Sub-Slab Vapor Investigation Report

Nor-Lake Inc.
891 Highway U
Hudson, WI
BRRTS #02-56-000089

Prepared for:

Nor-Lake Inc.
727 2nd Street
Hudson, WI 544016

December 2019

Sub-Slab Vapor Investigation Report

Nor-Lake Inc.
891 Highway U
Hudson, WI

This report prepared by:

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AYRES

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Ayres Associates Project No. 51-0367.00
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Executive Summary

Nor-Lake, Inc. retained Ayres Associates to conduct an investigation of sub-slab soil vapor at the Nor-Lake manufacturing plant located in Town of Hudson, WI. Methods included four rounds of sub-slab vapor sampling from 10 points (VS-1 through VS-10) near the source area on May 15, June 13, July 2, and November 21, 2019. The SVE system was shut down for at least 30 days prior to the start of sub-slab vapor sampling to avoid interference with sampling results. Pace Analytical Services analyzed vapor samples by method TO-15 for the following chlorinated VOCs: 1,1,1-trichloroethane, 1,1,2-trichloroethene, 1,1-dichloroethane, 1,1-dichloroethene, chloroethane, dichlorodifluoromethane, tetrachloroethene, trichloroethene, trichlorofluoromethane, vinyl chloride, cis-1,2-dichloroethene, and trans-1,2-dichloroethene.

Although several chlorinated VOCs were detected during the investigation, trichloroethene (TCE) was the only compound to exceed a sub-slab vapor risk screening level (VRSL). Trichloroethene concentrations exceeded the residential VRSL of 70 micrograms per cubic meter (µg/m^3) during at least one of the three sampling rounds at VS-1 (257 µg/m^3), VS-2 (198 µg/m^3), VS-3 (249 µg/m^3), VS-4 (424 µg/m^3), and VS-7 (160 µg/m^3). However, TCE concentrations were below the large commercial/industrial VRSL of 880 µg/m^3.

Based upon WDNR Guidance RR-800, Ayres Associates recommends that no additional sampling rounds are warranted as all concentrations of VOCs analyzed during both the cooling and heating seasons were well below large commercial/industrial VRSLs that apply to the site.

Introduction

Nor-Lake, Inc. retained Ayres Associates to conduct an investigation of sub-slab soil vapor at the Nor-Lake manufacturing plant located in Town of Hudson, WI. This report documents the technical findings of the investigation and presents conclusions and recommendations regarding the sub-slab soil vapor. The report was prepared and is organized in accordance with the requirements listed in Wisconsin Administrative Code NR 716.15.

Site Location

The primary Nor-Lake manufacturing site is located at 891 CTH U, Hudson, WI. The site is located in the Northwest 1/4 of Section 22, Township 29 North, Range 19 West, in the Town of Hudson, St. Croix County, Wisconsin. The associated plume of groundwater contamination extends approximately 2.25 miles west/northwest of the subject property and extents into Section 17, Township 29N, Range 19 West in the Town of Hudson. The site location is depicted on Figure 1 in Appendix A.

Project Contacts

The project contacts for this site are as follows:

Owner/RP:	Nor-Lake, Inc. 727 2nd Street Hudson, WI 54016
Contact:	Tim Myers (tmyers@norlake.com)

Consultant: Ayres Associates
3433 Oakwood Hills Parkway
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Contact: Greg Aldrian, PG (AldrianG@AyresAssociates.com)
Mitchell Banach, PG (BanachM@AyresAssociates.com)
715.834.3161

Laboratory Contractors

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WDNR Certification No. 999407970
1700 Elm Street, Suite 200
Minneapolis, MN 55414
612.607.6400
Contact: Ryan.Mathieu@pacelabs.com

Investigation Background

Soil and groundwater at the subject property has been historically contaminated with volatile organic compounds (VOCs) and chlorinated solvents; the primary contaminant of concern persisting in groundwater is trichloroethene. Contaminated groundwater below NR 140 ES extends approximately 2.25 miles west/northwest of the subject property. The suspected source of contamination is the septic tank and dry well inside the Nor-Lake facility. The site investigation has included soil sampling and extensive groundwater and drinking water monitoring. Remedial actions have included installation of groundwater recovery wells and aeration tower, active carbon treatment of drinking water, and a soil vapor extraction (SVE) system. The goal of this portion of the site investigation was to investigate the degree and extent of contamination in sub-slab soil vapors and assess the need for mitigation to protect indoor air quality.

Investigation Methods

Methods included three rounds of sub-slab vapor sampling from 10 points (VS-1 through VS-10) near the source area on May 15, June 13, July 2, and November 21, 2019 (see Figure 2 in Appendix A for sample locations). The SVE system was shut down for at least 30 days prior to the start of sub-slab vapor sampling to avoid interference with sampling results.

Mitchell Banach of Ayres Associates installed a brass Vapor Pin® with silicone sleeve at each location by drilling a 1.5-inch (in) hole approximately two inches into the slab and drilling a 5/8-in hole through the remaining portion of slab to allow each pin to be flush-mounted. Sample trains were assembled as follows:

Vapor pin > silicone tubing > purge manifold assembly (PMA) > 1-liter (L) summa canister

Prior to sample collection, Ayres Associates tested each sample train for leaks using water dam and shut-in test methods. Water dams were formed by filling the 1.5-in hole with water and visually monitoring for water level drop over a period of at least five minutes prior to sampling, as well as during sampling, to ensure a tight seal between the silicone sleeve of the pin and the concrete. Shut-in testing was conducted by creating a vacuum of 20 inches of mercury held over a period of at least five minutes prior to sampling. Following leak testing, Ayres Associates purged 180 milliliters (mL) of air volume from the sample train to draw sub-slab vapor into the PMA. Summa canister valves were then opened for sample collection with flow controllers set to draw a maximum of 200 mL per minute. See Appendix B for further description of sample materials and methods.

Ayres Associates noted the time and canister vacuum at the start and end of the sample collection period and field screened sub-slab vapor with a Foxboro TVA-1000 flame ionization detector (FID) and photoionization detector (PID) immediately following sample collection. Pace Analytical Services analyzed vapor samples by method TO-15 for the following chlorinated VOCs: 1,1,1-trichloroethane, 1,1,2-trichloroethene, 1,1-dichloroethane, 1,1-dichloroethene, chloroethane, dichlorodifluoromethane, tetrachloroethene, trichloroethene, trichlorofluoromethane, vinyl chloride, cis-1,2-dichloroethene, and trans-1,2-dichloroethene. Four rounds of sampling were conducted on May 15, June 13, July 2, and November 21, 2019.

Investigation Results

Although several chlorinated VOCs were detected during the investigation, trichloroethene (TCE) was the only compound to exceed a sub-slab vapor risk screening level (VRSL). Trichloroethene concentrations exceeded the residential VRSL of 70 micrograms per cubic meter ($\mu g/m^3$) during at least one of the three sampling rounds at VS-1 (257 $\mu g/m^3$), VS-2 (198 $\mu g/m^3$), VS-3 (249 $\mu g/m^3$), VS-4 (424 $\mu g/m^3$), and VS-7 (160 $\mu g/m^3$). However, TCE concentrations were below the large commercial/industrial VRSL of 880 $\mu g/m^3$. Summaries of vapor analytical results and field screening results are presented in Tables 1 and 2, respectively (Appendix C). Laboratory analytical reports are attached in Appendix D.

Potential Receptors

Previous site investigation data, including data from a 1992 SVE pilot study, indicates that soil contamination above NR 720 Residual Contaminant Levels and groundwater contamination above NR 140 Enforcement Standards is limited to the Nor-Lake site. Although contaminated groundwater has migrated off-site and impacted private water supply wells, contaminant concentrations off-site remain below NR 140 Enforcement Standards, and contaminated groundwater above NR 140 Preventive Action Limits is not in contact with building foundations or utility corridors. Therefore, and in accordance with Wisconsin Department of Natural Resources Guidance RR-800, potential receptors for vapor intrusion are limited to the Nor-Lake building.

Conclusions

Analytical results from four rounds of sub-slab vapor sampling indicate that although TCE is present at concentrations above residential VRSLs, chlorinated VOCs analyzed are well below large commercial/industrial VRSLs that apply to the site.

Recommendations

Based upon WDNR Guidance RR-800, Ayres Associates recommends that no additional sampling rounds are warranted as all concentrations of VOCs analyzed during both the cooling and heating seasons were well below large commercial/industrial VRSLs that apply to the site.

Standard of Care

This Sub-Slab Vapor Investigation Report is based on data obtained by Ayres Associates through collection and analysis of soil and groundwater samples. Soil and water qualities reported apply only to the specific locations and times at which the work was performed.

Conclusions and recommendations made represent our professional engineering judgment in interpreting these data. Data, computations, and correspondence supporting the information presented in this report are on file at Ayres Associates

NR 712.09 Submittal Certification

I, Mitchell C. Banach, 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.

Mitchell C. Banach
Environmental Scientist

December 6, 2019
Date

I, Gregory M. Aldrian, 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.

Gregory M. Aldrian
Environmental Project Manager

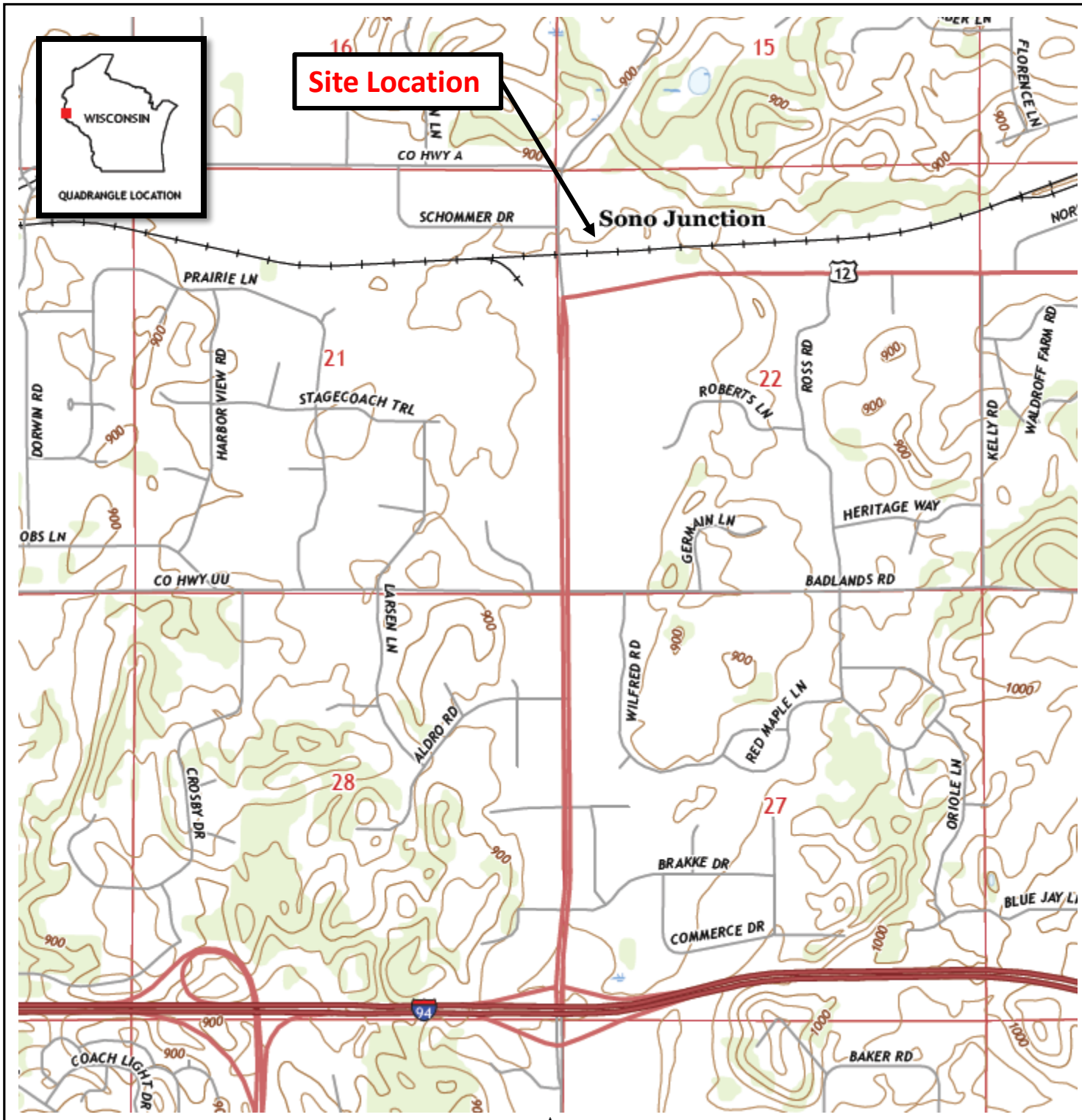
December 6, 2019
Date

References

Wisconsin Department of Natural Resources. January 2018. Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin. Publication RR-800.

