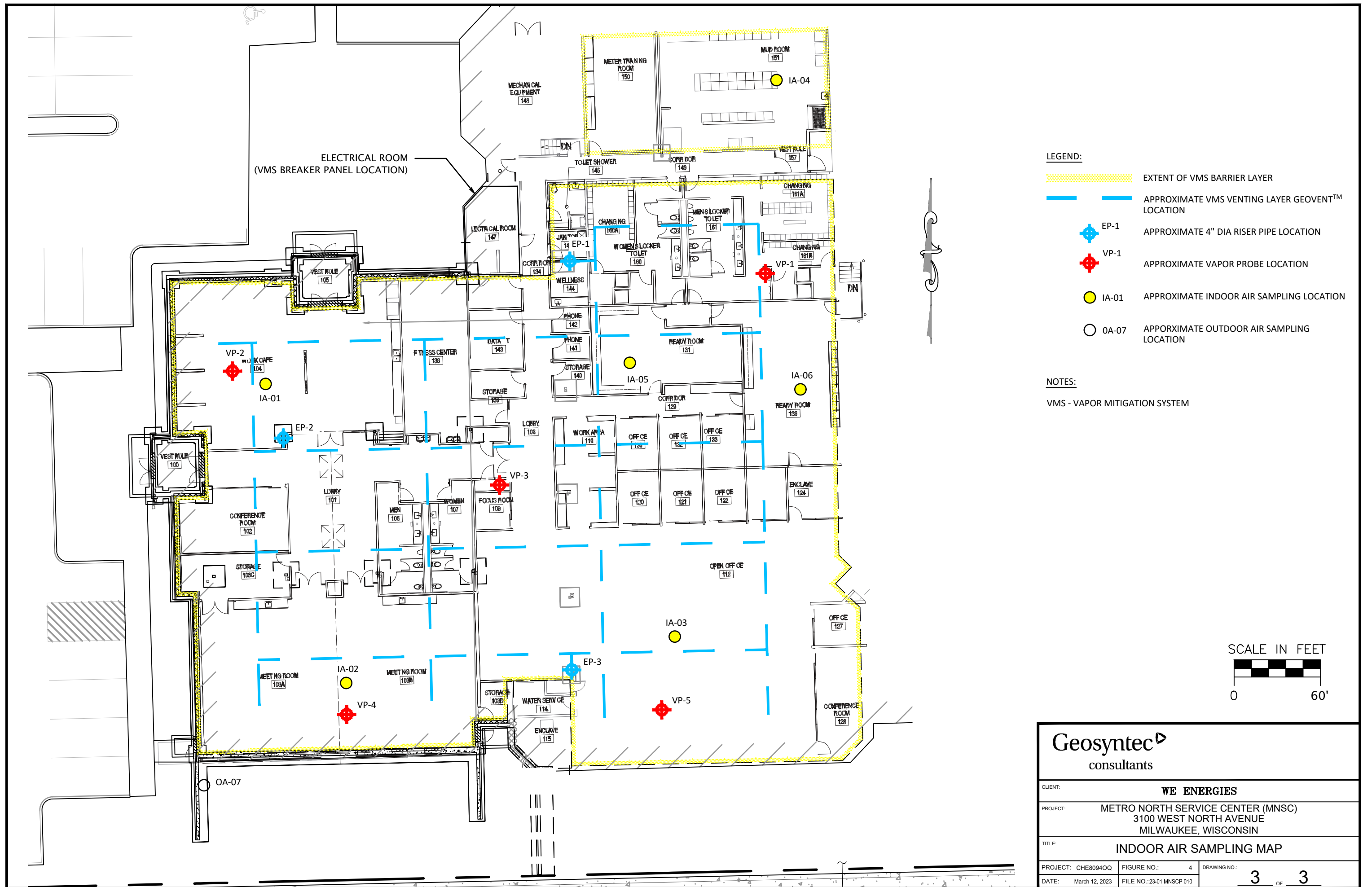


- LEGEND:**
- EXTENT OF VMS BARRIER LAYER
 - APPROXIMATE VMS VENTING LAYER GEOVENT™ LOCATION
 - EP-1 APPROXIMATE 4" DIA RISER PIPE LOCATION
 - VP-1 APPROXIMATE VAPOR PROBE LOCATION

NOTES:
 VMS - VAPOR MITIGATION SYSTEM



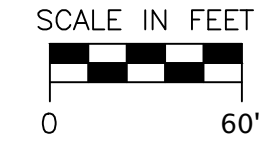
Geosyntec consultants		
CLIENT: WE ENERGIES		
PROJECT: METRO NORTH SERVICE CENTER (MNSC) 3100 WEST NORTH AVENUE MILWAUKEE, WISCONSIN		
TITLE: VAPOR MITIGATION SYSTEM AS-BUILT LAYOUT		
PROJECT: CHE80940Q	FIGURE NO.: 2	DRAWING NO.: 2 OF 3
DATE: March 19, 2023	FILE NO.: 23-01 MNSCP 010	



LEGEND:

- EXTENT OF VMS BARRIER LAYER
- APPROXIMATE VMS VENTING LAYER GEOVENT™ LOCATION
- EP-1 APPROXIMATE 4" DIA RISER PIPE LOCATION
- VP-1 APPROXIMATE VAPOR PROBE LOCATION
- IA-01 APPROXIMATE INDOOR AIR SAMPLING LOCATION
- OA-07 APPROXIMATE OUTDOOR AIR SAMPLING LOCATION

NOTES:
VMS - VAPOR MITIGATION SYSTEM



Geosyntec consultants		
CLIENT: WE ENERGIES		
PROJECT: METRO NORTH SERVICE CENTER (MNSC) 3100 WEST NORTH AVENUE MILWAUKEE, WISCONSIN		
TITLE: INDOOR AIR SAMPLING MAP		
PROJECT: CHE80940Q	FIGURE NO.: 4	DRAWING NO.: 3 OF 3
DATE: March 12, 2023	FILE NO.: 23-01 MNSCP 010	

ATTACHMENT 3

Vapor Mitigation System Inspection Log

Notice: In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain vapor-related continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Public Records law [ss. 19.31-19.39, Wis. Stats.].

Directions: This form was developed to provide the results of a site inspection of a vapor related continuing obligation, typically a vapor mitigation system. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. The closure letter may be found in the database, [BRRTS on the Web](#), by searching for the site using the BRRTS ID number, and then looking in the "Action" section, for code 56.

Activity (Site) Name: Metro North Service Center

BRRTS No. 02-41-583015

Date of Inspection: 10/05/2023

When submittal of this form is required, submit an electronic version or a scanned copy of this completed form to the [RR Submittal Portal](#).


HOW TO USE THIS FORM

The Activity (Site) Name, BRRTS No. and Date of Inspection entered below will auto-populate the table. Complete only the applicable rows/components. Check "Not Applicable" for components that do not apply. For example, if there is no sump sealed and vented as part of the system, check "Not Applicable" in the "NOTES" section for that component.

Multiple components: For systems with multiple components (e.g., two manometers or two fans), add an additional row for that component by clicking the "+" (plus) symbol at the end of the row. After a system component row is added, a "-" (minus) symbol is shown so the added row may be deleted.

Photos: Click on the placeholder photo shown in each row to replace it with your own site-specific photo. Site-specific photos are optional but strongly recommended. Enter specific details and observations within the "NOTES" section to assist the DNR in understanding status of the system components.

SYSTEM COMPONENT		DATE: 10/05/2023		
NAME	WHAT DOES IT DO?	WHAT DO I CHECK?	WHAT SHOULD I SEE?	WHAT TO FIX?
Manometer or Differential Pressure Gauge	Measures differential pressure between vacuum side of vent pipe and indoor space. This measurement confirms there is a vacuum being pulled by the fan.	Liquid Level on Manometer or Gauge	Liquid level in manometer should be offset (not level with each other).	A change in liquid level indicates a change in the vacuum below foundation. This could be caused by failure of fan, blockage of vent pipe, change in water level below building, or other conditions. Hire a professional to identify cause and repair if needed.

<p>PHOTO</p> 	<p>NOTES: (Record the reading on the gauge. Identify specific building and location description:)</p> <p><input type="checkbox"/> Not Applicable</p> <p>EP-1: flow 1276 ft/min, vacuum -7.8 in-H2O EP-2: flow 1381 ft/min, vacuum -7.8 in-H2O EP-3: flow 1260 ft/min, vacuum -8.8 in-H2O</p>
--	---


SYSTEM COMPONENT		DATE: 10/05/2023		
NAME	WHAT DOES IT DO?	WHAT DO I CHECK?	WHAT SHOULD I SEE?	WHAT TO FIX?
Fan	<p>Fan creates a vacuum and lowers pressure below foundation.</p> <p>The fan also removes soil gases from below foundation for discharge to atmosphere.</p>	<p>Fan Operation</p> <p>Fan Location</p> <p>Motor Noise</p>	<p>Fan is on.</p> <p>Fan mounted outside & secure.</p> <p>Fan motor is quiet (loud motor may indicate problem).</p>	<p>Replace the fan immediately once the fan stops running. Fans typically run for 10-20 years, but it may be less.</p> <p>Replacement fan to have similar specifications as original with respect to flow and vacuum.</p> <p>After a fan is replaced, the system should be evaluated by a mitigation professional to verify effectiveness, which includes pressure readings.</p> <p>Original Fan Make and Model: Obar GBR76 SOE (16" WC @ Max Flow 155 CFM)</p>



NOTES: (Identify specific building and location description:)

Not Applicable

- all blowers were operational (EP-1, EP-2 and EP-3)
- each blower vacuum and air flow are consistent with operational baseline conditions
- blower housing and roof mounts are in good condition
- blower is secure to roof; the sandbags providing supplemental stability were observed to be in poor condition; therefore, sandbags were replaced by concrete blocks on October 6, 2023
- blowers do not exhibit excessive vibration

SYSTEM COMPONENT				DATE:	10/05/2023
NAME	WHAT DOES IT DO?	WHAT DO I CHECK?	WHAT SHOULD I SEE?	WHAT TO FIX?	
Sub Slab Vapor Port	This is a sample port to measure vacuum or take sample of soil gas if needed. It needs to remain sealed when not in use to prevent soil gas entry into the home.	Port Seal/Cap	If able to measure the vacuum with a micromanometer, the pressure differential should be at least 0.004 inches of H ₂ O or at least one Pascal.	Repair or replace the seal and cover as needed.	
		Port Condition	Port is sealed and capped when not in use.	Permanently seal hole if sample port is ever removed.	
PHOTO			<p>NOTES: (If taken, record the pressure differential reading. Identify specific building and location description:)</p> <p><input type="checkbox"/> Not Applicable</p> <p>- vapor probes and vapor probe seals/covers are in good condition</p>		
					