Appendix A

Figures



Source: USGS 7.5-Minute Series Topographic Quadrangle, Northline, WI, 2018

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Figure 1 – Location Map
Nor-Lake
891 County Road U
Hudson, WI
December 2019

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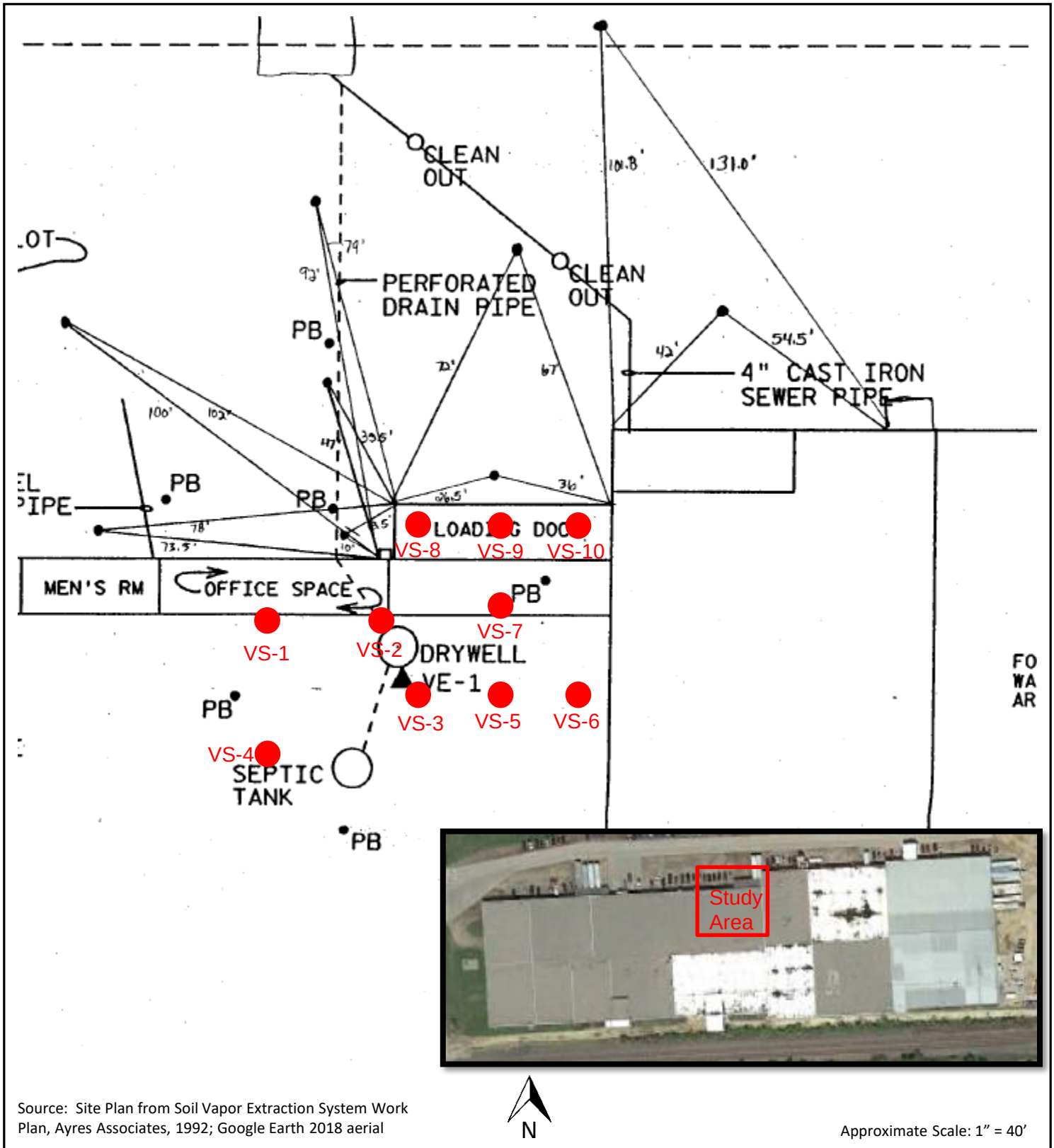
AYRES ASSOCIATES



Source: Site Plan from Soil Vapor Extraction System Work Plan, Ayres Associates, 1992; Google Earth 2018 aerial

Approximate Scale: 1" = 40'

Figure 2 – Vapor Sample Location Map
Nor-Lake
891 County Road U
Hudson, WI
December 2019

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Appendix B

Materials & Methods Documentation

Standard Operating Procedure Installation and Extraction of the FLX-VP™ VAPOR PIN®

Updated January 18, 2019

Scope:

This standard operating procedure describes the installation, use, and extraction of the FLX-VP™ for sub-slab soil-gas sampling.

Purpose:

The purpose of this procedure is to assure good quality control in field operations and uniformity between field personnel in the use of the FLX-VP™ for the collection of sub-slab soil-gas samples or pressure readings.

Equipment Needed:

- Assembled FLX-VP™ [FLX-VP™ barb fitting with O-ring, FLX-VP™ base, and silicone sleeve (Figure 1)]; Because of sharp edges, gloves are recommended for sleeve installation;
- Hammer drill;
- 5/8-inch (16mm) diameter hammer bit (hole **must** be 5/8-inch (16mm) diameter to ensure seal. It is recommended that you use the drill guide). (Hilti™ TE-YX 5/8" x 22" (400 mm) #00206514 or equivalent);
- 1½-inch (38mm) diameter hammer bit (Hilti™ TE-YX 1½" x 23" #00293032 or equivalent) for flush mount applications;
- ¾-inch (19mm) diameter bottle brush;
- Wet/Dry vacuum with HEPA filter (optional);
- VAPOR PIN® installation/extraction tool;
- Dead blow hammer;
- VAPOR PIN® flush mount cover, if desired;
- VAPOR PIN® drilling guide, if desired;
- VAPOR PIN® protective cap; and
- VOC-free hole patching material (hydraulic cement) and putty knife or trowel for repairing the hole following the extraction of the FLX-VP™.

Figure 1. Assembled FLX-VP™

Installation Procedure:

1) Check for buried obstacles (pipes, electrical lines, etc.) prior to proceeding.
2) Set up wet/dry vacuum to collect drill cuttings.

3) If a flush mount installation is required, drill a 1½-inch (38mm) diameter hole at least 1¾-inches (45mm) into the slab. Use of a VAPOR PIN® drilling guide is recommended.

4) Drill a 5/8-inch (16mm) diameter hole through the slab and approximately 1-inch (25mm) into the underlying soil to form a void. Hole **must** be 5/8-inch (16mm) in diameter to ensure seal. It is recommended that you use the drill guide.

5) Remove the drill bit, brush the hole with the bottle brush, and remove the loose cuttings with the vacuum.

6) Place the lower end of the assembled FLX-VP™ into the drilled hole. Place the small hole located in the handle of the installation/extraction tool over the barb fitting and tap the FLX-VP™ into place using a dead blow hammer (Figure 2). Make sure the installation/extraction tool is aligned parallel to the FLX-VP™ to avoid damaging the barb fitting.

Figure 2. Installing the FLX-VP™

During installation, the silicone sleeve will form a slight bulge between the slab and the FLX-VP™ shoulder. If the silicone sleeve slides excessively upward, creating a large bulge at the top of the FLX-VP™, reinstall the FLX-VP™ using a new silicone sleeve. The top of the silicone sleeve should only cover the lower one or two barbs of the FLX-VP™. Place the protective cap on FLX-VP™ to prevent vapor loss prior to sampling (Figure 3).

Figure 3. Installed FLX-VP™

7) For flush mount installations, cover the FLX-VP™ with a flush mount cover, using either the plastic cover or the optional stainless-steel Secure Cover (Figure 4).

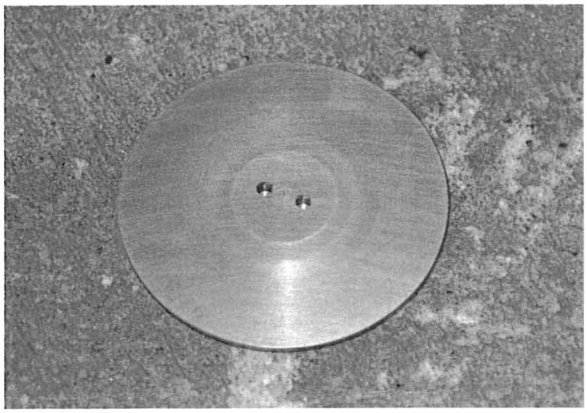


Figure 4. Secure Cover Installed

8) Allow 20 minutes or more (consult applicable guidance for your situation) for the sub-slab soil-gas conditions to re-equilibrate prior to sampling.

9) Remove protective cap and connect sample tubing to the barb fitting of the FLX-VP™. This connection can be made using a short piece of Tygon™ tubing to join the FLX-VP™ with the Nylaflow tubing (Figure 5). Put the Nylaflow tubing as close to the FLX-VP™ as possible to minimize contact between soil gas and Tygon™ tubing.

   If you wish to directly connect to FLX-VP™ accessory (e.g. Swagelok fitting, TO-17 tube, or quick connect) unscrew the barb fitting and replace with accessory (Figures 6 and 7).

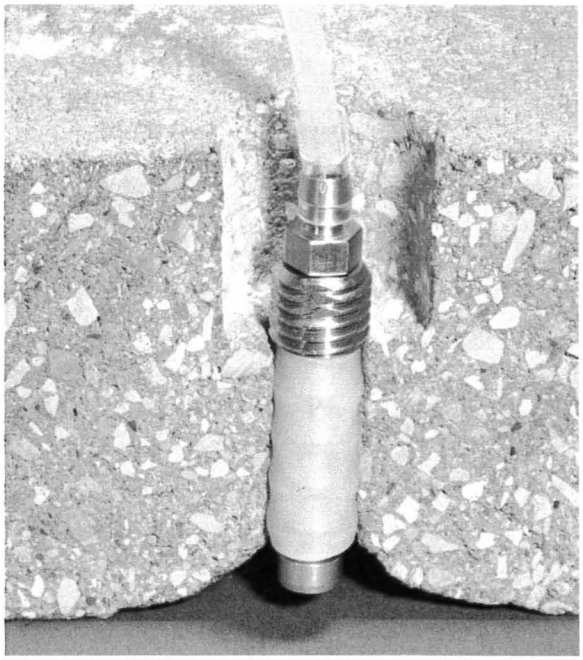


Figure 5. FLX-VP™ sample connection

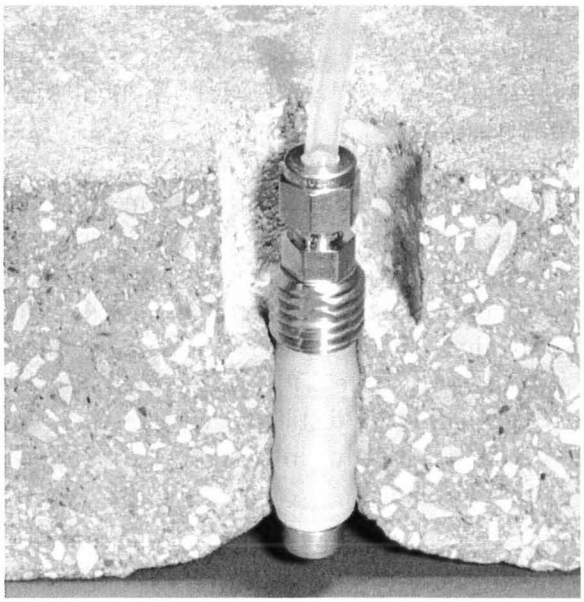


Figure 6. FLX-VP™ with Swagelok® connection

Figure 7. FLX-VP™ with TO-17 Sorbent tube connection

10) Conduct leak tests in accordance with applicable guidance. If the method of leak testing is not specified, an alternative can be the use of a water dam and vacuum pump, as described in SOP Leak Testing the FLX-VP™ via Mechanical Means (Figure 8). For flush-mount installations, distilled water can be poured directly into the 1 1/2 inch (38mm) hole.

Figure 8. Water dam used for leak detection

11) Collect sub-slab soil gas sample or pressure reading. When finished, replace the barb fitting and protective cap and flush mount cover until the next event. If the sampling is complete, extract the FLX-VP™.

Extraction Procedure:

1) Remove the protective cap, and thread the installation/extraction tool onto the barrel of the FLX-VP™ (Figure 9). Continue turning the tool clockwise to pull the FLX-VP™ from the hole into the installation/extraction tool.

2) Fill the void with hydraulic cement and smooth with a trowel or putty knife.

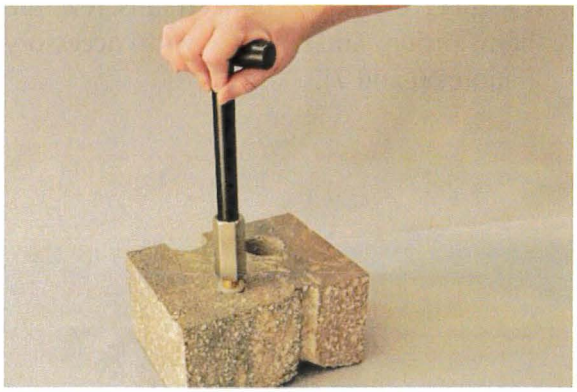


Figure 9. Removing the FLX-VP™

3) Prior to reuse, remove the silicone sleeve and protective cap and discard. Decontaminate the FLX-VP™ in a hot water and Alconox® wash, then heat in an oven to a temperature of 265° F (130° C) for 15 to 30 minutes. For both steps, **STAINLESS – ½ hour, BRASS 8 minutes**

The FLX-VP™ is designed to be used repeatedly, however, accessories, replacement parts and supplies will be required periodically. These parts are available on-line at www.vaporpin.com

Assembly of the Purge Manifold Assembly (PMA)

Each PMA should include the following:

2-1′ sections of tubing, 1-1″ section of tubing, 1-four way valve, 1-two way valve, 1-unidirectional valve, 3-male slip adapters, 1-set of fittings and ferrules, 1-moisture filter and 1-60mL syringe *(Figure 1)*.

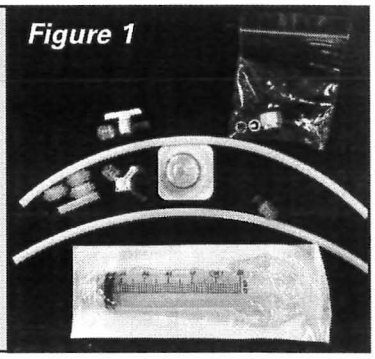


Figure 1

Assemble the manifold in accordance with *Figure 2* and *Figure 3*. Ensure that the orientation of the unidirectional valve matches the figures below or purging the manifold will not be possible.

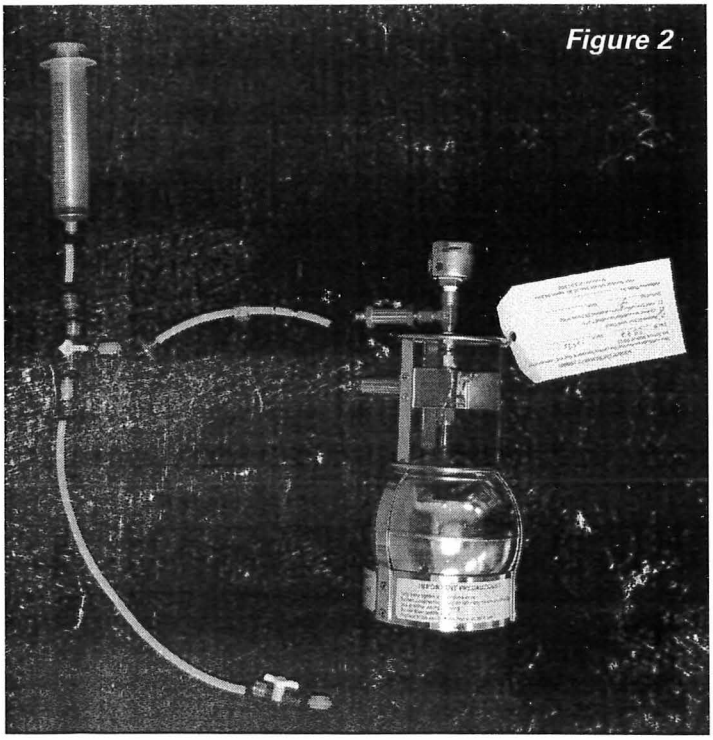


Figure 2

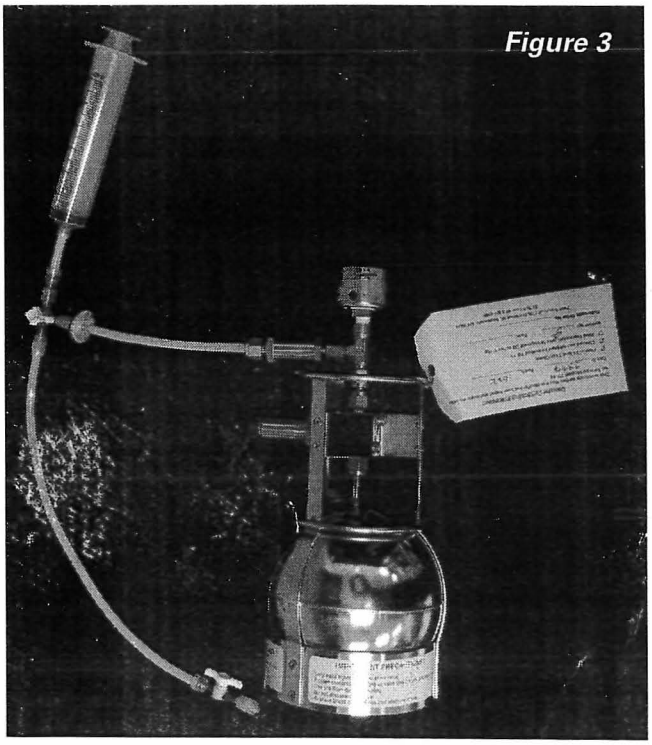


Figure 3

Purging the manifold

(General guidelines, subject to state or client specific guidelines).

1. **DISCLAIMER: Do not open canister until ready to collect sample.**
2. The purge manifold assembly contains four valves, including the canister valve. They are as follows:
   a. Canister valve – attached to the canister. Do not open until ready to collect sample.
   b. 4-way valve – attached to canister assembly via Teflon tubing. This valve has 3 directions "open" at a time with only one closed direction (indicted by the "OFF" tab).
   c. Unidirectional vale – Attached to the male luer fitting on the 4-way valve. This valve will allow volume to exit the assembly, but cannot be pushed back into the assembly in this direction. Once installed, the valve will be active.
   d. 2-way valve – This is the valve closest to the sampling point. It is used to close off the sampling point to allow purging of ambient air in the Teflon lines prior to sampling. It is closed when the white valve is perpendicular to the valve body.
3. After assembly, set the 2-way valve to the closed position. See *Figure 1*.
4. Turn the 4-way valve OFF tab to the direction on the 4-way valve that will allow flow in all three connected directions (the "OFF" tab should face in the only direction without a connection). See *Figure 2*.
5. Attach the syringe to the unidirectional valve with a 1" piece of Teflon tubing. Pull aliquots of the syringe out of the unidirectional valve until the gauge on the canister reaches the required vacuum level. See *Figure 3* and *Figure 4*.
6. Allow the canister and Purge Manifold to sit undisturbed for the desired amount of time, and read the canister gauge. If notable drops in pressure occur, inspect the system for potential leaks and retest. If no pressure change is observed, proceed to step 7. The manifold assembly has now been determined to be free of leaks.
7. Open the two way valve to allow air from the sampling point to fill the lines of the Purge Manifold Assembly. The canister pressure should return to 0.
8. (**Optional**) Using the syringe, purge the line with the desired aliquots of sampling point volume. Multiple purges may be necessary.
9. Open the canister to collect sample.

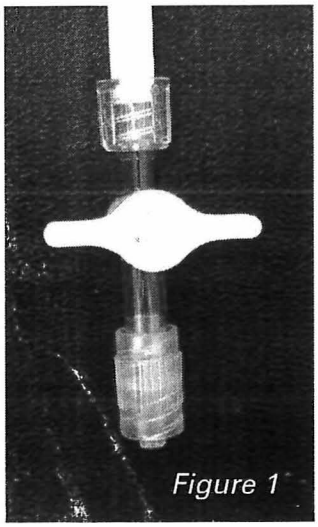


Figure 1

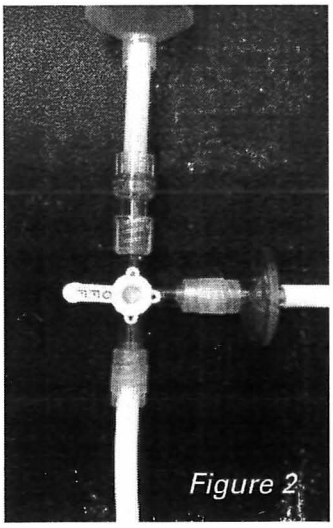


Figure 2

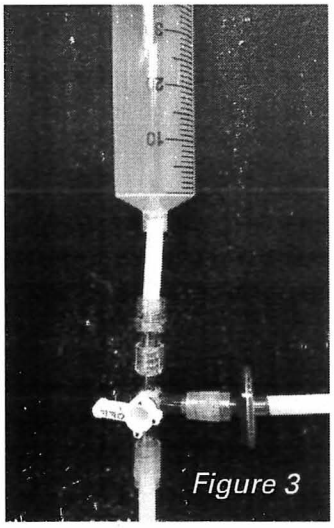


Figure 3

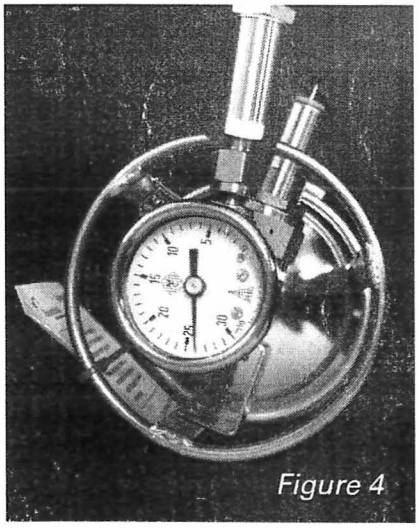


Figure 4

Pace Analytical®

AIR CANISTERS

Instructions for Canister Grab Sampling

(Tools needed: one ended 9/16" wrench)

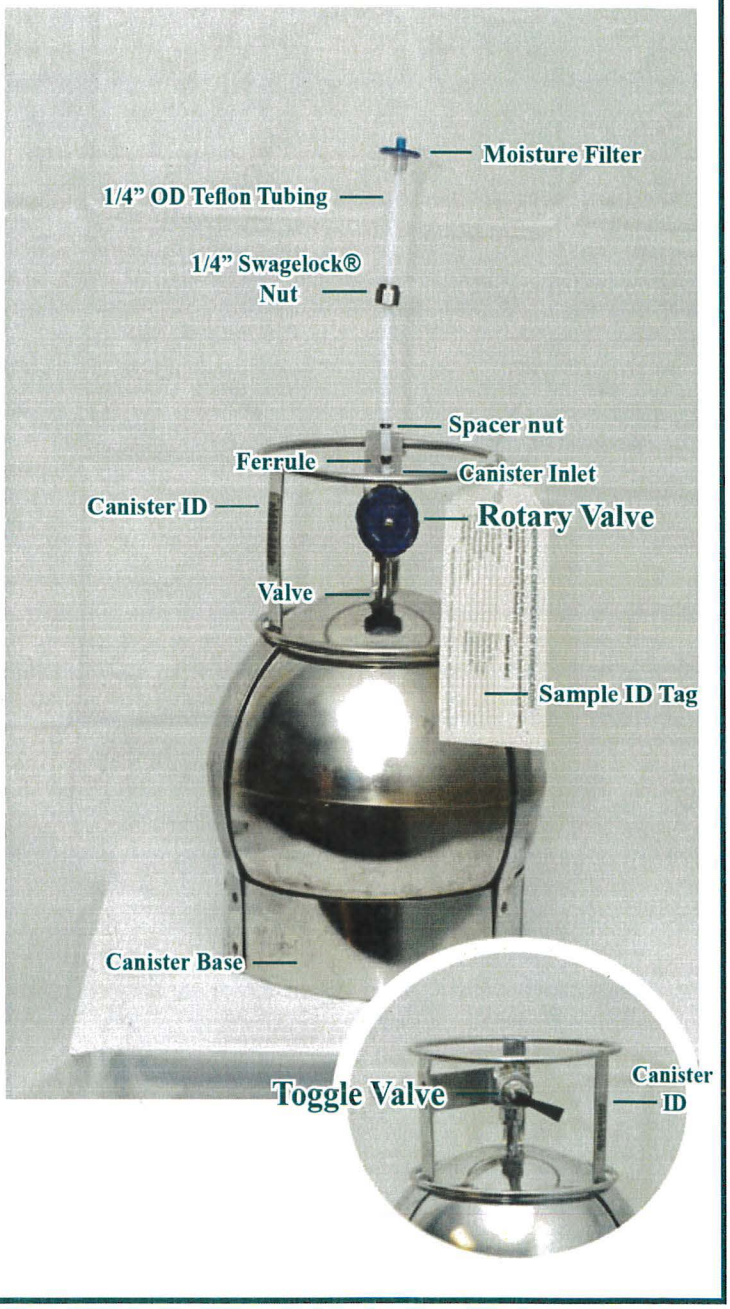
1. INSPECTION – Inspect your canister shipment upon arrival. Compare the contents with the packing slip and notify Pace Analytical of any discrepancy or damage. Familiarize yourself with the contents you received by comparing them to the pictures on the right. Do not open the valve until you are ready to sample. Even a small loss of vacuum will compromise your sample.

2. CONNECTION – Remove the brass cap from the top of the can with a 9/16" wrench. If you are connecting to a predetermined sampling point you may have received the following: 6 inches of ¼ inch OD Teflon tubing, ¼ inch Swagelock® nut, ferrule, spacer nut and moisture filter (if requested). Connect these items in series using the pictures on the right as a guide. The spacer fits between the nut and the ferrule. The ferrule must be pointed down toward the canister. Please note the connection to the canisters utilizes Swagelock® threading. For a proper connection, it's important that no cross-threading occurs. The canister connection is made by hand-tightening the Swagelock® nut. Once connected, use an open ended (9/16") wrench to further tighten the connection. Make sure that the connection is firmly tightened. The final connection must be leak tight recognizing also that over-tightening can cause leaks as well. Do not use pliers or adjustable-end wrenches to tighten this Swagelock® connection. Use only open ended wrenches for tightening. The canister is now ready for sampling.

3. SAMPLING – To begin sampling simply open the canister valve (you may have either a rotary valve or a toggle valve). One full turn counter clockwise for the rotary valve is sufficient. The toggle valve will open by flipping upward. During the initial sampling process you will hear a rush of air. Without a flow restriction the canister will fill in approximately 30-45 seconds.

4. COMPLETION – After sampling is complete, close the canister valve. Disassemble the components and return them in the original shipping package they were received in. Verify the contents for return to the laboratory. Complete the Chain-of-Custody form and return with the samples to the laboratory. Be sure to reference the canister ID on the Chain-of-Custody.

Grab Sample Configuration



Questions? Please call the Air Technical phone number 612-607-6386

Pace Analytical®
The Right Chemistry, The Right Solution®

Sampling Instructions
Restricted flow Sampler

Intended Applications:

30 minute sampling of **6 Liter Canister** 5 minute sampling of **1 Liter Canister**

All media is pre-assembled for your convenience
Do not attempt to remove the gauge from the canister

Inspect your media

- Remove the protective foam inserts and other packing material from the box. Set these inserts aside for return shipment
- Lift and carry the canister by the frame ring near the top.
- Review the contents of the package to ensure you have everything you need prior to sampling.
- Consult your Pace Project Manager, or call the Air Technical Hotline @ 612-607-6386 if you have any questions.
-

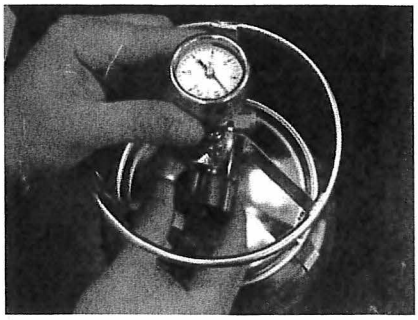


Figure 1
Verify the initial vacuum.