ATTACHMENT 4

Tables

TABLE 1
Vapor Mitigation System O&M - Operational and PFE Data
 Metro North Service Center (MNSC)
 3100 West North Avenue, Milwaukee, Wisconsin

DATE	EXTRACTION POINT OPERATIONAL MONITORING DATA														VAPOR PROBE (PFE) MONITORING DATA					COMMENTS	
	EP-1				EP-2				EP-3				VP-1	VP-2	VP-3	VP-4	VP-5				
	FLOW		VACUUM	PID	FAN	FLOW		VACUUM	PID	FAN	FLOW		VACUUM	PID	FAN	VACUUM					
	(fm)	(scfm)	(in-H ₂ O)	(ppm)	SETTING	(fm)	(scfm)	(in-H ₂ O)	(ppm)	SETTING	(fm)	(scfm)	(in-H ₂ O)	(ppm)	SETTING	(in-H ₂ O)					
Startup (Initial Phase of Commissioning)																					
2/9/2022	--	--	--	--	5	--	--	--	--	5	--	--	--	--	5	--	--	--	--	--	VMS startup
2/10/2022	740	59.2	>-3.2	--	5	770	61.6	>3.2	--	5	21	1.68	--	--	0.9	-0.004	-0.048	-0.030	-0.023	0.000	water observed in EP-3; decreased EP-3 fan setting
2/11/2022	--	--	-8/1.55	--	7	1,030	82.4	-5.8	--	7	925	74	-6.3	--	7	-0.013	-0.100	-0.077	-0.063	-0.022	water observed in EP-1; increased EP-1, EP-2 and EP-3 fan settings
2/17/2022	--	--	-0.5	--	1.9	--	--	-5.3	--	7	--	--	-3.6	--	4.9	0.005	-0.077	-0.032	-0.034	-0.015	water observed in EP-1 and EP-3; decreased EP-1 and EP-3 fan settings
2/24/2022	373	29.84	-0.7	0	2	1,160	92.8	-5.4	0.7	7	--	--	--	--	2	-0.004	-0.078	-0.031	-0.032	-0.008	water observed in EP-3; reduced EP-3 fan setting
3/1/2022	350	28	-1.0	--	2	1,295	103.6	-5.7	--	7	263	21.04	1.0	--	2	-0.002	-0.083	-0.033	-0.034	-0.008	little water observed in EP-3
3/9/2022	356	28.48	-1.0	0.6	2	1,294	103.52	-5.7	0.4	7	217	17.36	-1.2	0.4	2	-0.008	-0.008	-0.034	-0.033	-0.008	little water observed in EP-3
3/11/2022	342	27.36	-0.8	--	2	1,570	125.6	-7.6	--	8.5	200	16	-1.2	--	2	-0.002	-0.051	-0.100	-0.050	-0.006	little water observed in EP-3; increased EP-2 fan setting
3/14/2022	--	--	--	--	2.5	1,515	121.2	-7.6	--	8.5	310	24.8	-1.0	--	2	-0.003	-0.095	-0.034	-0.034	-0.012	little water observed in EP-3; increased EP-1 fan setting
3/16/2022	326	26.08	-1.0	--	2.5*	1,533	122.64	-7.6	--	8.5	317	25.36	-1.2	--	2	-0.004	-0.107	-0.047	-0.043	-0.009	*EP-1 valve turned down to reduce water
Commissioning - Performance Verification Monitoring and Establishment of Baseline Conditions																					
3/18/2022	423	33.84	-1.0	--	2.5	1,500	120	-7.6	--	8.5	253	20.24	-1.0	--	2	-0.006	-0.110	-0.050	-0.048	-0.011	
5/24/2022	708	56.64	-2.4	0	4	1488	119.04	-7.8	0	8.5	622	49.76	-2.7	0	4	-0.014	-0.125	-0.068	-0.065	-0.024	increased EP-1 and EP-3 fan settings
6/2/2022	713	57.04	-2.4	0	4	1535	122.8	-7.8	0	8.5	645	51.6	-2.7	0	4	-0.015	-0.121	-0.065	-0.064	-0.025	---
7/29/2022	730	58.4	-2.2	0	4	1435	114.8	-7.7	0.3	8.5	607	48.56	-2.8	0	4	-0.012	-0.123	-0.063	-0.060	-0.025	---
7/29/2022	1400	112	-7.4	0.8	8	1430	114.4	-7.7	0.3	8.5	1218	97.44	-8.2	0.6	8	-0.021	-0.133	-0.088	-0.081	-0.042	increased EP-1 and EP-3 fan settings
9/19/2022	1355	108.4	-7.5	0.9	8	1390	111.2	-7.6	4.8	8.5	1180	94.4	-8.3	1.1	8	-0.028	-0.139	-0.092	-0.083	-0.048	---
10/27/2022	1407	112.56	-7.7	0	8	1390	111.2	-7.8	0	8.5	1260	100.8	-8.4	0	8	-0.027	-0.129	-0.088	-0.077	-0.040	---
11/18/2022	1312	104.96	-7.4	0.3	8	1270	101.6	-7.8	0.3	8.5	1160	92.8	-8.4	0.3	8	-0.022	-0.120	-0.085	-0.068	-0.034	---
12/20/2022	1414	113.12	-7.6	0.1	8	1460	116.8	-7.9	0	8.5	1320	105.6	-8.4	0	8	-0.02	-0.122	-0.079	-0.075	-0.035	increased fan settings to 10 on 12/21/2022
1/13/2023	1516	121.28	-8	0.203	10	1464	117.12	-8	0.24	10	1470	117.6	-9.2	0.155	10	-0.02	-0.124	-0.079	-0.071	-0.036	---
2/17/2023	1520	121.6	-8	0.3	10	1480	118.4	-7.7	0.1	10	1402	112.2	-9	0.1	10	-0.022	-0.122	-0.082	-0.071	-0.037	---
Routine Operation and Maintenance																					
10/5/2023	1276	102.08	-7.8	0	10	1381	110.48	-7.8	0	10	1260	100.8	-8.8	0	10	-0.042	-0.141	-0.101	-0.078	-0.042	---

Notes:
 EP - extraction point
 fm - feet per minute
 in-H₂O - inches of water
 PFE - pressure field extension
 PID - photo-ionization detector
 ppm - part per million
 scfm - standard cubic feet per minute
 VMS - vapor mitigation system
 VP - vapor probe

TABLE 2
Vapor Mitigation System O&M - Indoor and Ambient Air Sampling Data
 Metro North Service Center (MNSC)
 3100 West North Avenue, Milwaukee, Wisconsin
 Milwaukee, Wisconsin

Sample Location	Sample ID	Laboratory	Sample Collection Date	Analyzed VOCs (ug/m ³)				
				Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
IA-01	IA-01-062022	Pace	6/4/2022	1.9	<0.29	<0.28	<0.25	<0.13
	IA-01-122022	Pace	12/10/2022	71.7	<0.38	<0.34	<0.67	<0.15
	IA-01-012023	Pace	1/13/2023	0.83 J	<0.33	<0.29	1.2	<0.13
	IA-01-012023	Eurofins TestAmerica	1/13/2023	0.67 J	0.95 J	0.39 J	0.80	<0.054
	IA-01-022023	Pace	2/17/2023	5.0	<0.36	<0.32	<0.62	<0.14
	IA-01-022023	Eurofins TestAmerica	2/17/2023	2.8	0.22 J	<0.083	<0.091	<0.054
	IA-01-102023	Pace	10/5/2023	2.23	<1.22	<1.03	<0.888	<0.808
	IA-02-062022	Pace	6/4/2022	2.8	<0.30	<0.30	<0.26	<0.13
IA-02	IA-02-122022	Pace	12/10/2022	93.3	<0.33	<0.30	<0.58	<0.13
	IA-02-012023	Pace	1/13/2023	0.80 J	<0.33	<0.29	1.0 J	<0.13
	IA-02-012023	Eurofins TestAmerica	1/13/2023	0.50 J	1.5	<0.083	<0.091	<0.054
	IA-02-022023	Pace	2/17/2023	5.2	<0.35	<0.31	<0.61	<0.14
	IA-02-022023	Eurofins TestAmerica	2/17/2023	1.0 J	<0.13	<0.083	<0.091	<0.054
	IA-02-102023	Pace	10/5/2023	2.40	8.04	<1.03	<0.888	<0.808
	IA-03-062022	Pace	6/4/2022	1.5	<0.28	<0.28	<0.24	<0.12
	IA-03DUP-062022	Pace	6/4/2022	1.8	<0.29	<0.28	<0.25	<0.13
IA-03	IA-03-132022	Pace	12/10/2022	182	<0.34	<0.31	<0.60	<0.14
	IA-03DUP-132022	Pace	12/10/2022	178	<0.44	<0.39	<0.76	<0.18
	IA-03-012023	Pace	1/13/2023	2.3	<0.33	<0.30	1.3	<0.13
	IA-03DUP-012023	Pace	1/13/2023	2.2	<0.34	<0.30	1.2	<0.14
	IA-03-012023	Eurofins TestAmerica	1/13/2023	1.3 J	<0.13	<0.083	0.74 J	<0.054
	IA-03-022023	Pace	2/17/2023	12.1	<0.36	<0.32	<0.62	<0.14
	IA-03DUP-022023	Pace	2/17/2023	11.5	0.78 J	<0.32	<0.62	<0.14
	IA-03-022023	Eurofins TestAmerica	2/17/2023	0.32 J	<0.13	<0.083	<0.091	<0.054
	IA-03DUP-022023	Eurofins TestAmerica	2/17/2023	3.2	<0.13	<0.083	<0.091	<0.054
	IA-03-102023	Pace	10/5/2023	5.72	<1.22	<1.03	<0.888	<0.808
	IA-03DUP-102023	Pace	10/5/2023	5.09	<1.22	<1.03	<0.888	<0.808
	IA-04	IA-04-062022	Pace	6/4/2022	1.7	<0.28	<0.28	<0.24
IA-04-122022		Pace	12/10/2022	159	<0.34	<0.31	<0.60	<0.14
IA-04-012023		Pace	1/13/2023	4.4	<0.34	<0.30	1.2	<0.14
IA-04-012023		Eurofins TestAmerica	1/13/2023	1.7	<0.13	<0.083	0.75 J	<0.054
IA-04-022023		Pace	2/17/2023	14.0	<0.36	<0.32	<0.62	<0.14
IA-04-022023		Eurofins TestAmerica	2/17/2023	9.0	<0.13	<0.083	<0.091	<0.054
IA-04-102023		Pace	10/5/2023	5.32	<1.22	<1.03	<0.888	<0.808
IA-05		IA-05-062022	Pace	6/4/2022	1.5	<0.28	<0.27	<0.24
	IA-05-122022	Pace	12/10/2022	184	<0.34	<0.31	<0.60	<0.14
	IA-05-012023	Pace	1/13/2023	2.1	<0.34	<0.30	1.2	<0.14
	IA-05-012023	Eurofins TestAmerica	1/13/2023	1.3 J	<0.13	<0.083	0.68 J	<0.054
	IA-05DUP-012023	Eurofins TestAmerica	1/13/2023	1.4	<0.13	<0.083	0.71 J	<0.054
	IA-05-022023	Pace	2/17/2023	11.3	<0.33	<0.30	<0.58	<0.13
	IA-05-022023	Eurofins TestAmerica	2/17/2023	6.4	<0.13	<0.083	0.11 J	<0.054
	IA-05-102023	Pace	10/5/2023	5.50	<1.22	<1.03	<0.888	<0.808
IA-06	IA-06-062022	Pace	6/4/2022	0.44 J	1.9	<0.28	<0.24	<0.12
	IA-06-122022	Pace	12/10/2022	168	<0.34	<0.30	<0.59	<0.14
	IA-06-012023	Pace	1/13/2023	2.4	<0.33	<0.30	1.2	<0.13
	IA-06-012023	Eurofins TestAmerica	1/13/2023	0.99 J	<0.13	<0.083	0.69 J	<0.054
	IA-06-022023	Pace	2/17/2023	10.7	<0.32	<0.29	<0.56	<0.13
	IA-06-022023	Eurofins TestAmerica	2/17/2023	8.0	<0.13	<0.083	<0.091	<0.054
IA-06-102023	Pace	10/5/2023	5.36	<1.22	<1.03	<0.888	<0.808	
OA-07 Ambient (Outdoor) Air Sample	OA-07-062022	Pace	6/4/2022	2.0	<0.28	<0.28	<0.24	<0.12
	OA-07-122022	Pace	12/10/2022	<0.33	<0.32	<0.29	<0.56	<0.13
	OA-07-012023	Pace	1/13/2023	<0.32	<0.31	<0.28	0.94 J	<0.12
	OA-07-012023	Eurofins TestAmerica	1/13/2023	<0.14	<0.13	<0.083	0.55 J	<0.054
	OA-07-022023	Pace	2/17/2023	<0.33	<0.32	<0.29	<0.56	<0.13
	OA-07-022023	Eurofins TestAmerica	2/17/2023	<0.14	<0.13	<0.083	<0.091	<0.054
	OA-07-102023	Pace	10/5/2023	<1.84	<1.22	<1.03	<0.888	<0.808
				WDNR Indoor Air VAL	180	8.8	180	180