Prepare for Sampling (Figure 1)

- Before sampling, you will first verify the initial vacuum.
- With the brass cap on the assembly still in place, open the canister to check the initial vacuum.
  - Rotary Valve requires on full turn counter clockwise
  - Toggle Valve requires that you flip the valve upwards
- Record initial vacuum on the Chain of Custody
  - Initial field reading (-inches of Hg)
- Close the canister valve before moving on to next step.

Collect Samples (Figure 2)

- Remove the brass cap from the side of the sampling assembly by turning counter clockwise with a 9/16 inch wrench. (Figure 2)
- Position the canister for sampling
  - NOTE: If tubing and fittings are required at this site, you will find these items and all instructions in the enclosed plastic bag.
- Connect the sampling line as shown in the picture on the right. Open the canister valve to begin sampling
- The Decline in vacuum should be proportional to the collection time. After desired sampling time, close canister valve.
  - NOTE: The canister will continue to fill until the internal pressure reaches ambient conditions (0psig). You are responsible for closing the valve on the canister at the desired time.
- To end the sampling process close the valve on the canister and replace brass cap to the side of the gauge.
- Verify final field vacuum by opening the canister.
  - Record the –inches of Hg on the COC.
  - Close canister valve

Sample Connection Point

Figure 2
Remove the brass cap and connect the sampling line

Return Samples

- Repackage the canister with the protective foam insert, and other packaging materials, to insure the integrity of your sample as it travels back to the lab.
- Complete the shipping and COC documents
- Return to Pace Analytical for analysis.
- Return all components in the package as you received them. Complete a Chain of Custody record and return with the sample to Pace Analytical for analysis.

Appendix C
Summary Tables

Table 1 - Summary of Sub-Slab Vapor Analytical Results
Nor-Lake, 891 County Road U, Hudson, WI

Sample ID				**VS-1**				**VS-2**				**VS-3**				**VS-4**				**VS-5**			
Date				5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19
Sample start time				1512	1307	1158	1105	1536	1305	1148	1116	1551	1246	1119	1135	1607	1232	1128	1155	1623	1225	1101	1215
Sample end time				1518	1314	1207	1114	1544	1312	1156	1126	1559	1258	1126	1145	1614	1240	1138	1206	1630	1233	1108	1227
		Sub-Slab VRSLs																					
Parameter	**CAS**	**Residential**	**Large Commercial/Industrial**																				
1,1,1-Trichloroethane	71-55-6	170,000	2,200,000	248	415	1060	6.2	632	78.5	2140	72.3	57.0	260	72.1	3.9	149	30.1	456	0.87 J	42.9	74.9	128	<0.56
1,1,2-Trichloroethane	79-00-5	39	490	<0.50	<0.98	<2.0	<1.3	<0.47	<0.98	<2.0	<0.47	<0.45	<0.98	<2.0	<0.45	<0.46	<0.93	<2.2	<0.45	<0.46	<0.95	<2.1	<0.44
1,1-Dichloroethane	75-34-3	600	7,700	<0.45	<1.5	<1.5	<1.2	<0.42	<1.5	<1.5	<0.44	<0.40	2.5	<1.5	<0.42	1.8	<1.4	4.2	<0.42	<0.41	<1.4	<1.5	<0.40
1,1-Dichloroethene	75-35-4		88,000	<0.55	<1.4	<1.5	<1.5	<0.51	<1.4	<1.5	<0.53	2.0	<1.4	6.2	<0.51	<0.50	3.7	<1.6	<0.51	1.1 J	2.2	3.1	<0.49
1,2-Dichloroethane	107-06-2	37	470	1.8	<0.73	<0.74	<0.82	1.1	<0.73	<0.74	<0.29	<0.27	<0.73	<0.75	<0.28	<0.27	<0.69	<0.80	<0.28	<0.27	<0.70	<0.77	<0.27
Chloroethane	75-00-3	890,000	12,000,000	<0.53	<0.95	<2.4	<1.4	<0.49	<0.95	<2.4	<0.50	<0.47	<0.95	<2.5	<0.49	<0.48	<0.90	<2.6	<0.49	<0.48	<0.92	<2.5	<0.47
Dichlorodifluoromethane	75-71-8	3,300	44,000	2.6	3.6	3.7	2.4 J	2.2	2.8	3.7	1.8	2.0	3.8	4.0	<0.55	2.6	3.5	4.4	<0.55	1.9	3.4	3.7	1.1 J
Tetrachloroethene	127-18-4	1,400	18,000	19.9	69.7	126	8.0	32.5	4.0	118	118	17.8	83.4	21.5	307	38.0	12.3	175	345	23.4	24.3	39.3	769
Trichloroethene	79-01-6	70	880	68.3	**161**	**257**	<1.4	**71.3**	7.2	**198**	1.2	22.7	**249**	38.3	<0.47	**129**	18.5	**424**	<0.47	34.0	35.8	61.0	<0.46
Trichlorofluoromethane	75-69-4	No Inhal. Tox. Info		2.4	3.2	3.9	3.1 J	2.9	4.2	4.0	3.8	2.2	2.4	3.4	3.9	2.1	2.8	2.9	3.7	2.6	3.5	4.1	4.7
Vinyl chloride	75-01-4	57	2,800	<0.25	<0.46	<0.47	<0.69	<0.24	<0.46	<0.47	<0.24	<0.23	<0.46	<0.48	<0.24	<0.23	<0.44	<0.50	<0.24	<0.23	<0.44	<0.49	<0.23
cis-1,2-Dichloroethene	156-59-2	No Inhal. Tox. Info		<0.44	<1.4	<1.5	<1.2	<0.41	<1.4	<1.5	<0.42	<0.39	5.4	<1.5	<0.41	3.5	<1.4	8.2	<0.41	<0.40	<1.4	<1.5	<0.39
trans-1,2-Dichloroethene	156-60-5	No Inhal. Tox. Info		0.99 J	1.5	3.2	<1.6	1.8	<1.4	2.5	<0.55	<0.51	2.3	<1.5	<0.53	1.6	<1.4	3.9	<0.53	<0.52	<1.4	<1.5	0.77 J

Notes:
VRSL - vapor risk screening level
All units in ug/m3 = micrograms per cubic meter
J = estimated analyte concentration between limit of detection and limit of quantitation
Analysis by method TO-15
Bold - residential VRSLs exceedances (which are not applicable to this site)
Leak detection via water dam and shut-in tests - All samples passed leak detection tests prior to sample collection.
Collection via 1-L Suma canisters with 200 mL per minute flow control
Communication Testing - NA - no sub-slab depressurization system installed on site.

Table 1 - Summary of Sub-Slab Vapor Analytical Results
Nor-Lake, 891 County Road U, Hudson, WI

Sample ID				**VS-6**				**VS-7**				**VS-8**				**VS-9**				**VS-10**			
Date				5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19
Sample start time				1636	1215	1052	1240	1653	1149	1044	1304	1707	1128	1016	1320	1733	1114	1005	1340	1752	1102	956	1400
Sample end time				1644	1222	1059	1256	1700	1156	1051	1315	1716	1135	1023	1331	1742	1121	1012	1348	1759	1109	1003	1404
		Sub-Slab VRSLs																					
Parameter	**CAS**	**Residential**	**Large Commercial/Industrial**																				
1,1,1-Trichloroethane	71-55-6	170,000	2,200,000	16.6	6.1	16.7	90.9	69.4	131	292	<0.53	9.5	<2.0	<2.0	<0.52	5.2	<2.0	3.9	<0.52	2.8	<1.9	2.9	<0.58
1,1,2-Trichloroethane	79-00-5	39	490	<0.46	<0.98	<2.0	<0.42	<0.46	<0.98	<2.1	<0.41	<0.47	<0.98	<2.0	<0.41	<0.43	<0.98	<2.1	<0.41	<0.46	<0.97	<2.0	<0.45
1,1-Dichloroethane	75-34-3	600	7,700	<0.41	<1.5	<1.5	<0.39	<0.41	<1.5	<1.5	<0.38	<0.42	<1.5	<1.5	<0.38	<0.38	<1.5	<1.5	<0.38	<0.41	<1.4	<1.5	<0.42
1,1-Dichloroethene	75-35-4		88,000	1.0 J	1.6	1.9	1.1 J	1.2 J	<1.4	1.8	<0.47	<0.51	<1.4	<1.5	<0.46	<0.47	<1.4	<1.5	<0.46	<0.50	<1.4	<1.5	<0.51
1,2-Dichloroethane	107-06-2	37	470	<0.27	<0.73	<0.75	<0.26	<0.27	<0.73	<0.77	<0.26	<0.28	<0.73	<0.75	<0.25	<0.26	<0.73	<0.77	<0.25	<0.27	<0.72	<0.74	<0.28
Chloroethane	75-00-3	890,000	12,000,000	<0.48	<0.95	<2.5	<0.45	<0.48	<0.95	<2.5	<0.44	<0.49	<0.95	<2.5	<0.44	<0.44	<0.95	<2.5	<0.44	<0.48	<0.93	<2.4	<0.49
Dichlorodifluoromethane	75-71-8	3,300	44,000	2.7	5.8	7.2	8.5	1.7 J	2.6	2.8	0.87 J	2.0	2.5	2.4	2.5	2.3	2.7	2.5	2.6	2.1	2.4	2.5	2.7
Tetrachloroethene	127-18-4	1,400	18,000	21.7	20.2	27.5	75	19.1	30.5	63.8	842	9.8	<1.2	1.8	7.3	6.1	<1.2	9.6	3.2	4.0	<1.2	2.3	1.8
Trichloroethene	79-01-6	70	880	15.8	7.8	13.8	25.1	53.6	**90.6**	**160**	<0.43	12.2	<0.97	<1.0	<0.43	5.1	<0.97	1.3	<0.43	2.3	<0.95	1.2	<0.47
Trichlorofluoromethane	75-69-4	No Inhal. Tox. Info		2.9	3.5	4.0	8.6	4.4	5.3	7.5	4.4	1.7 J	<2.0	2.9	5.0	1.9 J	2.3	5.9	2.4	1.5 J	<2.0	<2.1	2.0 J
Vinyl chloride	75-01-4	57	2,800	<0.23	<0.46	<0.48	<0.22	<0.23	<0.46	<0.49	<0.22	<0.24	<0.46	<0.48	<0.21	<0.22	<0.46	<0.49	<0.21	<0.23	<0.45	<0.47	<0.24
cis-1,2-Dichloroethene	156-59-2	No Inhal. Tox. Info		<0.40	<1.4	<1.5	<0.38	<0.40	<1.4	<1.5	<0.37	<0.41	<1.4	<1.5	<0.37	<0.37	<1.4	<1.5	<0.37	<0.40	<1.4	<1.5	<0.41
trans-1,2-Dichloroethene	156-60-5	No Inhal. Tox. Info		<0.52	<1.4	<1.5	1.2 J	0.57 J	<1.4	2.0	3.6	<0.53	<1.4	<1.5	<0.48	<0.49	<1.4	<1.5	<0.48	<0.52	<1.4	<1.5	<0.53

Notes:
VRSL - vapor risk screening level
All units in ug/m3 = micrograms per cubic meter
J = estimated analyte concentration between limit of detection and limit of quantitation
Analysis by method TO-15
Bold - residential VRSLs exceedances (which are not applicable to this site)
Leak detection via water dam and shut-in tests - All samples passed leak detection test
Collection via 1-L Suma canisters with 200 mL per minute flow control
Communication Testing - NA - no sub-slab depressurization system installed on site.

Table 2 - Summary of Sub-Slab Vapor Screening Results
Nor-Lake, 891 County Road U, Hudson, WI

Parameter	VS-1				VS-2				VS-3				VS-4				VS-5			
Date	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19
PID	21.15	1.05	15.70	12.10	20.33	0.97	57.52	1.24	20.44	1.51	23.64	20.21	23.15	1.40	22.41	18.31	27.46	1.48	16.60	12.46
FID	1.54	10.56	1.61	NS	2.54	13.37	0.88	NS	4.73	8.69	3.61	NS	4.97	7.87	5.68	NS	4.84	8.05	6.41	NS

Parameter	VS-6				VS-7				VS-8				VS-9				VS-10			
Date	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19	5/15/19	6/13/19	7/2/19	11/21/19
PID	4.01	1.45	7.86	2.08	25.23	1.02	16.30	3.51	5.23	1.36	21.39	23.30	7.82	0.33	25.42	26.61	15.17	1.00	22.78	25.20
FID	7.55	9.61	8.81	NS	5.00	4.89	3.46	NS	2.03	5.39	0.92	NS	1.72	8.57	2.01	NS	1.01	5.67	1.42	NS

Notes:
PID - photoionization detector
FID - flame ionization detector
NS - not sampled
All units in instrument units (parts per million isobutylene equivalent)

Appendix D
Laboratory Analytical Reports

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

May 21, 2019

Mitchell Banach
Ayres Associates
3433 Oakwood Hills Parkway
Eau Claire, WI 54701

RE: Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Dear Mitchell Banach:
Enclosed are the analytical results for sample(s) received by the laboratory on May 17, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jared Dickinson
jared.dickinson@pacelabs.com
(612)607-1700
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

Pace Analytical Services, LLC
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(612)607-1700

SAMPLE SUMMARY

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10475349001	**VS-1**	Air	05/15/19 15:18	05/17/19 11:00
10475349002	**VS-2**	Air	05/15/19 15:44	05/17/19 11:00
10475349003	**VS-3**	Air	05/15/19 15:59	05/17/19 11:00
10475349004	**VS-4**	Air	05/15/19 16:14	05/17/19 11:00
10475349005	**VS-5**	Air	05/15/19 16:30	05/17/19 11:00
10475349006	**VS-6**	Air	05/15/19 16:44	05/17/19 11:00
10475349007	**VS-7**	Air	05/15/19 17:00	05/17/19 11:00
10475349008	**VS-8**	Air	05/15/19 17:16	05/17/19 11:00
10475349009	**VS-9**	Air	05/15/19 17:42	05/17/19 11:00
10475349010	**VS-10**	Air	05/15/19 17:59	05/17/19 11:00

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10475349001	**VS-1**	TO-15	MJL	13	PASI-M
10475349002	**VS-2**	TO-15	MJL	13	PASI-M
10475349003	**VS-3**	TO-15	MJL	13	PASI-M
10475349004	**VS-4**	TO-15	MJL	13	PASI-M
10475349005	**VS-5**	TO-15	MJL	13	PASI-M
10475349006	**VS-6**	TO-15	MJL	13	PASI-M
10475349007	**VS-7**	TO-15	MJL	13	PASI-M
10475349008	**VS-8**	TO-15	MJL	13	PASI-M
10475349009	**VS-9**	TO-15	MJL	13	PASI-M
10475349010	**VS-10**	TO-15	MJL	13	PASI-M

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Sample: VS-1 **Lab ID: 10475349001** Collected: 05/15/19 15:18 Received: 05/17/19 11:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.53**	ug/m3	1.1	0.53	2.02		05/18/19 22:52	75-00-3	
Dichlorodifluoromethane	**2.6**	ug/m3	2.0	0.59	2.02		05/18/19 22:52	75-71-8	
1,1-Dichloroethane	**<0.45**	ug/m3	1.7	0.45	2.02		05/18/19 22:52	75-34-3	
1,2-Dichloroethane	**1.8**	ug/m3	0.83	0.30	2.02		05/18/19 22:52	107-06-2	
1,1-Dichloroethene	**<0.55**	ug/m3	1.6	0.55	2.02		05/18/19 22:52	75-35-4	
cis-1,2-Dichloroethene	**<0.44**	ug/m3	1.6	0.44	2.02		05/18/19 22:52	156-59-2	
trans-1,2-Dichloroethene	**0.99J**	ug/m3	1.6	0.58	2.02		05/18/19 22:52	156-60-5	
Tetrachloroethene	**19.9**	ug/m3	1.4	0.63	2.02		05/18/19 22:52	127-18-4	
1,1,1-Trichloroethane	**248**	ug/m3	2.2	0.62	2.02		05/18/19 22:52	71-55-6	
1,1,2-Trichloroethane	**<0.50**	ug/m3	1.1	0.50	2.02		05/18/19 22:52	79-00-5	
Trichloroethene	**68.3**	ug/m3	1.1	0.52	2.02		05/18/19 22:52	79-01-6	
Trichlorofluoromethane	**2.4**	ug/m3	2.3	0.74	2.02		05/18/19 22:52	75-69-4	
Vinyl chloride	**<0.25**	ug/m3	0.53	0.25	2.02		05/18/19 22:52	75-01-4	

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Sample: VS-2 **Lab ID: 10475349002** Collected: 05/15/19 15:44 Received: 05/17/19 11:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.49**	ug/m3	1.0	0.49	1.87		05/18/19 23:23	75-00-3	
Dichlorodifluoromethane	**2.2**	ug/m3	1.9	0.55	1.87		05/18/19 23:23	75-71-8	
1,1-Dichloroethane	**<0.42**	ug/m3	1.5	0.42	1.87		05/18/19 23:23	75-34-3	
1,2-Dichloroethane	**1.1**	ug/m3	0.77	0.28	1.87		05/18/19 23:23	107-06-2	
1,1-Dichloroethene	**<0.51**	ug/m3	1.5	0.51	1.87		05/18/19 23:23	75-35-4	
cis-1,2-Dichloroethene	**<0.41**	ug/m3	1.5	0.41	1.87		05/18/19 23:23	156-59-2	
trans-1,2-Dichloroethene	**1.8**	ug/m3	1.5	0.53	1.87		05/18/19 23:23	156-60-5	
Tetrachloroethene	**32.5**	ug/m3	1.3	0.59	1.87		05/18/19 23:23	127-18-4	
1,1,1-Trichloroethane	**632**	ug/m3	20.8	5.8	18.7		05/19/19 11:44	71-55-6	
1,1,2-Trichloroethane	**<0.47**	ug/m3	1.0	0.47	1.87		05/18/19 23:23	79-00-5	
Trichloroethene	**71.3**	ug/m3	1.0	0.48	1.87		05/18/19 23:23	79-01-6	
Trichlorofluoromethane	**2.9**	ug/m3	2.1	0.68	1.87		05/18/19 23:23	75-69-4	
Vinyl chloride	**<0.24**	ug/m3	0.49	0.24	1.87		05/18/19 23:23	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Sample: VS-3 **Lab ID: 10475349003** Collected: 05/15/19 15:59 Received: 05/17/19 11:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.47**	ug/m3	0.96	0.47	1.8		05/18/19 23:53	75-00-3	
Dichlorodifluoromethane	**2.0**	ug/m3	1.8	0.53	1.8		05/18/19 23:53	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/m3	1.5	0.40	1.8		05/18/19 23:53	75-34-3	
1,2-Dichloroethane	**<0.27**	ug/m3	0.74	0.27	1.8		05/18/19 23:53	107-06-2	
1,1-Dichloroethene	**2.0**	ug/m3	1.5	0.49	1.8		05/18/19 23:53	75-35-4	
cis-1,2-Dichloroethene	**<0.39**	ug/m3	1.5	0.39	1.8		05/18/19 23:53	156-59-2	
trans-1,2-Dichloroethene	**<0.51**	ug/m3	1.5	0.51	1.8		05/18/19 23:53	156-60-5	
Tetrachloroethene	**17.8**	ug/m3	1.2	0.57	1.8		05/18/19 23:53	127-18-4	
1,1,1-Trichloroethane	**57.0**	ug/m3	2.0	0.56	1.8		05/18/19 23:53	71-55-6	
1,1,2-Trichloroethane	**<0.45**	ug/m3	1.0	0.45	1.8		05/18/19 23:53	79-00-5	
Trichloroethene	**22.7**	ug/m3	0.98	0.46	1.8		05/18/19 23:53	79-01-6	
Trichlorofluoromethane	**2.2**	ug/m3	2.1	0.66	1.8		05/18/19 23:53	75-69-4	
Vinyl chloride	**<0.23**	ug/m3	0.47	0.23	1.8		05/18/19 23:53	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Sample: VS-4 **Lab ID: 10475349004** Collected: 05/15/19 16:14 Received: 05/17/19 11:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.48**	ug/m3	0.98	0.48	1.83		05/19/19 00:23	75-00-3	
Dichlorodifluoromethane	**2.6**	ug/m3	1.8	0.54	1.83		05/19/19 00:23	75-71-8	
1,1-Dichloroethane	**1.8**	ug/m3	1.5	0.41	1.83		05/19/19 00:23	75-34-3	
1,2-Dichloroethane	**<0.27**	ug/m3	0.75	0.27	1.83		05/19/19 00:23	107-06-2	
1,1-Dichloroethene	**<0.50**	ug/m3	1.5	0.50	1.83		05/19/19 00:23	75-35-4	
cis-1,2-Dichloroethene	**3.5**	ug/m3	1.5	0.40	1.83		05/19/19 00:23	156-59-2	
trans-1,2-Dichloroethene	**1.6**	ug/m3	1.5	0.52	1.83		05/19/19 00:23	156-60-5	
Tetrachloroethene	**38.0**	ug/m3	1.3	0.57	1.83		05/19/19 00:23	127-18-4	
1,1,1-Trichloroethane	**149**	ug/m3	2.0	0.57	1.83		05/19/19 00:23	71-55-6	
1,1,2-Trichloroethane	**<0.46**	ug/m3	1.0	0.46	1.83		05/19/19 00:23	79-00-5	
Trichloroethene	**129**	ug/m3	1.0	0.47	1.83		05/19/19 00:23	79-01-6	
Trichlorofluoromethane	**2.1**	ug/m3	2.1	0.67	1.83		05/19/19 00:23	75-69-4	
Vinyl chloride	**<0.23**	ug/m3	0.48	0.23	1.83		05/19/19 00:23	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Sample: VS-5 **Lab ID: 10475349005** Collected: 05/15/19 16:30 Received: 05/17/19 11:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.48**	ug/m3	0.98	0.48	1.83		05/19/19 00:54	75-00-3	
Dichlorodifluoromethane	**1.9**	ug/m3	1.8	0.54	1.83		05/19/19 00:54	75-71-8	
1,1-Dichloroethane	**<0.41**	ug/m3	1.5	0.41	1.83		05/19/19 00:54	75-34-3	
1,2-Dichloroethane	**<0.27**	ug/m3	0.75	0.27	1.83		05/19/19 00:54	107-06-2	
1,1-Dichloroethene	**1.1J**	ug/m3	1.5	0.50	1.83		05/19/19 00:54	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/m3	1.5	0.40	1.83		05/19/19 00:54	156-59-2	
trans-1,2-Dichloroethene	**<0.52**	ug/m3	1.5	0.52	1.83		05/19/19 00:54	156-60-5	
Tetrachloroethene	**23.4**	ug/m3	1.3	0.57	1.83		05/19/19 00:54	127-18-4	
1,1,1-Trichloroethane	**42.9**	ug/m3	2.0	0.57	1.83		05/19/19 00:54	71-55-6	
1,1,2-Trichloroethane	**<0.46**	ug/m3	1.0	0.46	1.83		05/19/19 00:54	79-00-5	
Trichloroethene	**34.0**	ug/m3	1.0	0.47	1.83		05/19/19 00:54	79-01-6	
Trichlorofluoromethane	**2.6**	ug/m3	2.1	0.67	1.83		05/19/19 00:54	75-69-4	
Vinyl chloride	**<0.23**	ug/m3	0.48	0.23	1.83		05/19/19 00:54	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Sample: VS-6 **Lab ID: 10475349006** Collected: 05/15/19 16:44 Received: 05/17/19 11:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.48**	ug/m3	0.98	0.48	1.83		05/19/19 01:24	75-00-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.8	0.54	1.83		05/19/19 01:24	75-71-8	
1,1-Dichloroethane	**<0.41**	ug/m3	1.5	0.41	1.83		05/19/19 01:24	75-34-3	
1,2-Dichloroethane	**<0.27**	ug/m3	0.75	0.27	1.83		05/19/19 01:24	107-06-2	
1,1-Dichloroethene	**1.0J**	ug/m3	1.5	0.50	1.83		05/19/19 01:24	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/m3	1.5	0.40	1.83		05/19/19 01:24	156-59-2	
trans-1,2-Dichloroethene	**<0.52**	ug/m3	1.5	0.52	1.83		05/19/19 01:24	156-60-5	
Tetrachloroethene	**21.7**	ug/m3	1.3	0.57	1.83		05/19/19 01:24	127-18-4	
1,1,1-Trichloroethane	**16.6**	ug/m3	2.0	0.57	1.83		05/19/19 01:24	71-55-6	
1,1,2-Trichloroethane	**<0.46**	ug/m3	1.0	0.46	1.83		05/19/19 01:24	79-00-5	
Trichloroethene	**15.8**	ug/m3	1.0	0.47	1.83		05/19/19 01:24	79-01-6	
Trichlorofluoromethane	**2.9**	ug/m3	2.1	0.67	1.83		05/19/19 01:24	75-69-4	
Vinyl chloride	**<0.23**	ug/m3	0.48	0.23	1.83		05/19/19 01:24	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Sample: VS-7 **Lab ID: 10475349007** Collected: 05/15/19 17:00 Received: 05/17/19 11:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.48**	ug/m3	0.98	0.48	1.83		05/19/19 01:55	75-00-3	
Dichlorodifluoromethane	**1.7J**	ug/m3	1.8	0.54	1.83		05/19/19 01:55	75-71-8	
1,1-Dichloroethane	**<0.41**	ug/m3	1.5	0.41	1.83		05/19/19 01:55	75-34-3	
1,2-Dichloroethane	**<0.27**	ug/m3	0.75	0.27	1.83		05/19/19 01:55	107-06-2	
1,1-Dichloroethene	**1.2J**	ug/m3	1.5	0.50	1.83		05/19/19 01:55	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/m3	1.5	0.40	1.83		05/19/19 01:55	156-59-2	
trans-1,2-Dichloroethene	**0.57J**	ug/m3	1.5	0.52	1.83		05/19/19 01:55	156-60-5	
Tetrachloroethene	**19.1**	ug/m3	1.3	0.57	1.83		05/19/19 01:55	127-18-4	
1,1,1-Trichloroethane	**69.4**	ug/m3	2.0	0.57	1.83		05/19/19 01:55	71-55-6	
1,1,2-Trichloroethane	**<0.46**	ug/m3	1.0	0.46	1.83		05/19/19 01:55	79-00-5	
Trichloroethene	**53.6**	ug/m3	1.0	0.47	1.83		05/19/19 01:55	79-01-6	
Trichlorofluoromethane	**4.4**	ug/m3	2.1	0.67	1.83		05/19/19 01:55	75-69-4	
Vinyl chloride	**<0.23**	ug/m3	0.48	0.23	1.83		05/19/19 01:55	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Sample: VS-8 **Lab ID: 10475349008** Collected: 05/15/19 17:16 Received: 05/17/19 11:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.49**	ug/m3	1.0	0.49	1.87		05/19/19 02:25	75-00-3	
Dichlorodifluoromethane	**2.0**	ug/m3	1.9	0.55	1.87		05/19/19 02:25	75-71-8	
1,1-Dichloroethane	**<0.42**	ug/m3	1.5	0.42	1.87		05/19/19 02:25	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/m3	0.77	0.28	1.87		05/19/19 02:25	107-06-2	
1,1-Dichloroethene	**<0.51**	ug/m3	1.5	0.51	1.87		05/19/19 02:25	75-35-4	
cis-1,2-Dichloroethene	**<0.41**	ug/m3	1.5	0.41	1.87		05/19/19 02:25	156-59-2	
trans-1,2-Dichloroethene	**<0.53**	ug/m3	1.5	0.53	1.87		05/19/19 02:25	156-60-5	
Tetrachloroethene	**9.8**	ug/m3	1.3	0.59	1.87		05/19/19 02:25	127-18-4	
1,1,1-Trichloroethane	**9.5**	ug/m3	2.1	0.58	1.87		05/19/19 02:25	71-55-6	
1,1,2-Trichloroethane	**<0.47**	ug/m3	1.0	0.47	1.87		05/19/19 02:25	79-00-5	
Trichloroethene	**12.2**	ug/m3	1.0	0.48	1.87		05/19/19 02:25	79-01-6	
Trichlorofluoromethane	**1.7J**	ug/m3	2.1	0.68	1.87		05/19/19 02:25	75-69-4	
Vinyl chloride	**<0.24**	ug/m3	0.49	0.24	1.87		05/19/19 02:25	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Sample: VS-9 **Lab ID: 10475349009** Collected: 05/15/19 17:42 Received: 05/17/19 11:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.44**	ug/m3	0.92	0.44	1.71		05/19/19 02:55	75-00-3	
Dichlorodifluoromethane	**2.3**	ug/m3	1.7	0.50	1.71		05/19/19 02:55	75-71-8	
1,1-Dichloroethane	**<0.38**	ug/m3	1.4	0.38	1.71		05/19/19 02:55	75-34-3	
1,2-Dichloroethane	**<0.26**	ug/m3	0.70	0.26	1.71		05/19/19 02:55	107-06-2	
1,1-Dichloroethene	**<0.47**	ug/m3	1.4	0.47	1.71		05/19/19 02:55	75-35-4	
cis-1,2-Dichloroethene	**<0.37**	ug/m3	1.4	0.37	1.71		05/19/19 02:55	156-59-2	
trans-1,2-Dichloroethene	**<0.49**	ug/m3	1.4	0.49	1.71		05/19/19 02:55	156-60-5	
Tetrachloroethene	**6.1**	ug/m3	1.2	0.54	1.71		05/19/19 02:55	127-18-4	
1,1,1-Trichloroethane	**5.2**	ug/m3	1.9	0.53	1.71		05/19/19 02:55	71-55-6	
1,1,2-Trichloroethane	**<0.43**	ug/m3	0.95	0.43	1.71		05/19/19 02:55	79-00-5	
Trichloroethene	**5.1**	ug/m3	0.93	0.44	1.71		05/19/19 02:55	79-01-6	
Trichlorofluoromethane	**1.9J**	ug/m3	1.9	0.63	1.71		05/19/19 02:55	75-69-4	
Vinyl chloride	**<0.22**	ug/m3	0.44	0.22	1.71		05/19/19 02:55	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Sample: VS-10 **Lab ID: 10475349010** Collected: 05/15/19 17:59 Received: 05/17/19 11:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.48**	ug/m3	0.98	0.48	1.83		05/19/19 03:26	75-00-3	
Dichlorodifluoromethane	**2.1**	ug/m3	1.8	0.54	1.83		05/19/19 03:26	75-71-8	
1,1-Dichloroethane	**<0.41**	ug/m3	1.5	0.41	1.83		05/19/19 03:26	75-34-3	
1,2-Dichloroethane	**<0.27**	ug/m3	0.75	0.27	1.83		05/19/19 03:26	107-06-2	
1,1-Dichloroethene	**<0.50**	ug/m3	1.5	0.50	1.83		05/19/19 03:26	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/m3	1.5	0.40	1.83		05/19/19 03:26	156-59-2	
trans-1,2-Dichloroethene	**<0.52**	ug/m3	1.5	0.52	1.83		05/19/19 03:26	156-60-5	
Tetrachloroethene	**4.0**	ug/m3	1.3	0.57	1.83		05/19/19 03:26	127-18-4	
1,1,1-Trichloroethane	**2.8**	ug/m3	2.0	0.57	1.83		05/19/19 03:26	71-55-6	
1,1,2-Trichloroethane	**<0.46**	ug/m3	1.0	0.46	1.83		05/19/19 03:26	79-00-5	
Trichloroethene	**2.3**	ug/m3	1.0	0.47	1.83		05/19/19 03:26	79-01-6	
Trichlorofluoromethane	**1.5J**	ug/m3	2.1	0.67	1.83		05/19/19 03:26	75-69-4	
Vinyl chloride	**<0.23**	ug/m3	0.48	0.23	1.83		05/19/19 03:26	75-01-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