Notes:
 bold - reported concentration exceeds the WDNR Indoor Air VAL
 J - Estimated concentration at or above the limit of detection and below the limit of quantitation.
 ug/m³ - micrograms per cubic meter
 VAL - WDNR vapor action level (large commercial/industrial)
 VOCs - volatile organic compounds
 WDNR - Wisconsin Department of Natural Resources

TABLE 3
Vapor Mitigation System O&M - Emissions Sampling Data and Calculations Summary
Metro North Service Center (MNSC)
3100 West North Avenue, Milwaukee, Wisconsin

Sample Collection Date	10/5/2023
Sample Method	TO-15
Sample Numbers	EP-01-102023, EP-02-102023, EP-03-102023
Number of Emissions Stacks	3 (EP-1, EP-2 and EP-3)
Approximate Height of Emissions Stacks	22 ft above ground, 10 ft above roof
Primary Vapor Contaminant	Tetrachloroethene (PCE)

EP-1, 2 and 3		EP-1 Emissions					EP-2 Emissions					EP-3 Emissions					Total Emissions = EP-1 + EP-2 + EP-3			NR 438 Reporting Level			
Pipe Diameter	Area of Pipe (1)	Flow Velocity	Vacuum	Flow Rate (2)	Detected Analytes (VOCs)	Conc.	Mass Flux (3)	Flow Velocity	Vacuum	Flow Rate (2)	Detected Analytes (VOCs)	Conc.	Mass Flux (3)	Flow Velocity	Vacuum	Flow Rate (2)	Detected Analytes (VOCs)	Conc.	Mass Flux (3)		Total Mass Flux		
																					in	ft ²	ft/min
4	0.0873	1276	7.8	109.2	Acetone	20.9	0.0000085	1381	7.8	118.2	Acetone	19.6	0.0000087	1260	8.8	107.6	Acetone	28.3	0.0000114	Acetone	0.0000286	0.25066	100,000
4	0.0873	1276	7.8	109.2	Allyl chloride	3.38	0.0000014	1381	7.8	118.2	Allyl chloride	ND	0	1260	8.8	107.6	Allyl chloride	ND	0	Allyl chloride	0.0000014	0.01211	736
4	0.0873	1276	7.8	109.2	2-Butanone (MEK)	3.24	0.0000013	1381	7.8	118.2	2-Butanone (MEK)	2.12	0.0000009	1260	8.8	107.6	2-Butanone (MEK)	3.92	0.0000016	2-Butanone (MEK)	0.0000038	0.03365	6,000
4	0.0873	1276	7.8	109.2	Carbon disulfide	ND	0	1381	7.8	118.2	Carbon disulfide	1.67	0.0000007	1260	8.8	107.6	Carbon disulfide	14.6	0.0000059	Carbon disulfide	0.0000066	0.05798	6,000
4	0.0873	1276	7.8	109.2	Chloromethane	0.750	0.0000003	1381	7.8	118.2	Chloromethane	1.09	0.0000005	1260	8.8	107.6	Chloromethane	0.772	0.0000003	Chloromethane	0.0000011	0.00963	6,000
4	0.0873	1276	7.8	109.2	Dichlorodifluoromethane	2.65	0.0000011	1381	7.8	118.2	Dichlorodifluoromethane	ND	0	1260	8.8	107.6	Dichlorodifluoromethane	2.34	0.0000009	Dichlorodifluoromethane	0.0000020	0.01775	6,000
4	0.0873	1276	7.8	109.2	cis-1,2-Dichloroethene	4.72	0.0000019	1381	7.8	118.2	cis-1,2-Dichloroethene	2.58	0.0000011	1260	8.8	107.6	cis-1,2-Dichloroethene	ND	0	cis-1,2-Dichloroethene	0.0000031	0.02691	6,000
4	0.0873	1276	7.8	109.2	Ethanol	99.4	0.0000406	1381	7.8	118.2	Ethanol	192	0.0000850	1260	8.8	107.6	Ethanol	97.1	0.0000391	Ethanol	0.0001647	1.44278	--
4	0.0873	1276	7.8	109.2	Ethylbenzene	ND	0	1381	7.8	118.2	Ethylbenzene	1.24	0.0000005	1260	8.8	107.6	Ethylbenzene	ND	0	Ethylbenzene	0.0000005	0.00481	6,000
4	0.0873	1276	7.8	109.2	Methylene Chloride	1.27	0.0000005	1381	7.8	118.2	Methylene Chloride	6.88	0.0000030	1260	8.8	107.6	Methylene Chloride	ND	0	Methylene Chloride	0.0000036	0.03122	1,890
4	0.0873	1276	7.8	109.2	2-Propanol	13.1	0.0000054	1381	7.8	118.2	2-Propanol	22.5	0.0000100	1260	8.8	107.6	2-Propanol	13.6	0.0000055	2-Propanol	0.0000208	0.18211	--
4	0.0873	1276	7.8	109.2	Styrene	1.31	0.0000005	1381	7.8	118.2	Styrene	ND	0	1260	8.8	107.6	Styrene	ND	0	Styrene	0.0000005	0.00469	6,000
4	0.0873	1276	7.8	109.2	Tetrachloroethene	339	0.0001386	1381	7.8	118.2	Tetrachloroethene	192	0.0000850	1260	8.8	107.6	Tetrachloroethene	116	0.0000467	Tetrachloroethene	0.0002703	2.36758	151
4	0.0873	1276	7.8	109.2	Tetrahydrofuran	1.11	0.0000005	1381	7.8	118.2	Tetrahydrofuran	ND	0	1260	8.8	107.6	Tetrahydrofuran	0.873	0.0000004	Tetrahydrofuran	0.0000008	0.00706	6,000
4	0.0873	1276	7.8	109.2	Toluene	2.40	0.0000010	1381	7.8	118.2	Toluene	5.27	0.0000023	1260	8.8	107.6	Toluene	3.63	0.0000015	Toluene	0.0000048	0.04183	6,000
4	0.0873	1276	7.8	109.2	Trichloroethene	9.91	0.0000041	1381	7.8	118.2	Trichloroethene	7.98	0.0000035	1260	8.8	107.6	Trichloroethene	4.06	0.0000016	Trichloroethene	0.0000092	0.08075	444
4	0.0873	1276	7.8	109.2	Trichlorofluoromethane	52.3	0.0000214	1381	7.8	118.2	Trichlorofluoromethane	37.9	0.0000168	1260	8.8	107.6	Trichlorofluoromethane	78.1	0.0000315	Trichlorofluoromethane	0.0000696	0.60974	6,000
4	0.0873	1276	7.8	109.2	Xylenes, Total	2.14	0.0000009	1381	7.8	118.2	Xylenes, Total	5.30	0.0000023	1260	8.8	107.6	Xylenes, Total	2.53	0.0000010	Xylenes, Total	0.0000042	0.03713	6,000

Notes:
(1) Area of Pipe (ft²) = pipe radius²*Pi
(2) Flow Rate (scfm) = measured Flow Velocity (ft/min) x Area of Pipe (ft²) x [(standard pressure - measured pipe vacuum)/standard pressure]
(3) Mass Flux (lb/hr) = Flow Rate (scfm) x concentration (ug/m³) x 0.0283 m³/ft³ x 60 min/hr x 1 lb/453,592,370 ug
-- - not established
conc. - concentration
ft - feet
ft/min - feet per minute
in-H₂O = inches of water
lb/hr - pounds per hour
lb/yr - pounds per year
ND - not detected
r - radius of pipe
scfm - standard cubic feet per minute
standard pressure - 406.78 in-H₂O
ug/m³ - micrograms per cubic meter
VOCs - volatile organic compounds

ATTACHMENT 5

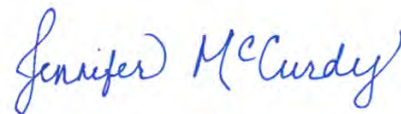
Indoor and Ambient Air Sampling Laboratory Report

We Energies - Milwaukee, WI

Sample Delivery Group: L1664008
Samples Received: 10/07/2023
Project Number: CHE8094OQ
Description: Metro North Service Center

Report To: David Zolp
10600 N. Port Washington Road
Suite 100
Mequon, WI 53092

Entire Report Reviewed By:



Jennifer A McCurdy
Project Manager

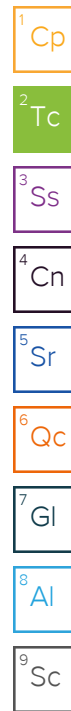
Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory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

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SAMPLE SUMMARY

IA-01-102023 L1664008-01 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2151437	1	10/14/23 21:43	10/14/23 21:43	MNP	Mt. Juliet, TN

1 Cp

2 Tc

IA-02-102023 L1664008-02 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2151437	1	10/14/23 22:11	10/14/23 22:11	MNP	Mt. Juliet, TN

3 Ss

4 Cn

5 Sr

IA-03-102023 L1664008-03 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2151437	1	10/14/23 22:39	10/14/23 22:39	MNP	Mt. Juliet, TN

6 Qc

7 Gl

8 Al

IA-03DUP-102023 L1664008-04 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2151437	1	10/14/23 23:06	10/14/23 23:06	MNP	Mt. Juliet, TN

9 Sc

IA-04-102023 L1664008-05 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2151437	1	10/14/23 23:34	10/14/23 23:34	MNP	Mt. Juliet, TN

IA-05-102023 L1664008-06 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2151437	1	10/15/23 00:02	10/15/23 00:02	MNP	Mt. Juliet, TN

IA-06-102023 L1664008-07 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2151437	1	10/15/23 00:30	10/15/23 00:30	MNP	Mt. Juliet, TN

OA-07-102023 L1664008-08 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2151437	1	10/15/23 00:58	10/15/23 00:58	MNP	Mt. Juliet, TN

SAMPLE SUMMARY

CERT SUMMA 22779 L1664008-09 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2079352	1	05/31/23 23:13	05/31/23 23:13	MNP	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

CERT SUMMA 21264 L1664008-10 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2085222	1	06/07/23 14:47	06/07/23 14:47	MNP	Mt. Juliet, TN

CERT SUMMA 21207 L1664008-11 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2096722	1	07/03/23 14:33	07/03/23 14:33	MNP	Mt. Juliet, TN

CERT SUMMA 8909 L1664008-12 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2085222	1	06/07/23 13:26	06/07/23 13:26	MNP	Mt. Juliet, TN

CERT SUMMA 11875 L1664008-13 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2082870	1	06/10/23 01:03	06/10/23 01:03	MNP	Mt. Juliet, TN

CERT SUMMA 10551 L1664008-14 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2075065	1	06/10/23 13:16	06/10/23 13:16	MNP	Mt. Juliet, TN

CERT SUMMA 5139 L1664008-15 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2082870	1	06/09/23 23:46	06/09/23 23:46	MNP	Mt. Juliet, TN

CERT SUMMA 8753 L1664008-16 Air

Collected by David Zolp Collected date/time 10/05/23 15:13 Received date/time 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2082782	1	06/10/23 01:34	06/10/23 01:34	MNP	Mt. Juliet, TN

CASE NARRATIVE

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



Jennifer A McCurdy
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2151437
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2151437
Tetrachloroethylene	127-18-4	166	0.271	1.84	0.328	2.23		1	WG2151437
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2151437
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2151437
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		105				WG2151437

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2151437
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2151437
Tetrachloroethylene	127-18-4	166	0.271	1.84	0.353	2.40		1	WG2151437
Trichloroethylene	79-01-6	131	0.227	1.22	1.50	8.04		1	WG2151437
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2151437
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		105				WG2151437

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2151437
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2151437
Tetrachloroethylene	127-18-4	166	0.271	1.84	0.843	5.72		1	WG2151437
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2151437
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2151437
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		106				WG2151437

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2151437
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2151437
Tetrachloroethylene	127-18-4	166	0.271	1.84	0.749	5.09		1	WG2151437
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2151437
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2151437
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		104				WG2151437

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2151437
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2151437
Tetrachloroethylene	127-18-4	166	0.271	1.84	0.783	5.32		1	WG2151437
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2151437
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2151437
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		103				WG2151437

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2151437
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2151437
Tetrachloroethylene	127-18-4	166	0.271	1.84	0.810	5.50		1	WG2151437
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2151437
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2151437
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		103				WG2151437

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2151437
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2151437
Tetrachloroethylene	127-18-4	166	0.271	1.84	0.789	5.36		1	WG2151437
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2151437
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2151437
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		103				WG2151437

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2151437
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2151437
Tetrachloroethylene	127-18-4	166	0.271	1.84	ND	ND		1	WG2151437
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2151437
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2151437
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		103				WG2151437

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2079352
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2079352
Tetrachloroethylene	127-18-4	166	0.271	1.84	ND	ND		1	WG2079352
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2079352
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND	<u>J4</u>	1	WG2079352
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.0				WG2079352

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2085222
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2085222
Tetrachloroethylene	127-18-4	166	0.271	1.84	ND	ND		1	WG2085222
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2085222
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2085222
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		92.7				WG2085222

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2096722
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2096722
Tetrachloroethylene	127-18-4	166	0.271	1.84	ND	ND		1	WG2096722
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2096722
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2096722
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		91.9				WG2096722

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2085222
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2085222
Tetrachloroethylene	127-18-4	166	0.271	1.84	ND	ND		1	WG2085222
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2085222
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2085222
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		91.3				WG2085222

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2082870
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2082870
Tetrachloroethylene	127-18-4	166	0.271	1.84	ND	ND		1	WG2082870
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2082870
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2082870
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.6				WG2082870

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2075065
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND	J3 J4	1	WG2075065
Tetrachloroethylene	127-18-4	166	0.271	1.84	ND	ND		1	WG2075065
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2075065
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2075065
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.7				WG2075065

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2082870
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2082870
Tetrachloroethylene	127-18-4	166	0.271	1.84	ND	ND		1	WG2082870
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2082870
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2082870
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.1				WG2082870

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2082782
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2082782
Tetrachloroethylene	127-18-4	166	0.271	1.84	ND	ND		1	WG2082782
Trichloroethylene	79-01-6	131	0.227	1.22	ND	ND		1	WG2082782
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2082782
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		95.6				WG2082782

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

Method Blank (MB)

(MB) R3935537-3 06/10/23 08:52

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
cis-1,2-Dichloroethene	U		0.0784	0.261
trans-1,2-Dichloroethene	U		0.0673	0.224
Tetrachloroethylene	U		0.0814	0.271
Trichloroethylene	U		0.0680	0.227
Vinyl chloride	U		0.0949	0.316
(S) 1,4-Bromofluorobenzene	92.7			60.0-140

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

(LCS) R3935537-1 06/10/23 07:56 • (LCSD) R3935537-2 06/10/23 08:25

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
cis-1,2-Dichloroethene	3.75	3.75	3.80	100	101	70.0-130			1.32	25
trans-1,2-Dichloroethene	3.75	6.25	3.44	167	91.7	70.0-130	J4	J3	58.0	25
Tetrachloroethylene	3.75	3.63	3.55	96.8	94.7	70.0-130			2.23	25
Trichloroethylene	3.75	3.67	3.67	97.9	97.9	70.0-130			0.000	25
Vinyl chloride	3.75	4.00	3.92	107	105	70.0-130			2.02	25
(S) 1,4-Bromofluorobenzene				106	105	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3937808-3 05/31/23 09:50

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
cis-1,2-Dichloroethene	U		0.0784	0.261
trans-1,2-Dichloroethene	U		0.0673	0.224
Tetrachloroethylene	U		0.0814	0.271
Trichloroethylene	U		0.0680	0.227
Vinyl chloride	U		0.0949	0.316
(S) 1,4-Bromofluorobenzene	92.8			60.0-140

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

(LCS) R3937808-1 05/31/23 08:53 • (LCSD) R3937808-2 05/31/23 09:22

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
cis-1,2-Dichloroethene	3.75	4.08	4.07	109	109	70.0-130			0.245	25
trans-1,2-Dichloroethene	3.75	3.52	3.42	93.9	91.2	70.0-130			2.88	25
Tetrachloroethylene	3.75	3.35	3.41	89.3	90.9	70.0-130			1.78	25
Trichloroethylene	3.75	3.85	3.83	103	102	70.0-130			0.521	25
Vinyl chloride	3.75	5.04	4.87	134	130	70.0-130	J4		3.43	25
(S) 1,4-Bromofluorobenzene				105	106	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3940104-3 06/09/23 12:13

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
cis-1,2-Dichloroethene	U		0.0784	0.261
trans-1,2-Dichloroethene	U		0.0673	0.224
Tetrachloroethylene	U		0.0814	0.271
Trichloroethylene	U		0.0680	0.227
Vinyl chloride	U		0.0949	0.316
(S) 1,4-Bromofluorobenzene	96.4			60.0-140

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

(LCS) R3940104-1 06/09/23 09:43 • (LCSD) R3940104-2 06/09/23 10:13

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
cis-1,2-Dichloroethene	3.75	3.80	3.75	101	100	70.0-130			1.32	25
trans-1,2-Dichloroethene	3.75	3.74	3.59	99.7	95.7	70.0-130			4.09	25
Tetrachloroethylene	3.75	3.85	3.41	103	90.9	70.0-130			12.1	25
Trichloroethylene	3.75	3.64	3.74	97.1	99.7	70.0-130			2.71	25
Vinyl chloride	3.75	3.39	3.47	90.4	92.5	70.0-130			2.33	25
(S) 1,4-Bromofluorobenzene				103	102	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3940196-3 06/09/23 09:46

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
cis-1,2-Dichloroethene	U		0.0784	0.261
trans-1,2-Dichloroethene	U		0.0673	0.224
Tetrachloroethylene	U		0.0814	0.271
Trichloroethylene	U		0.0680	0.227
Vinyl chloride	U		0.0949	0.316
(S) 1,4-Bromofluorobenzene	98.1			60.0-140

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

(LCS) R3940196-1 06/09/23 08:26 • (LCSD) R3940196-2 06/09/23 09:06

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
cis-1,2-Dichloroethene	3.75	3.31	3.35	88.3	89.3	70.0-130			1.20	25
trans-1,2-Dichloroethene	3.75	3.32	3.31	88.5	88.3	70.0-130			0.302	25
Tetrachloroethylene	3.75	3.79	3.82	101	102	70.0-130			0.788	25
Trichloroethylene	3.75	3.49	3.55	93.1	94.7	70.0-130			1.70	25
Vinyl chloride	3.75	3.28	3.27	87.5	87.2	70.0-130			0.305	25
(S) 1,4-Bromofluorobenzene				97.4	98.3	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3941775-3 06/07/23 10:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
cis-1,2-Dichloroethene	U		0.0784	0.261
trans-1,2-Dichloroethene	U		0.0673	0.224
Tetrachloroethylene	U		0.0814	0.271
Trichloroethylene	U		0.0680	0.227
Vinyl chloride	U		0.0949	0.316
(S) 1,4-Bromofluorobenzene	94.2			60.0-140