QC Batch: 606833 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10475349001, 10475349002, 10475349003, 10475349004, 10475349005, 10475349006, 10475349007, 10475349008, 10475349009, 10475349010

METHOD BLANK: 3280603 Matrix: Air
Associated Lab Samples: 10475349001, 10475349002, 10475349003, 10475349004, 10475349005, 10475349006, 10475349007, 10475349008, 10475349009, 10475349010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.15	0.56	05/18/19 13:24	
1,1,2-Trichloroethane	ug/m3	<0.12	0.28	05/18/19 13:24	
1,1-Dichloroethane	ug/m3	<0.11	0.41	05/18/19 13:24	
1,1-Dichloroethene	ug/m3	<0.14	0.40	05/18/19 13:24	
1,2-Dichloroethane	ug/m3	<0.075	0.21	05/18/19 13:24	
Chloroethane	ug/m3	<0.13	0.27	05/18/19 13:24	
cis-1,2-Dichloroethene	ug/m3	<0.11	0.40	05/18/19 13:24	
Dichlorodifluoromethane	ug/m3	<0.15	0.50	05/18/19 13:24	
Tetrachloroethene	ug/m3	<0.16	0.34	05/18/19 13:24	
trans-1,2-Dichloroethene	ug/m3	<0.14	0.40	05/18/19 13:24	
Trichloroethene	ug/m3	<0.13	0.27	05/18/19 13:24	
Trichlorofluoromethane	ug/m3	<0.18	0.57	05/18/19 13:24	
Vinyl chloride	ug/m3	<0.063	0.13	05/18/19 13:24	

LABORATORY CONTROL SAMPLE: 3280604

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	60.3	109	70-130	
1,1,2-Trichloroethane	ug/m3	55.5	61.7	111	70-130	
1,1-Dichloroethane	ug/m3	41.1	45.0	109	70-130	
1,1-Dichloroethene	ug/m3	40.3	43.4	108	70-130	
1,2-Dichloroethane	ug/m3	41.1	45.2	110	70-130	
Chloroethane	ug/m3	26.8	32.3	120	70-130	
cis-1,2-Dichloroethene	ug/m3	40.3	45.3	112	70-130	
Dichlorodifluoromethane	ug/m3	50.3	52.0	103	70-130	
Tetrachloroethene	ug/m3	68.9	70.8	103	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	42.9	106	70-130	
Trichloroethene	ug/m3	54.6	61.4	112	70-130	
Trichlorofluoromethane	ug/m3	57.1	60.9	107	65-130	
Vinyl chloride	ug/m3	26	29.0	112	70-130	

SAMPLE DUPLICATE: 3280739

Parameter	Units	10475141005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	4.3	3.8	12	25	
1,1,2-Trichloroethane	ug/m3	ND	<0.43		25	
1,1-Dichloroethane	ug/m3	ND	<0.38		25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

SAMPLE DUPLICATE: 3280739

Parameter	Units	10475141005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	ND	<0.47		25	
1,2-Dichloroethane	ug/m3	1.9	1.9	4	25	
Chloroethane	ug/m3	ND	<0.44		25	
cis-1,2-Dichloroethene	ug/m3	ND	<0.37		25	
Dichlorodifluoromethane	ug/m3	38.6	38.9	1	25	
Tetrachloroethene	ug/m3	4.9	4.6	6	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.49		25	
Trichloroethene	ug/m3	2.7	2.6	5	25	
Trichlorofluoromethane	ug/m3	ND	2.1		25	
Vinyl chloride	ug/m3	ND	<0.22		25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 51-0367.00 NorLake
Pace Project No.: 10475349

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10475349001	**VS-1**	TO-15	606833		
10475349002	**VS-2**	TO-15	606833		
10475349003	**VS-3**	TO-15	606833		
10475349004	**VS-4**	TO-15	606833		
10475349005	**VS-5**	TO-15	606833		
10475349006	**VS-6**	TO-15	606833		
10475349007	**VS-7**	TO-15	606833		
10475349008	**VS-8**	TO-15	606833		
10475349009	**VS-9**	TO-15	606833		
10475349010	**VS-10**	TO-15	606833		

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AIR: CHAIN-OF-CUSTOD

The Chain-of-Custody is a LEGAL DOCUMENT. All n

WO# : 10475349

10475349

36013

Section A Required Client Information:

Company: Ayres Associates
Address: 3433 Oakwood Hills Pkwy
Eau Claire, WI 54701
Email To: banachm@ayresassociates.com
Phone: 715 831 7659 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Mitch Banach
Copy To: aldricing@ayresassociates.com
Purchase Order No.:
Project Name: Nor Lake
Project Number: 51-0367.00

Section C Invoice Information:

Attention: Same as A
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 39395

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

Location of Sampling by State: WI

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

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

ITEM #	'Section D Required Client Information AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (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
1	VS-1	1LC		5/15/19	1512	5/15/19	1518	27.5	4.0	~~1559~~ 1333	1559										001
2	VS-2				1536		1544	28.0	3.5	2869	0836									X	002
3	VS-3				1551		1559	29.0	3.0	3068	1136										003
4	VS-4				1607		1614	28.5	3.0	2876	1587										004
5	VS-5				1623		1630	29.5	2.5	3065	0618										005
6	VS-6				1636		1644	28.5	2.5	2262	1003										006
7	VS-7				1653		1700	29.0	3.0	2650	1507										007
8	VS-8				1707		1716	29.5	4.0	3298	1659										008
9	VS-9				1733		1742	29.0	2.0	3165	0832										009
10	VS-10	1LC		5/15/19	1752	5/15/19	1759	31.0	3.0	2482	1857									X	010
11																					
12																					

Comments:

See attached list of analytes for TO-15

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	5/16/19	900	ONE	5/17/19	11:00

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mitch Banach

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 05/16/2019

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

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 31Jan2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.18	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: Ayres Associates

Project #: WO#: 10475349

PM: JDD Due Date: 05/24/19

CLIENT: AYRES ASSOC.

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

Tracking Number: 4545 9912 0664

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

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

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** —

Thermometer Used: N/A ☐ G87A9170600254 ☐ G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** —

Date & Initials of Person Examining Contents: KAC 5/17/19

Type of ice Received ☐ Blue ☐ Wet ☑ None

		Comments:
Chain of Custody Present?	☑ Yes ☐ No	1.
Chain of Custody Filled Out?	☑ Yes ☐ No	2.
Chain of Custody Relinquished?	☑ Yes ☐ No	3.
Sampler Name and/or Signature on COC?	☑ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes ☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☑ No	6.
Rush Turn Around Time Requested?	☐ Yes ☑ No	7.
Sufficient Volume?	☑ Yes ☐ No	8.
Correct Containers Used?	☑ Yes ☐ No	9.
-Pace Containers Used?	☑ Yes ☐ No	
Containers Intact?	☑ Yes ☐ No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	☑ Yes ☐ No	12.
Do cans need to be pressurized (3C and ASTM 1946 DO NOT PRESSURIZE)?	☑ Yes ☐ No	13.

Samples Received: Pressure Gauge # ☐ 10AIR34 ☑ 10AIR35

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
VS-1	PACE 1333	FC 1559	-5	+10	VS-9	PACE 3165	FC 0632	-0.5	+10
VS-2	PACE 2869	FC 0836	-3	+10	VS-10	PACE 2482	~~FC 1852~~ FC 1857 KAC 5/17/19	-2.5	+10
VS-3	PACE 3068	FC 1136	-2	+10					
VS-4	PACE 2676	FC 1587	-2.5	+10					
VS-5	PACE 3065	FC 0618	-2.5	+10					
VS-6	PACE 2262	FC 1003	-2.5	+10					
VS-7	PACE 2650	FC 1507	-2.5	+10					
VS-8	PACE 3298	FC 1659	~~-0.5~~ -3 KAC 5/17/19	+10					

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** 5/17/19

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

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

June 26, 2019

Mitchell Banach
Ayres Associates
3433 Oakwood Hills Parkway
Eau Claire, WI 54701

RE: Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Dear Mitchell Banach:
Enclosed are the analytical results for sample(s) received by the laboratory on June 14, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jared Dickinson
jared.dickinson@pacelabs.com
(612)607-1700
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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

SAMPLE SUMMARY

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10479256001	**VS-1**	Air	06/13/19 13:14	06/14/19 11:20
10479256002	**VS-2**	Air	06/13/19 13:12	06/14/19 11:20
10479256003	**VS-3**	Air	06/13/19 12:58	06/14/19 11:20
10479256004	**VS-4**	Air	06/13/19 12:40	06/14/19 11:20
10479256005	**VS-5**	Air	06/13/19 12:33	06/14/19 11:20
10479256006	**VS-6**	Air	06/13/19 12:22	06/14/19 11:20
10479256007	**VS-7**	Air	06/13/19 11:56	06/14/19 11:20
10479256008	**VS-8**	Air	06/13/19 11:35	06/14/19 11:20
10479256009	**VS-9**	Air	06/13/19 11:21	06/14/19 11:20
10479256010	**VS-10**	Air	06/13/19 11:09	06/14/19 11:20

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10479256001	**VS-1**	TO-15	AFV	13	PASI-M
10479256002	**VS-2**	TO-15	MLS	13	PASI-M
10479256003	**VS-3**	TO-15	AFV	13	PASI-M
10479256004	**VS-4**	TO-15	AFV	13	PASI-M
10479256005	**VS-5**	TO-15	AFV	13	PASI-M
10479256006	**VS-6**	TO-15	AFV	13	PASI-M
10479256007	**VS-7**	TO-15	AFV	13	PASI-M
10479256008	**VS-8**	TO-15	AFV	13	PASI-M
10479256009	**VS-9**	TO-15	AFV	13	PASI-M
10479256010	**VS-10**	TO-15	AFV	13	PASI-M

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Sample: VS-1 **Lab ID: 10479256001** Collected: 06/13/19 13:14 Received: 06/14/19 11:20 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	0.95	0.46	1.77		06/23/19 17:34	75-00-3	
Dichlorodifluoromethane	**3.6**	ug/m3	1.8	0.52	1.77		06/23/19 17:34	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.40	1.77		06/23/19 17:34	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.73	0.27	1.77		06/23/19 17:34	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	0.48	1.77		06/23/19 17:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	0.39	1.77		06/23/19 17:34	156-59-2	
trans-1,2-Dichloroethene	**1.5**	ug/m3	1.4	0.50	1.77		06/23/19 17:34	156-60-5	
Tetrachloroethene	**69.7**	ug/m3	1.2	0.56	1.77		06/23/19 17:34	127-18-4	
1,1,1-Trichloroethane	**415**	ug/m3	61.7	17.2	55.58		06/24/19 11:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.98	0.44	1.77		06/23/19 17:34	79-00-5	
Trichloroethene	**161**	ug/m3	0.97	0.45	1.77		06/23/19 17:34	79-01-6	
Trichlorofluoromethane	**3.2**	ug/m3	2.0	0.65	1.77		06/23/19 17:34	75-69-4	
Vinyl chloride	ND	ug/m3	0.46	0.22	1.77		06/23/19 17:34	75-01-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Sample: VS-2 **Lab ID: 10479256002** Collected: 06/13/19 13:12 Received: 06/14/19 11:20 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	0.95	0.46	1.77		06/24/19 12:04	75-00-3	
Dichlorodifluoromethane	**2.8**	ug/m3	1.8	0.52	1.77		06/24/19 12:04	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.40	1.77		06/24/19 12:04	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.73	0.27	1.77		06/24/19 12:04	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	0.48	1.77		06/24/19 12:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	0.39	1.77		06/24/19 12:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	0.50	1.77		06/24/19 12:04	156-60-5	
Tetrachloroethene	**4.0**	ug/m3	1.2	0.56	1.77		06/24/19 12:04	127-18-4	
1,1,1-Trichloroethane	**78.5**	ug/m3	2.0	0.55	1.77		06/24/19 12:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.98	0.44	1.77		06/24/19 12:04	79-00-5	
Trichloroethene	**7.2**	ug/m3	0.97	0.45	1.77		06/24/19 12:04	79-01-6	
Trichlorofluoromethane	**4.2**	ug/m3	2.0	0.65	1.77		06/24/19 12:04	75-69-4	
Vinyl chloride	ND	ug/m3	0.46	0.22	1.77		06/24/19 12:04	75-01-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Sample: VS-3 **Lab ID: 10479256003** Collected: 06/13/19 12:58 Received: 06/14/19 11:20 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	0.95	0.46	1.77		06/23/19 18:34	75-00-3	
Dichlorodifluoromethane	**3.8**	ug/m3	1.8	0.52	1.77		06/23/19 18:34	75-71-8	
1,1-Dichloroethane	**2.5**	ug/m3	1.5	0.40	1.77		06/23/19 18:34	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.73	0.27	1.77		06/23/19 18:34	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	0.48	1.77		06/23/19 18:34	75-35-4	
cis-1,2-Dichloroethene	**5.4**	ug/m3	1.4	0.39	1.77		06/23/19 18:34	156-59-2	
trans-1,2-Dichloroethene	**2.3**	ug/m3	1.4	0.50	1.77		06/23/19 18:34	156-60-5	
Tetrachloroethene	**83.4**	ug/m3	1.2	0.56	1.77		06/23/19 18:34	127-18-4	
1,1,1-Trichloroethane	**260**	ug/m3	2.0	0.55	1.77		06/23/19 18:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.98	0.44	1.77		06/23/19 18:34	79-00-5	
Trichloroethene	**249**	ug/m3	0.97	0.45	1.77		06/23/19 18:34	79-01-6	
Trichlorofluoromethane	**2.4**	ug/m3	2.0	0.65	1.77		06/23/19 18:34	75-69-4	
Vinyl chloride	ND	ug/m3	0.46	0.22	1.77		06/23/19 18:34	75-01-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Sample: VS-4 **Lab ID: 10479256004** Collected: 06/13/19 12:40 Received: 06/14/19 11:20 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	0.90	0.44	1.68		06/23/19 19:35	75-00-3	
Dichlorodifluoromethane	**3.5**	ug/m3	1.7	0.49	1.68		06/23/19 19:35	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	0.38	1.68		06/23/19 19:35	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	0.25	1.68		06/23/19 19:35	107-06-2	
1,1-Dichloroethene	**3.7**	ug/m3	1.4	0.46	1.68		06/23/19 19:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	0.37	1.68		06/23/19 19:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	0.48	1.68		06/23/19 19:35	156-60-5	
Tetrachloroethene	**12.3**	ug/m3	1.2	0.53	1.68		06/23/19 19:35	127-18-4	
1,1,1-Trichloroethane	**30.1**	ug/m3	1.9	0.52	1.68		06/23/19 19:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.93	0.42	1.68		06/23/19 19:35	79-00-5	
Trichloroethene	**18.5**	ug/m3	0.92	0.43	1.68		06/23/19 19:35	79-01-6	
Trichlorofluoromethane	**2.8**	ug/m3	1.9	0.61	1.68		06/23/19 19:35	75-69-4	
Vinyl chloride	ND	ug/m3	0.44	0.21	1.68		06/23/19 19:35	75-01-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Sample: VS-5 **Lab ID: 10479256005** Collected: 06/13/19 12:33 Received: 06/14/19 11:20 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	0.92	0.44	1.71		06/23/19 20:06	75-00-3	
Dichlorodifluoromethane	**3.4**	ug/m3	1.7	0.50	1.71		06/23/19 20:06	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	0.38	1.71		06/23/19 20:06	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.70	0.26	1.71		06/23/19 20:06	107-06-2	
1,1-Dichloroethene	**2.2**	ug/m3	1.4	0.47	1.71		06/23/19 20:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	0.37	1.71		06/23/19 20:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	0.49	1.71		06/23/19 20:06	156-60-5	
Tetrachloroethene	**24.3**	ug/m3	1.2	0.54	1.71		06/23/19 20:06	127-18-4	
1,1,1-Trichloroethane	**74.9**	ug/m3	1.9	0.53	1.71		06/23/19 20:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.95	0.43	1.71		06/23/19 20:06	79-00-5	
Trichloroethene	**35.8**	ug/m3	0.93	0.44	1.71		06/23/19 20:06	79-01-6	
Trichlorofluoromethane	**3.5**	ug/m3	1.9	0.63	1.71		06/23/19 20:06	75-69-4	
Vinyl chloride	ND	ug/m3	0.44	0.22	1.71		06/23/19 20:06	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Sample: VS-6 **Lab ID: 10479256006** Collected: 06/13/19 12:22 Received: 06/14/19 11:20 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	0.95	0.46	1.77		06/23/19 20:36	75-00-3	
Dichlorodifluoromethane	**5.8**	ug/m3	1.8	0.52	1.77		06/23/19 20:36	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.40	1.77		06/23/19 20:36	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.73	0.27	1.77		06/23/19 20:36	107-06-2	
1,1-Dichloroethene	**1.6**	ug/m3	1.4	0.48	1.77		06/23/19 20:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	0.39	1.77		06/23/19 20:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	0.50	1.77		06/23/19 20:36	156-60-5	
Tetrachloroethene	**20.2**	ug/m3	1.2	0.56	1.77		06/23/19 20:36	127-18-4	
1,1,1-Trichloroethane	**6.1**	ug/m3	2.0	0.55	1.77		06/23/19 20:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.98	0.44	1.77		06/23/19 20:36	79-00-5	
Trichloroethene	**7.8**	ug/m3	0.97	0.45	1.77		06/23/19 20:36	79-01-6	
Trichlorofluoromethane	**3.5**	ug/m3	2.0	0.65	1.77		06/23/19 20:36	75-69-4	
Vinyl chloride	ND	ug/m3	0.46	0.22	1.77		06/23/19 20:36	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Sample: VS-7 **Lab ID: 10479256007** Collected: 06/13/19 11:56 Received: 06/14/19 11:20 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	0.95	0.46	1.77		06/23/19 21:06	75-00-3	
Dichlorodifluoromethane	**2.6**	ug/m3	1.8	0.52	1.77		06/23/19 21:06	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.40	1.77		06/23/19 21:06	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.73	0.27	1.77		06/23/19 21:06	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	0.48	1.77		06/23/19 21:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	0.39	1.77		06/23/19 21:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	0.50	1.77		06/23/19 21:06	156-60-5	
Tetrachloroethene	**30.5**	ug/m3	1.2	0.56	1.77		06/23/19 21:06	127-18-4	
1,1,1-Trichloroethane	**131**	ug/m3	2.0	0.55	1.77		06/23/19 21:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.98	0.44	1.77		06/23/19 21:06	79-00-5	
Trichloroethene	**90.6**	ug/m3	0.97	0.45	1.77		06/23/19 21:06	79-01-6	
Trichlorofluoromethane	**5.3**	ug/m3	2.0	0.65	1.77		06/23/19 21:06	75-69-4	
Vinyl chloride	ND	ug/m3	0.46	0.22	1.77		06/23/19 21:06	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Sample: VS-8 **Lab ID: 10479256008** Collected: 06/13/19 11:35 Received: 06/14/19 11:20 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	0.95	0.46	1.77		06/23/19 21:36	75-00-3	
Dichlorodifluoromethane	**2.5**	ug/m3	1.8	0.52	1.77		06/23/19 21:36	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.40	1.77		06/23/19 21:36	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.73	0.27	1.77		06/23/19 21:36	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	0.48	1.77		06/23/19 21:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	0.39	1.77		06/23/19 21:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	0.50	1.77		06/23/19 21:36	156-60-5	
Tetrachloroethene	ND	ug/m3	1.2	0.56	1.77		06/23/19 21:36	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	2.0	0.55	1.77		06/23/19 21:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.98	0.44	1.77		06/23/19 21:36	79-00-5	
Trichloroethene	ND	ug/m3	0.97	0.45	1.77		06/23/19 21:36	79-01-6	
Trichlorofluoromethane	ND	ug/m3	2.0	0.65	1.77		06/23/19 21:36	75-69-4	
Vinyl chloride	ND	ug/m3	0.46	0.22	1.77		06/23/19 21:36	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Sample: VS-9 **Lab ID: 10479256009** Collected: 06/13/19 11:21 Received: 06/14/19 11:20 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	0.95	0.46	1.77		06/23/19 22:07	75-00-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.8	0.52	1.77		06/23/19 22:07	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.40	1.77		06/23/19 22:07	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.73	0.27	1.77		06/23/19 22:07	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	0.48	1.77		06/23/19 22:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	0.39	1.77		06/23/19 22:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	0.50	1.77		06/23/19 22:07	156-60-5	
Tetrachloroethene	ND	ug/m3	1.2	0.56	1.77		06/23/19 22:07	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	2.0	0.55	1.77		06/23/19 22:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.98	0.44	1.77		06/23/19 22:07	79-00-5	
Trichloroethene	ND	ug/m3	0.97	0.45	1.77		06/23/19 22:07	79-01-6	
Trichlorofluoromethane	**2.3**	ug/m3	2.0	0.65	1.77		06/23/19 22:07	75-69-4	
Vinyl chloride	ND	ug/m3	0.46	0.22	1.77		06/23/19 22:07	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Sample: VS-10 **Lab ID: 10479256010** Collected: 06/13/19 11:09 Received: 06/14/19 11:20 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	0.93	0.45	1.74		06/23/19 22:37	75-00-3	
Dichlorodifluoromethane	**2.4**	ug/m3	1.8	0.51	1.74		06/23/19 22:37	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	0.39	1.74		06/23/19 22:37	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.72	0.26	1.74		06/23/19 22:37	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	0.48	1.74		06/23/19 22:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	0.38	1.74		06/23/19 22:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	0.50	1.74		06/23/19 22:37	156-60-5	
Tetrachloroethene	ND	ug/m3	1.2	0.55	1.74		06/23/19 22:37	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	1.9	0.54	1.74		06/23/19 22:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.97	0.44	1.74		06/23/19 22:37	79-00-5	
Trichloroethene	ND	ug/m3	0.95	0.45	1.74		06/23/19 22:37	79-01-6	
Trichlorofluoromethane	ND	ug/m3	2.0	0.64	1.74		06/23/19 22:37	75-69-4	
Vinyl chloride	ND	ug/m3	0.45	0.22	1.74		06/23/19 22:37	75-01-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

QC Batch: 614941 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10479256001, 10479256003, 10479256004, 10479256005, 10479256006, 10479256007, 10479256008, 10479256009, 10479256010

METHOD BLANK: 3322691 Matrix: Air
Associated Lab Samples: 10479256001, 10479256003, 10479256004, 10479256005, 10479256006, 10479256007, 10479256008, 10479256009, 10479256010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.56	06/23/19 16:31	
1,1,2-Trichloroethane	ug/m3	ND	0.28	06/23/19 16:31	
1,1-Dichloroethane	ug/m3	ND	0.41	06/23/19 16:31	
1,1-Dichloroethene	ug/m3	ND	0.40	06/23/19 16:31	
1,2-Dichloroethane	ug/m3	ND	0.21	06/23/19 16:31	
Chloroethane	ug/m3	ND	0.27	06/23/19 16:31	
cis-1,2-Dichloroethene	ug/m3	ND	0.40	06/23/19 16:31	
Dichlorodifluoromethane	ug/m3	ND	0.50	06/23/19 16:31	
Tetrachloroethene	ug/m3	ND	0.34	06/23/19 16:31	
trans-1,2-Dichloroethene	ug/m3	ND	0.40	06/23/19 16:31	
Trichloroethene	ug/m3	ND	0.27	06/23/19 16:31	
Trichlorofluoromethane	ug/m3	ND	0.57	06/23/19 16:31	
Vinyl chloride	ug/m3	ND	0.13	06/23/19 16:31	