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

(LCS) R3941775-1 06/07/23 08:50 • (LCSD) R3941775-2 06/07/23 09:29

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
cis-1,2-Dichloroethene	3.75	3.48	3.58	92.8	95.5	70.0-130			2.83	25
trans-1,2-Dichloroethene	3.75	3.94	4.00	105	107	70.0-130			1.51	25
Tetrachloroethylene	3.75	3.75	3.69	100	98.4	70.0-130			1.61	25
Trichloroethylene	3.75	3.79	3.81	101	102	70.0-130			0.526	25
Vinyl chloride	3.75	4.18	4.08	111	109	70.0-130			2.42	25
(S) 1,4-Bromofluorobenzene				101	100	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3949727-3 07/03/23 09:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
cis-1,2-Dichloroethene	U		0.0784	0.261
trans-1,2-Dichloroethene	0.0867	J	0.0673	0.224
Tetrachloroethylene	U		0.0814	0.271
Trichloroethylene	U		0.0680	0.227
Vinyl chloride	U		0.0949	0.316
(S) 1,4-Bromofluorobenzene	93.0			60.0-140

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

(LCS) R3949727-1 07/03/23 07:43 • (LCSD) R3949727-2 07/03/23 08:23

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
cis-1,2-Dichloroethene	3.75	4.05	4.04	108	108	70.0-130			0.247	25
trans-1,2-Dichloroethene	3.75	4.13	4.07	110	109	70.0-130			1.46	25
Tetrachloroethylene	3.75	4.33	4.25	115	113	70.0-130			1.86	25
Trichloroethylene	3.75	4.32	4.29	115	114	70.0-130			0.697	25
Vinyl chloride	3.75	4.05	4.02	108	107	70.0-130			0.743	25
(S) 1,4-Bromofluorobenzene				93.1	94.5	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3986955-3 10/14/23 16:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
cis-1,2-Dichloroethene	U		0.0784	0.261
trans-1,2-Dichloroethene	U		0.0673	0.224
Tetrachloroethylene	U		0.0814	0.271
Trichloroethylene	U		0.0680	0.227
Vinyl chloride	U		0.0949	0.316
(S) 1,4-Bromofluorobenzene	104			60.0-140

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

(LCS) R3986955-1 10/14/23 15:34 • (LCSD) R3986955-2 10/14/23 16:04

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
cis-1,2-Dichloroethene	3.75	4.32	4.33	115	115	70.0-130			0.231	25
trans-1,2-Dichloroethene	3.75	4.36	4.35	116	116	70.0-130			0.230	25
Tetrachloroethylene	3.75	3.38	3.35	90.1	89.3	70.0-130			0.892	25
Trichloroethylene	3.75	3.91	3.84	104	102	70.0-130			1.81	25
Vinyl chloride	3.75	4.39	4.35	117	116	70.0-130			0.915	25
(S) 1,4-Bromofluorobenzene				105	108	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Sample Receipt Checklist
 COC Seal Present/Intact: Y N If Applicable
 COC Signed/Accurate: Y N VOA Zero Headspace: Y N
 Bottles arrive intact: Y N Pres. Correct/Check: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
 RA Screen <0.5 mR/hr: Y N

AIR: CHAIN-OF-CUSTODY
 The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

M092

Page: 1 of 1

Section Required Client Information:		Section Required Project Information:		Section C Invoice Information:		Program	
Company: Geosyntec		Report To: Jeremiah Johnson, Dave Zolp		Attention: Frank Dombrowski		<input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Superfund <input type="checkbox"/> Other <input type="checkbox"/> Emission Dry Clean <input type="checkbox"/> Clean Air Act RCRA	
Address: 10600 N. Port Washington Rd. Ste 100		Copy To:		Company Name: WEC Energy Group (We Energies)		Location of Sampling by State: WI Reporting Units: ug/m³, mg/m³, PPBV, PPMV	
Mequon, WI 53092		Purchase Order No.:		Address:		Report Level: <input type="checkbox"/> II, <input type="checkbox"/> III, <input type="checkbox"/> IV, <input type="checkbox"/> Other	
Email To: jjohnson@geosyntec.com dzolp@geosyntec.com		Pace Quote Reference:		Pace Project Manager/Sales Rep:			
Phone: 262-496-6103 Fax:		Project Name: Metro North Service Center (MNSC)		Pace Profile #: 37426			
Requested Due Date/TAT:		Project Number: CHE8094OQ					

12	Section D Required Client Information		COLLECTED								Method:											
	AIR SAMPLE ID		MEDIA CODE	PID Reading (Client only)	COMPOSITE START (INDICATOR)				Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PID	IC-FID GAS (%)	TO-3 BTEX	TO-3N (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
	Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA CODE			DATE	TIME	DATE	TIME														
1	IA-01-102023	6LC		10/5/23	713	10/5/23	1513	-27.1	-1.1	22779	24123										X	-01
2	IA-02-102023	6LC		10/5/23	713	10/5/23	1513	-27.1	-1.2	21264	24111										X	-02
3	IA-03-102023	6LC		10/5/23	713	10/5/23	1513	-27.1	-1.2	21207	24101										X	-03
4	IA-03DUP-102023	6LC		10/5/23	713	10/5/23	1513	-27.1	-1.7	8909	24104										X	-04
5	IA-04-102023	6LC		10/5/23	713	10/5/23	1513	-27.1	-2	11875	24105										X	-05
6	IA-05-102023	6LC		10/5/23	713	10/5/23	1513	-27.1	-2	10551	24103										X	-06
7	IA-06-102023	6LC		10/5/23	713	10/5/23	1513	-27.1	-7.1	5139	24102										X	-07
8	OA-07-102023	6LC		10/5/23	713	10/5/23	1513	-27.1	-1.6	8753	24100										X	-08

Comments :	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
TO-15 Short List as follows: Tetrachloroethylene, Trichloroethylene, cis&trans-1,2-Dichloroethylene, Vinyl Chloride	<i>[Signature]</i> Geosyntec	10/6/23	1400	<i>[Signature]</i> WEC	10/17	0600	Received on Ice	Y/N	Y/N	Y/N
							Custody Sealed Cooler	Y/N	Y/N	Y/N
							Samples Intact	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
 Dave Zolp
 DATE Signed (MM / DD / YY)
 10/06/2023

ATTACHMENT 6

Maintenance Photographs

GEOSYNTEC CONSULTANTS
Photographic Record

Client: WBS

Project Number: CHE8094OQ

Site Name: Metro North Service Center

Site Location: Milwaukee, WI

Photograph 1

Date: 4/14/2023

Direction: S

Comments:

supplemental stability of blower attachment to the roof (sandbags)



Photograph 2

Date: 10/6/2023

Direction: S

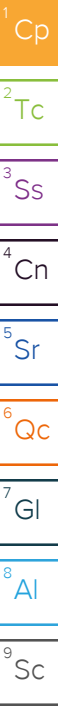
Comments:

supplemental stability of blower attachment to the roof (concrete block replacing sandbags)



ATTACHMENT 7

Emissions Sampling Laboratory Report

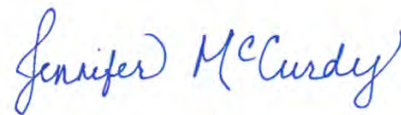


We Energies - Milwaukee, WI

Sample Delivery Group: L1664072
Samples Received: 10/07/2023
Project Number: CHE8094OQ
Description: Metro North Service Center

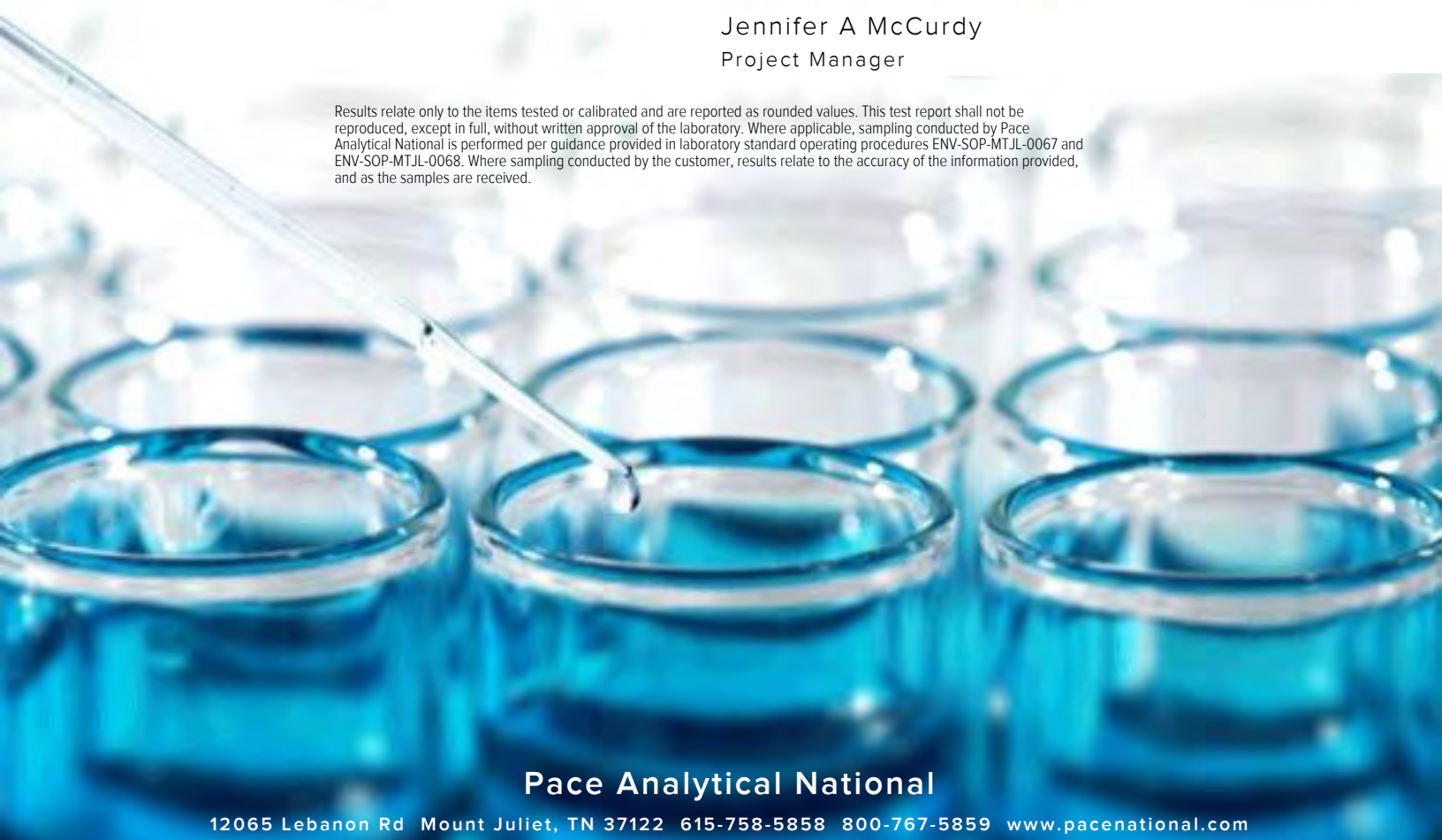
Report To: David Zolp
10600 N. Port Washington Road
Suite 100
Mequon, WI 53092

Entire Report Reviewed By:



Jennifer A McCurdy
Project Manager










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



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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Sr: Sample Results	5	
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SAMPLE SUMMARY

EP-01-102023 L1664072-01 Air

Collected by: David Zolp
 Collected date/time: 10/05/23 15:33
 Received date/time: 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2151663	1	10/15/23 12:41	10/15/23 12:41	MNP	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

EP-02-102023 L1664072-02 Air

Collected by: David Zolp
 Collected date/time: 10/05/23 15:35
 Received date/time: 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2151663	1	10/15/23 15:32	10/15/23 15:32	MNP	Mt. Juliet, TN

⁴ Cn

⁵ Sr

EP-03-102023 L1664072-03 Air

Collected by: David Zolp
 Collected date/time: 10/05/23 15:30
 Received date/time: 10/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2151663	1	10/15/23 16:04	10/15/23 16:04	MNP	Mt. Juliet, TN

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

CASE NARRATIVE

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



Jennifer A McCurdy
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.95	4.63	8.78	20.9		1	WG2151663
Allyl chloride	107-05-1	76.53	0.380	1.19	1.08	3.38		1	WG2151663
Benzene	71-43-2	78.10	0.238	0.760	ND	ND		1	WG2151663
Benzyl Chloride	100-44-7	127	0.199	1.03	ND	ND		1	WG2151663
Bromodichloromethane	75-27-4	164	0.234	1.57	ND	ND		1	WG2151663
Bromoform	75-25-2	253	0.244	2.52	ND	ND		1	WG2151663
Bromomethane	74-83-9	94.90	0.327	1.27	ND	ND		1	WG2151663
1,3-Butadiene	106-99-0	54.10	0.347	0.768	ND	ND		1	WG2151663
Carbon disulfide	75-15-0	76.10	0.340	1.06	ND	ND		1	WG2151663
Carbon tetrachloride	56-23-5	154	0.244	1.54	ND	ND		1	WG2151663
Chlorobenzene	108-90-7	113	0.277	1.28	ND	ND		1	WG2151663
Chloroethane	75-00-3	64.50	0.332	0.876	ND	ND		1	WG2151663
Chloroform	67-66-3	119	0.239	1.16	ND	ND		1	WG2151663
Chloromethane	74-87-3	50.50	0.343	0.708	0.363	0.750		1	WG2151663
2-Chlorotoluene	95-49-8	126	0.276	1.42	ND	ND		1	WG2151663
Cyclohexane	110-82-7	84.20	0.251	0.864	ND	ND		1	WG2151663
Dibromochloromethane	124-48-1	208	0.242	2.06	ND	ND		1	WG2151663
1,2-Dibromoethane	106-93-4	188	0.240	1.85	ND	ND		1	WG2151663
1,2-Dichlorobenzene	95-50-1	147	0.427	2.57	ND	ND		1	WG2151663
1,3-Dichlorobenzene	541-73-1	147	0.607	3.65	ND	ND		1	WG2151663
1,4-Dichlorobenzene	106-46-7	147	0.186	1.12	ND	ND		1	WG2151663
1,2-Dichloroethane	107-06-2	99	0.233	0.943	ND	ND		1	WG2151663
1,1-Dichloroethane	75-34-3	98	0.241	0.966	ND	ND		1	WG2151663
1,1-Dichloroethene	75-35-4	96.90	0.254	1.01	ND	ND		1	WG2151663
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	1.19	4.72		1	WG2151663
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2151663
1,2-Dichloropropane	78-87-5	113	0.253	1.17	ND	ND		1	WG2151663
cis-1,3-Dichloropropene	10061-01-5	111	0.230	1.04	ND	ND		1	WG2151663
trans-1,3-Dichloropropene	10061-02-6	111	0.243	1.10	ND	ND		1	WG2151663
1,4-Dioxane	123-91-1	88.10	0.278	1.00	ND	ND		1	WG2151663
Ethanol	64-17-5	46.10	0.883	1.66	52.7	99.4		1	WG2151663
Ethylbenzene	100-41-4	106	0.278	1.21	ND	ND		1	WG2151663
4-Ethyltoluene	622-96-8	120	0.261	1.28	ND	ND		1	WG2151663
Trichlorofluoromethane	75-69-4	137.40	0.273	1.53	9.31	52.3		1	WG2151663
Dichlorodifluoromethane	75-71-8	120.92	0.457	2.26	0.535	2.65		1	WG2151663
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.264	2.02	ND	ND		1	WG2151663
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.297	2.08	ND	ND		1	WG2151663
Heptane	142-82-5	100	0.347	1.42	ND	ND		1	WG2151663
Hexachloro-1,3-butadiene	87-68-3	261	0.350	3.74	ND	ND		1	WG2151663
n-Hexane	110-54-3	86.20	0.687	2.42	ND	ND		1	WG2151663
Isopropylbenzene	98-82-8	120.20	0.259	1.27	ND	ND		1	WG2151663
Methylene Chloride	75-09-2	84.90	0.326	1.13	0.367	1.27		1	WG2151663
Methyl Butyl Ketone	591-78-6	100	0.443	1.81	ND	ND		1	WG2151663
2-Butanone (MEK)	78-93-3	72.10	0.271	0.799	1.10	3.24		1	WG2151663
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	0.255	1.04	ND	ND		1	WG2151663
Methyl methacrylate	80-62-6	100.12	0.292	1.20	ND	ND		1	WG2151663
MTBE	1634-04-4	88.10	0.216	0.778	ND	ND		1	WG2151663
Naphthalene	91-20-3	128	1.17	6.13	ND	ND		1	WG2151663
2-Propanol	67-63-0	60.10	0.880	2.16	5.34	13.1		1	WG2151663
Propene	115-07-1	42.10	0.311	0.536	ND	ND		1	WG2151663
Styrene	100-42-5	104	0.263	1.12	0.309	1.31		1	WG2151663
1,1,2,2-Tetrachloroethane	79-34-5	168	0.248	1.70	ND	ND		1	WG2151663
Tetrachloroethylene	127-18-4	166	0.271	1.84	49.9	339		1	WG2151663
Tetrahydrofuran	109-99-9	72.10	0.245	0.722	0.378	1.11		1	WG2151663
Toluene	108-88-3	92.10	0.290	1.09	0.636	2.40		1	WG2151663
1,2,4-Trichlorobenzene	120-82-1	181	0.493	3.65	ND	ND		1	WG2151663

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.245	1.33	ND	ND		1	WG2151663
1,1,2-Trichloroethane	79-00-5	133	0.258	1.40	ND	ND		1	WG2151663
Trichloroethylene	79-01-6	131	0.227	1.22	1.85	9.91		1	WG2151663
1,2,4-Trimethylbenzene	95-63-6	120	0.255	1.25	ND	ND		1	WG2151663
1,3,5-Trimethylbenzene	108-67-8	120	0.260	1.28	ND	ND		1	WG2151663
2,2,4-Trimethylpentane	540-84-1	114.22	0.443	2.07	ND	ND		1	WG2151663
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2151663
Vinyl Bromide	593-60-2	106.95	0.284	1.24	ND	ND		1	WG2151663
Vinyl acetate	108-05-4	86.10	0.387	1.36	ND	ND		1	WG2151663
Xylenes, Total	1330-20-7	106.16	0.450	1.95	0.492	2.14		1	WG2151663
m&p-Xylene	1330-20-7	106	0.450	1.95	ND	ND		1	WG2151663
o-Xylene	95-47-6	106	0.276	1.20	ND	ND		1	WG2151663
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		92.5				WG2151663

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.95	4.63	8.24	19.6		1	WG2151663
Allyl chloride	107-05-1	76.53	0.380	1.19	ND	ND		1	WG2151663
Benzene	71-43-2	78.10	0.238	0.760	ND	ND		1	WG2151663
Benzyl Chloride	100-44-7	127	0.199	1.03	ND	ND		1	WG2151663
Bromodichloromethane	75-27-4	164	0.234	1.57	ND	ND		1	WG2151663
Bromoform	75-25-2	253	0.244	2.52	ND	ND		1	WG2151663
Bromomethane	74-83-9	94.90	0.327	1.27	ND	ND		1	WG2151663
1,3-Butadiene	106-99-0	54.10	0.347	0.768	ND	ND		1	WG2151663
Carbon disulfide	75-15-0	76.10	0.340	1.06	0.536	1.67		1	WG2151663
Carbon tetrachloride	56-23-5	154	0.244	1.54	ND	ND		1	WG2151663
Chlorobenzene	108-90-7	113	0.277	1.28	ND	ND		1	WG2151663
Chloroethane	75-00-3	64.50	0.332	0.876	ND	ND		1	WG2151663
Chloroform	67-66-3	119	0.239	1.16	ND	ND		1	WG2151663
Chloromethane	74-87-3	50.50	0.343	0.708	0.528	1.09		1	WG2151663
2-Chlorotoluene	95-49-8	126	0.276	1.42	ND	ND		1	WG2151663
Cyclohexane	110-82-7	84.20	0.251	0.864	ND	ND		1	WG2151663
Dibromochloromethane	124-48-1	208	0.242	2.06	ND	ND		1	WG2151663
1,2-Dibromoethane	106-93-4	188	0.240	1.85	ND	ND		1	WG2151663
1,2-Dichlorobenzene	95-50-1	147	0.427	2.57	ND	ND		1	WG2151663
1,3-Dichlorobenzene	541-73-1	147	0.607	3.65	ND	ND		1	WG2151663
1,4-Dichlorobenzene	106-46-7	147	0.186	1.12	ND	ND		1	WG2151663
1,2-Dichloroethane	107-06-2	99	0.233	0.943	ND	ND		1	WG2151663
1,1-Dichloroethane	75-34-3	98	0.241	0.966	ND	ND		1	WG2151663
1,1-Dichloroethene	75-35-4	96.90	0.254	1.01	ND	ND		1	WG2151663
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	0.652	2.58		1	WG2151663
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2151663
1,2-Dichloropropane	78-87-5	113	0.253	1.17	ND	ND		1	WG2151663
cis-1,3-Dichloropropene	10061-01-5	111	0.230	1.04	ND	ND		1	WG2151663
trans-1,3-Dichloropropene	10061-02-6	111	0.243	1.10	ND	ND		1	WG2151663
1,4-Dioxane	123-91-1	88.10	0.278	1.00	ND	ND		1	WG2151663
Ethanol	64-17-5	46.10	0.883	1.66	102	192	E	1	WG2151663
Ethylbenzene	100-41-4	106	0.278	1.21	0.286	1.24		1	WG2151663
4-Ethyltoluene	622-96-8	120	0.261	1.28	ND	ND		1	WG2151663
Trichlorofluoromethane	75-69-4	137.40	0.273	1.53	6.74	37.9		1	WG2151663
Dichlorodifluoromethane	75-71-8	120.92	0.457	2.26	ND	ND		1	WG2151663
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.264	2.02	ND	ND		1	WG2151663
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.297	2.08	ND	ND		1	WG2151663
Heptane	142-82-5	100	0.347	1.42	ND	ND		1	WG2151663
Hexachloro-1,3-butadiene	87-68-3	261	0.350	3.74	ND	ND		1	WG2151663
n-Hexane	110-54-3	86.20	0.687	2.42	ND	ND		1	WG2151663
Isopropylbenzene	98-82-8	120.20	0.259	1.27	ND	ND		1	WG2151663
Methylene Chloride	75-09-2	84.90	0.326	1.13	1.98	6.88		1	WG2151663
Methyl Butyl Ketone	591-78-6	100	0.443	1.81	ND	ND		1	WG2151663
2-Butanone (MEK)	78-93-3	72.10	0.271	0.799	0.720	2.12		1	WG2151663
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	0.255	1.04	ND	ND		1	WG2151663
Methyl methacrylate	80-62-6	100.12	0.292	1.20	ND	ND		1	WG2151663
MTBE	1634-04-4	88.10	0.216	0.778	ND	ND		1	WG2151663
Naphthalene	91-20-3	128	1.17	6.13	ND	ND		1	WG2151663
2-Propanol	67-63-0	60.10	0.880	2.16	9.17	22.5		1	WG2151663
Propene	115-07-1	42.10	0.311	0.536	ND	ND		1	WG2151663
Styrene	100-42-5	104	0.263	1.12	ND	ND		1	WG2151663
1,1,2,2-Tetrachloroethane	79-34-5	168	0.248	1.70	ND	ND		1	WG2151663
Tetrachloroethylene	127-18-4	166	0.271	1.84	28.3	192		1	WG2151663
Tetrahydrofuran	109-99-9	72.10	0.245	0.722	ND	ND		1	WG2151663
Toluene	108-88-3	92.10	0.290	1.09	1.40	5.27		1	WG2151663
1,2,4-Trichlorobenzene	120-82-1	181	0.493	3.65	ND	ND		1	WG2151663

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.245	1.33	ND	ND		1	WG2151663
1,1,2-Trichloroethane	79-00-5	133	0.258	1.40	ND	ND		1	WG2151663
Trichloroethylene	79-01-6	131	0.227	1.22	1.49	7.98		1	WG2151663
1,2,4-Trimethylbenzene	95-63-6	120	0.255	1.25	ND	ND		1	WG2151663
1,3,5-Trimethylbenzene	108-67-8	120	0.260	1.28	ND	ND		1	WG2151663
2,2,4-Trimethylpentane	540-84-1	114.22	0.443	2.07	ND	ND		1	WG2151663
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2151663
Vinyl Bromide	593-60-2	106.95	0.284	1.24	ND	ND		1	WG2151663
Vinyl acetate	108-05-4	86.10	0.387	1.36	ND	ND		1	WG2151663
Xylenes, Total	1330-20-7	106.16	0.450	1.95	1.22	5.30		1	WG2151663
m&p-Xylene	1330-20-7	106	0.450	1.95	0.929	4.03		1	WG2151663
o-Xylene	95-47-6	106	0.276	1.20	0.287	1.24		1	WG2151663
<i>(S)</i> 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.8				WG2151663

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

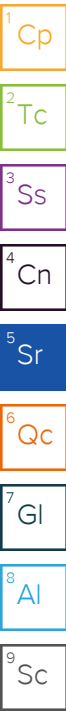
7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.95	4.63	11.9	28.3		1	WG2151663
Allyl chloride	107-05-1	76.53	0.380	1.19	ND	ND		1	WG2151663
Benzene	71-43-2	78.10	0.238	0.760	ND	ND		1	WG2151663
Benzyl Chloride	100-44-7	127	0.199	1.03	ND	ND		1	WG2151663
Bromodichloromethane	75-27-4	164	0.234	1.57	ND	ND		1	WG2151663
Bromoform	75-25-2	253	0.244	2.52	ND	ND		1	WG2151663
Bromomethane	74-83-9	94.90	0.327	1.27	ND	ND		1	WG2151663
1,3-Butadiene	106-99-0	54.10	0.347	0.768	ND	ND		1	WG2151663
Carbon disulfide	75-15-0	76.10	0.340	1.06	4.70	14.6		1	WG2151663
Carbon tetrachloride	56-23-5	154	0.244	1.54	ND	ND		1	WG2151663
Chlorobenzene	108-90-7	113	0.277	1.28	ND	ND		1	WG2151663
Chloroethane	75-00-3	64.50	0.332	0.876	ND	ND		1	WG2151663
Chloroform	67-66-3	119	0.239	1.16	ND	ND		1	WG2151663
Chloromethane	74-87-3	50.50	0.343	0.708	0.374	0.772		1	WG2151663
2-Chlorotoluene	95-49-8	126	0.276	1.42	ND	ND		1	WG2151663
Cyclohexane	110-82-7	84.20	0.251	0.864	ND	ND		1	WG2151663
Dibromochloromethane	124-48-1	208	0.242	2.06	ND	ND		1	WG2151663
1,2-Dibromoethane	106-93-4	188	0.240	1.85	ND	ND		1	WG2151663
1,2-Dichlorobenzene	95-50-1	147	0.427	2.57	ND	ND		1	WG2151663
1,3-Dichlorobenzene	541-73-1	147	0.607	3.65	ND	ND		1	WG2151663
1,4-Dichlorobenzene	106-46-7	147	0.186	1.12	ND	ND		1	WG2151663
1,2-Dichloroethane	107-06-2	99	0.233	0.943	ND	ND		1	WG2151663
1,1-Dichloroethane	75-34-3	98	0.241	0.966	ND	ND		1	WG2151663
1,1-Dichloroethene	75-35-4	96.90	0.254	1.01	ND	ND		1	WG2151663
cis-1,2-Dichloroethene	156-59-2	96.90	0.261	1.03	ND	ND		1	WG2151663
trans-1,2-Dichloroethene	156-60-5	96.90	0.224	0.888	ND	ND		1	WG2151663
1,2-Dichloropropane	78-87-5	113	0.253	1.17	ND	ND		1	WG2151663
cis-1,3-Dichloropropene	10061-01-5	111	0.230	1.04	ND	ND		1	WG2151663
trans-1,3-Dichloropropene	10061-02-6	111	0.243	1.10	ND	ND		1	WG2151663
1,4-Dioxane	123-91-1	88.10	0.278	1.00	ND	ND		1	WG2151663
Ethanol	64-17-5	46.10	0.883	1.66	51.5	97.1		1	WG2151663
Ethylbenzene	100-41-4	106	0.278	1.21	ND	ND		1	WG2151663
4-Ethyltoluene	622-96-8	120	0.261	1.28	ND	ND		1	WG2151663
Trichlorofluoromethane	75-69-4	137.40	0.273	1.53	13.9	78.1		1	WG2151663
Dichlorodifluoromethane	75-71-8	120.92	0.457	2.26	0.474	2.34		1	WG2151663
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.264	2.02	ND	ND		1	WG2151663
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.297	2.08	ND	ND		1	WG2151663
Heptane	142-82-5	100	0.347	1.42	ND	ND		1	WG2151663
Hexachloro-1,3-butadiene	87-68-3	261	0.350	3.74	ND	ND		1	WG2151663
n-Hexane	110-54-3	86.20	0.687	2.42	ND	ND		1	WG2151663
Isopropylbenzene	98-82-8	120.20	0.259	1.27	ND	ND		1	WG2151663
Methylene Chloride	75-09-2	84.90	0.326	1.13	ND	ND		1	WG2151663
Methyl Butyl Ketone	591-78-6	100	0.443	1.81	ND	ND		1	WG2151663
2-Butanone (MEK)	78-93-3	72.10	0.271	0.799	1.33	3.92		1	WG2151663
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	0.255	1.04	ND	ND		1	WG2151663
Methyl methacrylate	80-62-6	100.12	0.292	1.20	ND	ND		1	WG2151663
MTBE	1634-04-4	88.10	0.216	0.778	ND	ND		1	WG2151663
Naphthalene	91-20-3	128	1.17	6.13	ND	ND		1	WG2151663
2-Propanol	67-63-0	60.10	0.880	2.16	5.55	13.6		1	WG2151663
Propene	115-07-1	42.10	0.311	0.536	ND	ND		1	WG2151663
Styrene	100-42-5	104	0.263	1.12	ND	ND		1	WG2151663
1,1,2,2-Tetrachloroethane	79-34-5	168	0.248	1.70	ND	ND		1	WG2151663
Tetrachloroethylene	127-18-4	166	0.271	1.84	17.1	116		1	WG2151663
Tetrahydrofuran	109-99-9	72.10	0.245	0.722	0.296	0.873		1	WG2151663
Toluene	108-88-3	92.10	0.290	1.09	0.963	3.63		1	WG2151663
1,2,4-Trichlorobenzene	120-82-1	181	0.493	3.65	ND	ND		1	WG2151663



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.245	1.33	ND	ND		1	WG2151663
1,1,2-Trichloroethane	79-00-5	133	0.258	1.40	ND	ND		1	WG2151663
Trichloroethylene	79-01-6	131	0.227	1.22	0.757	4.06		1	WG2151663
1,2,4-Trimethylbenzene	95-63-6	120	0.255	1.25	ND	ND		1	WG2151663
1,3,5-Trimethylbenzene	108-67-8	120	0.260	1.28	ND	ND		1	WG2151663
2,2,4-Trimethylpentane	540-84-1	114.22	0.443	2.07	ND	ND		1	WG2151663
Vinyl chloride	75-01-4	62.50	0.316	0.808	ND	ND		1	WG2151663
Vinyl Bromide	593-60-2	106.95	0.284	1.24	ND	ND		1	WG2151663
Vinyl acetate	108-05-4	86.10	0.387	1.36	ND	ND		1	WG2151663
Xylenes, Total	1330-20-7	106.16	0.450	1.95	0.582	2.53		1	WG2151663
m&p-Xylene	1330-20-7	106	0.450	1.95	ND	ND		1	WG2151663
o-Xylene	95-47-6	106	0.276	1.20	ND	ND		1	WG2151663
<i>(S)</i> 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.8				WG2151663

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R3987084-3 10/15/23 10:16

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.584	1.95
Allyl chloride	U		0.114	0.380
Benzene	U		0.0715	0.238
Benzyl Chloride	U		0.0598	0.199
Bromodichloromethane	U		0.0702	0.234
Bromoform	U		0.0732	0.244
Bromomethane	U		0.0982	0.327
1,3-Butadiene	U		0.104	0.347
Carbon disulfide	U		0.102	0.340
Carbon tetrachloride	U		0.0732	0.244
Chlorobenzene	U		0.0832	0.277
Chloroethane	U		0.0996	0.332
Chloroform	U		0.0717	0.239
Chloromethane	U		0.103	0.343
2-Chlorotoluene	U		0.0828	0.276
Cyclohexane	U		0.0753	0.251
Dibromochloromethane	U		0.0727	0.242
1,2-Dibromoethane	U		0.0721	0.240
1,2-Dichlorobenzene	U		0.128	0.427
1,3-Dichlorobenzene	U		0.182	0.607
1,4-Dichlorobenzene	U		0.0557	0.186
1,2-Dichloroethane	U		0.0700	0.233
1,1-Dichloroethane	U		0.0723	0.241
1,1-Dichloroethene	U		0.0762	0.254
cis-1,2-Dichloroethene	U		0.0784	0.261
trans-1,2-Dichloroethene	U		0.0673	0.224
1,2-Dichloropropane	U		0.0760	0.253
cis-1,3-Dichloropropene	U		0.0689	0.230
trans-1,3-Dichloropropene	U		0.0728	0.243
1,4-Dioxane	U		0.0833	0.278
Ethanol	1.54		0.265	0.883
Ethylbenzene	U		0.0835	0.278
4-Ethyltoluene	U		0.0783	0.261
Trichlorofluoromethane	U		0.0819	0.273
Dichlorodifluoromethane	U		0.137	0.457
1,1,2-Trichlorotrifluoroethane	U		0.0793	0.264
1,2-Dichlorotetrafluoroethane	U		0.0890	0.297
Heptane	U		0.104	0.347
Hexachloro-1,3-butadiene	U		0.105	0.350
n-Hexane	U		0.206	0.687

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3987084-3 10/15/23 10:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Isopropylbenzene	U		0.0777	0.259
Methylene Chloride	U		0.0979	0.326
Methyl Butyl Ketone	U		0.133	0.443
2-Butanone (MEK)	U		0.0814	0.271
4-Methyl-2-pentanone (MIBK)	U		0.0765	0.255
Methyl methacrylate	U		0.0876	0.292
MTBE	U		0.0647	0.216
Naphthalene	U		0.350	1.17
2-Propanol	U		0.264	0.880
Propene	U		0.0932	0.311
Styrene	U		0.0788	0.263
1,1,2,2-Tetrachloroethane	U		0.0743	0.248
Tetrachloroethylene	U		0.0814	0.271
Tetrahydrofuran	U		0.0734	0.245
Toluene	U		0.0870	0.290
1,2,4-Trichlorobenzene	U		0.148	0.493
1,1,1-Trichloroethane	U		0.0736	0.245
1,1,2-Trichloroethane	U		0.0775	0.258
Trichloroethylene	U		0.0680	0.227
1,2,4-Trimethylbenzene	U		0.0764	0.255
1,3,5-Trimethylbenzene	U		0.0779	0.260
2,2,4-Trimethylpentane	U		0.133	0.443
Vinyl chloride	U		0.0949	0.316
Vinyl Bromide	U		0.0852	0.284
Vinyl acetate	0.323	U	0.116	0.387
Xylenes, Total	U		0.135	0.450
m&p-Xylene	U		0.135	0.450
o-Xylene	U		0.0828	0.276
(S) 1,4-Bromofluorobenzene	92.1			60.0-140

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

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

(LCS) R3987084-1 10/15/23 09:18 • (LCSD) R3987084-2 10/15/23 09:48

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Acetone	3.75	3.68	3.75	98.1	100	70.0-130			1.88	25
Allyl chloride	3.75	3.81	3.80	102	101	70.0-130			0.263	25
Benzene	3.75	3.87	3.86	103	103	70.0-130			0.259	25
Benzyl Chloride	3.75	2.68	2.67	71.5	71.2	70.0-152			0.374	25

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

(LCS) R3987084-1 10/15/23 09:18 • (LCSD) R3987084-2 10/15/23 09:48

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Bromodichloromethane	3.75	3.92	3.88	105	103	70.0-130			1.03	25
Bromoform	3.75	3.87	3.91	103	104	70.0-130			1.03	25
Bromomethane	3.75	3.76	3.75	100	100	70.0-130			0.266	25
1,3-Butadiene	3.75	3.78	3.80	101	101	70.0-130			0.528	25
Carbon disulfide	3.75	3.83	3.81	102	102	70.0-130			0.524	25
Carbon tetrachloride	3.75	3.90	3.91	104	104	70.0-130			0.256	25
Chlorobenzene	3.75	3.79	3.81	101	102	70.0-130			0.526	25
Chloroethane	3.75	3.74	3.75	99.7	100	70.0-130			0.267	25
Chloroform	3.75	3.83	3.88	102	103	70.0-130			1.30	25
Chloromethane	3.75	3.84	3.86	102	103	70.0-130			0.519	25
2-Chlorotoluene	3.75	3.88	3.85	103	103	70.0-130			0.776	25
Cyclohexane	3.75	3.80	3.83	101	102	70.0-130			0.786	25
Dibromochloromethane	3.75	3.85	3.82	103	102	70.0-130			0.782	25
1,2-Dibromoethane	3.75	3.69	3.69	98.4	98.4	70.0-130			0.000	25
1,2-Dichlorobenzene	3.75	4.09	4.05	109	108	70.0-130			0.983	25
1,3-Dichlorobenzene	3.75	4.09	4.04	109	108	70.0-130			1.23	25
1,4-Dichlorobenzene	3.75	4.23	4.18	113	111	70.0-130			1.19	25
1,2-Dichloroethane	3.75	3.79	3.78	101	101	70.0-130			0.264	25
1,1-Dichloroethane	3.75	3.72	3.73	99.2	99.5	70.0-130			0.268	25
1,1-Dichloroethene	3.75	3.93	3.85	105	103	70.0-130			2.06	25
cis-1,2-Dichloroethene	3.75	3.68	3.69	98.1	98.4	70.0-130			0.271	25
trans-1,2-Dichloroethene	3.75	3.92	3.92	105	105	70.0-130			0.000	25
1,2-Dichloropropane	3.75	3.66	3.63	97.6	96.8	70.0-130			0.823	25
cis-1,3-Dichloropropene	3.75	3.76	3.74	100	99.7	70.0-130			0.533	25
trans-1,3-Dichloropropene	3.75	3.75	3.77	100	101	70.0-130			0.532	25
1,4-Dioxane	3.75	3.75	3.75	100	100	70.0-140			0.000	25
Ethanol	3.75	4.51	4.41	120	118	55.0-148			2.24	25
Ethylbenzene	3.75	3.85	3.84	103	102	70.0-130			0.260	25
4-Ethyltoluene	3.75	4.03	4.04	107	108	70.0-130			0.248	25
Trichlorofluoromethane	3.75	3.87	3.87	103	103	70.0-130			0.000	25
Dichlorodifluoromethane	3.75	3.87	3.89	103	104	64.0-139			0.515	25
1,1,2-Trichlorotrifluoroethane	3.75	3.90	3.87	104	103	70.0-130			0.772	25
1,2-Dichlorotetrafluoroethane	3.75	3.86	3.86	103	103	70.0-130			0.000	25
Heptane	3.75	3.78	3.78	101	101	70.0-130			0.000	25
Hexachloro-1,3-butadiene	3.75	3.72	3.62	99.2	96.5	70.0-151			2.72	25
n-Hexane	3.75	3.21	3.26	85.6	86.9	70.0-130			1.55	25
Isopropylbenzene	3.75	3.91	3.88	104	103	70.0-130			0.770	25
Methylene Chloride	3.75	3.57	3.58	95.2	95.5	70.0-130			0.280	25
Methyl Butyl Ketone	3.75	3.58	3.55	95.5	94.7	70.0-149			0.842	25
2-Butanone (MEK)	3.75	3.61	3.66	96.3	97.6	70.0-130			1.38	25

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R3987084-1 10/15/23 09:18 • (LCSD) R3987084-2 10/15/23 09:48

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	3.75	3.94	3.94	105	105	70.0-139			0.000	25
Methyl methacrylate	3.75	3.75	3.68	100	98.1	70.0-130			1.88	25
MTBE	3.75	3.72	3.77	99.2	101	70.0-130			1.34	25
Naphthalene	3.75	4.25	4.14	113	110	70.0-159			2.62	25
2-Propanol	3.75	3.73	3.76	99.5	100	70.0-139			0.801	25
Propene	3.75	3.70	3.69	98.7	98.4	64.0-144			0.271	25
Styrene	3.75	3.85	3.86	103	103	70.0-130			0.259	25
1,1,2,2-Tetrachloroethane	3.75	4.00	3.99	107	106	70.0-130			0.250	25
Tetrachloroethylene	3.75	3.93	3.90	105	104	70.0-130			0.766	25
Tetrahydrofuran	3.75	3.50	3.46	93.3	92.3	70.0-137			1.15	25
Toluene	3.75	3.67	3.72	97.9	99.2	70.0-130			1.35	25
1,2,4-Trichlorobenzene	3.75	4.00	3.94	107	105	70.0-160			1.51	25
1,1,1-Trichloroethane	3.75	3.66	3.66	97.6	97.6	70.0-130			0.000	25
1,1,2-Trichloroethane	3.75	3.59	3.54	95.7	94.4	70.0-130			1.40	25
Trichloroethylene	3.75	3.62	3.64	96.5	97.1	70.0-130			0.551	25
1,2,4-Trimethylbenzene	3.75	4.23	4.16	113	111	70.0-130			1.67	25
1,3,5-Trimethylbenzene	3.75	4.10	4.11	109	110	70.0-130			0.244	25
2,2,4-Trimethylpentane	3.75	3.71	3.75	98.9	100	70.0-130			1.07	25
Vinyl chloride	3.75	3.79	3.87	101	103	70.0-130			2.09	25
Vinyl Bromide	3.75	3.72	3.77	99.2	101	70.0-130			1.34	25
Vinyl acetate	3.75	3.27	3.35	87.2	89.3	70.0-130			2.42	25
Xylenes, Total	11.3	12.0	11.9	106	105	70.0-130			0.837	25
m&p-Xylene	7.50	8.01	7.98	107	106	70.0-130			0.375	25
o-Xylene	3.75	3.98	3.92	106	105	70.0-130			1.52	25
(S) 1,4-Bromofluorobenzene				98.5	98.0	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

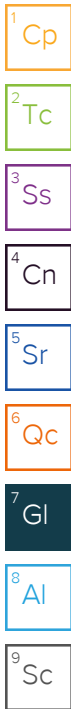
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