LABORATORY CONTROL SAMPLE: 3322692

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	56.6	54.6	97	70-130	
1,1,2-Trichloroethane	ug/m3	58.2	60.5	104	70-130	
1,1-Dichloroethane	ug/m3	42.4	40.3	95	70-130	
1,1-Dichloroethene	ug/m3	43.5	39.3	90	70-130	
1,2-Dichloroethane	ug/m3	42.8	40.9	96	70-130	
Chloroethane	ug/m3	26.8	29.0	108	70-130	
cis-1,2-Dichloroethene	ug/m3	41.9	40.7	97	70-130	
Dichlorodifluoromethane	ug/m3	52.8	47.9	91	70-130	
Tetrachloroethene	ug/m3	70.3	68.1	97	70-130	
trans-1,2-Dichloroethene	ug/m3	41.5	40.4	97	70-130	
Trichloroethene	ug/m3	56.3	57.0	101	70-130	
Trichlorofluoromethane	ug/m3	58.8	53.1	90	65-130	
Vinyl chloride	ug/m3	28.1	26.2	93	70-130	

SAMPLE DUPLICATE: 3322847

Parameter	Units	10479256001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	415	379	9	25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

SAMPLE DUPLICATE: 3322847

Parameter	Units	10479256001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
Chloroethane	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	3.6	4.0	10	25	
Tetrachloroethene	ug/m3	69.7	72.4	4	25	
trans-1,2-Dichloroethene	ug/m3	1.5	1.7	9	25	
Trichloroethene	ug/m3	161	167	4	25	
Trichlorofluoromethane	ug/m3	3.2	3.3	2	25	
Vinyl chloride	ug/m3	ND	ND		25	

SAMPLE DUPLICATE: 3322848

Parameter	Units	10479256003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	260	277	6	25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	2.5	2.8	10	25	
1,1-Dichloroethene	ug/m3	ND	.7J		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
Chloroethane	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	5.4	5.6	3	25	
Dichlorodifluoromethane	ug/m3	3.8	4.2	10	25	
Tetrachloroethene	ug/m3	83.4	85.9	3	25	
trans-1,2-Dichloroethene	ug/m3	2.3	2.8	22	25	
Trichloroethene	ug/m3	249	260	5	25	
Trichlorofluoromethane	ug/m3	2.4	2.6	8	25	
Vinyl chloride	ug/m3	ND	ND		25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

QC Batch: 615001 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10479256002

METHOD BLANK: 3322868 Matrix: Air
Associated Lab Samples: 10479256002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	06/24/19 10:36	
1,1,2-Trichloroethane	ug/m3	ND	0.56	06/24/19 10:36	
1,1-Dichloroethane	ug/m3	ND	0.82	06/24/19 10:36	
1,1-Dichloroethene	ug/m3	ND	0.81	06/24/19 10:36	
1,2-Dichloroethane	ug/m3	ND	0.41	06/24/19 10:36	
Chloroethane	ug/m3	ND	0.54	06/24/19 10:36	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	06/24/19 10:36	
Dichlorodifluoromethane	ug/m3	ND	1.0	06/24/19 10:36	
Tetrachloroethene	ug/m3	ND	0.69	06/24/19 10:36	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	06/24/19 10:36	
Trichloroethene	ug/m3	ND	0.55	06/24/19 10:36	
Trichlorofluoromethane	ug/m3	ND	1.1	06/24/19 10:36	
Vinyl chloride	ug/m3	ND	0.26	06/24/19 10:36	

LABORATORY CONTROL SAMPLE: 3322869

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	59.2	107	70-130	
1,1,2-Trichloroethane	ug/m3	55.5	65.2	118	70-130	
1,1-Dichloroethane	ug/m3	41.1	44.1	107	70-130	
1,1-Dichloroethene	ug/m3	40.3	43.4	108	70-130	
1,2-Dichloroethane	ug/m3	41.1	44.6	108	70-130	
Chloroethane	ug/m3	26.8	33.8	126	70-130	
cis-1,2-Dichloroethene	ug/m3	40.3	43.9	109	70-130	
Dichlorodifluoromethane	ug/m3	50.3	52.6	105	70-130	
Tetrachloroethene	ug/m3	68.9	71.6	104	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	44.5	111	70-130	
Trichloroethene	ug/m3	54.6	59.2	108	70-130	
Trichlorofluoromethane	ug/m3	57.1	56.8	99	65-130	
Vinyl chloride	ug/m3	26	29.7	114	70-130	

SAMPLE DUPLICATE: 3324350

Parameter	Units	10479268001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.42	ND		25	
1,1,2-Trichloroethane	ug/m3	<0.34	ND		25	
1,1-Dichloroethane	ug/m3	<0.31	ND		25	
1,1-Dichloroethene	ug/m3	<0.37	ND		25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

SAMPLE DUPLICATE: 3324350

Parameter	Units	10479268001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/m3	<0.20	ND		25	
Chloroethane	ug/m3	<0.35	ND		25	
cis-1,2-Dichloroethene	ug/m3	<0.30	ND		25	
Dichlorodifluoromethane	ug/m3	22.4	25.4	13	25	
Tetrachloroethene	ug/m3	3570	3710	4	25	
trans-1,2-Dichloroethene	ug/m3	<0.39	ND		25	
Trichloroethene	ug/m3	13.6	14.9	9	25	
Trichlorofluoromethane	ug/m3	1.8	1.9	5	25	
Vinyl chloride	ug/m3	<0.17	ND		25	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 51-0367.00 Nor-Lake
Pace Project No.: 10479256

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10479256001	**VS-1**	TO-15	614941		
10479256002	**VS-2**	TO-15	615001		
10479256003	**VS-3**	TO-15	614941		
10479256004	**VS-4**	TO-15	614941		
10479256005	**VS-5**	TO-15	614941		
10479256006	**VS-6**	TO-15	614941		
10479256007	**VS-7**	TO-15	614941		
10479256008	**VS-8**	TO-15	614941		
10479256009	**VS-9**	TO-15	614941		
10479256010	**VS-10**	TO-15	614941		

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AIR: CHAIN-OF-CUSTODY /

The Chain-of-Custody is a LEGAL DOCUMENT. All relevan

WO# : 10479256

10479256

38512

Page: 1 of 1

Section A Required Client Information:

Company: Ayres Associates
Address: 3433 Oakwood Hills Pkwy
Eau Claire, WI 54701
Email To: bamachM@ayresassociates.com
Phone: 7158347659 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Same
Copy To: aldrian@ayresassociates.com
Purchase Order No.:
Project Name: Nor-Lake
Project Number: 51-0367.00

Section C Invoice Information:

Attention: Same as A
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 39395 #2

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

Location of Sampling by State: WI

Reporting Units: ug/m³ ☒ mg/m³ ☐ PPBV ☐ PPMV ☐ Other ☐

Report Level: II. ☐ III. ☐ IV. ☐ Other ☐

Section D Required Client Information

Valid Media Codes

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

ITEM #	AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (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
1	VS-1	1LC		6/13/19	1307	6/13/19	1314	30	3	24220	09777									X	001
2	VS-2				1305		1312	29.5	3	22100	16611										002
3	VS-3				1246		1258	28.5	3	25581	15932										003
4	VS-4				1232		1240	29.5	1.5	13341	12355										004
5	VS-5				1225		1233	30	1.5	32511	11288										005
6	VS-6				1215		1222	28	3	25680	09650										006
7	VS-7				1149		1156	29.5	3	27911	11900										007
8	VS-8				1125		1135	29.5	3.5	22583	16333										008
9	VS-9				1114		1121	28.5	3	32104	07733										009
10	VS-10	1LC		6/13/19	1102	6/13/19	1109	28	3	32241	15855									X	010
11																					
12																					

Comments :

Same analyte list as Pace project # 10475349

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	6/13/19	15:36	Pace	06/14/19	1120

SAMPLE CONDITIONS

—	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mitchell Banach

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 06/13/19

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 31Jan2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.18	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: Ayres Associates

Project #: WO#: 10479256

PM: JDD Due Date: 06/21/19

CLIENT: AYRES ASSOC.

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

Tracking Number: 1083 0277 8950 8940

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

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

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** —

Thermometer Used: ☐ G87A9170600254 ☐ G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** —

Date & Initials of Person Examining Contents: 06/14/19 CS

Type of ice Received ☐ Blue ☐ Wet ☒ None

			Comments:
Chain of Custody Present?	☒ Yes	☐ No	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	7.
Sufficient Volume?	☒ Yes	☐ No	8.
Correct Containers Used?	☒ Yes	☐ No	9.
-Pace Containers Used?	☒ Yes	☐ No	
Containers Intact?	☒ Yes	☐ No	10.
Media: Air Can Airbag Filter TDT Passive			11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	☒ Yes	☐ No	12.
Do cans need to be pressurized (3C and ASTM 1946 DO NOT PRESSURIZE)?	☒ Yes	☐ No	13.

Samples Received: Pressure Gauge # ☐ 10AIR34 ☒ 10AIR35

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
1	2422	0977	-1.5	+10.0	9	3210	0773	-1.5	+10.0
2	2210	1661	"	"	10	3224	1585	-1.0	"
3	2558	1592	"	"					
4	1334	1235	0.0	"					
5	3251	1128	-0.5	"					
6	2568	0965	-1.5	"					
7	2791	1190	"	"					
8	2283	1633	"	"					

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** 6/14/19

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

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

July 12, 2019

Mitchell Banach
Ayres Associates
3433 Oakwood Hills Parkway
Eau Claire, WI 54701

RE: Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Dear Mitchell Banach:
Enclosed are the analytical results for sample(s) received by the laboratory on July 03, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jared Dickinson
jared.dickinson@pacelabs.com
(612)607-1700
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10481997001	**VS-1**	Air	07/02/19 12:07	07/03/19 10:30
10481997002	**VS-2**	Air	07/02/19 11:56	07/03/19 10:30
10481997003	**VS-3**	Air	07/02/19 11:26	07/03/19 10:30
10481997004	**VS-4**	Air	07/02/19 11:38	07/03/19 10:30
10481997005	**VS-5**	Air	07/02/19 11:08	07/03/19 10:30
10481997006	**VS-6**	Air	07/02/19 10:59	07/03/19 10:30
10481997007	**VS-7**	Air	07/02/19 10:51	07/03/19 10:30
10481997008	**VS-8**	Air	07/02/19 10:23	07/03/19 10:30
10481997009	**VS-9**	Air	07/02/19 10:12	07/03/19 10:30
10481997010	**VS-10**	Air	07/02/19 10:03	07/03/19 10:30

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SAMPLE ANALYTE COUNT

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10481997001	**VS-1**	TO-15	MG2	13	PASI-M
10481997002	**VS-2**	TO-15	MG2	13	PASI-M
10481997003	**VS-3**	TO-15	MG2	13	PASI-M
10481997004	**VS-4**	TO-15	MG2	13	PASI-M
10481997005	**VS-5**	TO-15	MG2	13	PASI-M
10481997006	**VS-6**	TO-15	MG2	13	PASI-M
10481997007	**VS-7**	TO-15	MG2	13	PASI-M
10481997008	**VS-8**	TO-15	MG2	13	PASI-M
10481997009	**VS-9**	TO-15	MG2	13	PASI-M
10481997010	**VS-10**	TO-15	MG2	13	PASI-M

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(612)607-1700

ANALYTICAL RESULTS

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Sample: VS-1 **Lab ID: 10481997001** Collected: 07/02/19 12:07 Received: 07/03/19 10:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	2.4	0.47	1.8		07/11/19 23:48	75-00-3	
Dichlorodifluoromethane	**3.7**	ug/m3	1.8	0.53	1.8		07/11/19 23:48	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.40	1.8		07/11/19 23:48	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	0.27	1.8		07/11/19 23:48	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	0.49	1.8		07/11/19 23:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	0.39	1.8		07/11/19 23:48	156-59-2	
trans-1,2-Dichloroethene	**3.2**	ug/m3	1.5	0.51	1.8		07/11/19 23:48	156-60-5	
Tetrachloroethene	**126**	ug/m3	1.2	0.57	1.8		07/11/19 23:48	127-18-4	
1,1,1-Trichloroethane	**1060**	ug/m3	40.0	11.1	36		07/12/19 11:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	2.0	0.45	1.8		07/11/19 23:48	79-00-5	
Trichloroethene	**257**	ug/m3	0.98	0.46	1.8		07/11/19 23:48	79-01-6	
Trichlorofluoromethane	**3.9**	ug/m3	2.1	0.66	1.8		07/11/19 23:48	75-69-4	
Vinyl chloride	ND	ug/m3	0.47	0.23	1.8		07/11/19 23:48	75-01-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Sample: VS-2 **Lab ID: 10481997002** Collected: 07/02/19 11:56 Received: 07/03/19 10:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	2.4	0.47	1.8		07/11/19 23:18	75-00-3	
Dichlorodifluoromethane	**3.7**	ug/m3	1.8	0.53	1.8		07/11/19 23:18	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.40	1.8		07/11/19 23:18	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	0.27	1.8		07/11/19 23:18	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	0.49	1.8		07/11/19 23:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	0.39	1.8		07/11/19 23:18	156-59-2	
trans-1,2-Dichloroethene	**2.5**	ug/m3	1.5	0.51	1.8		07/11/19 23:18	156-60-5	
Tetrachloroethene	**118**	ug/m3	1.2	0.57	1.8		07/11/19 23:18	127-18-4	
1,1,1-Trichloroethane	**2140**	ug/m3	59.9	16.7	54		07/12/19 12:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	2.0	0.45	1.8		07/11/19 23:18	79-00-5	
Trichloroethene	**198**	ug/m3	0.98	0.46	1.8		07/11/19 23:18	79-01-6	
Trichlorofluoromethane	**4.0**	ug/m3	2.1	0.66	1.8		07/11/19 23:18	75-69-4	
Vinyl chloride	ND	ug/m3	0.47	0.23	1.8		07/11/19 23:18	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Sample: VS-3 **Lab ID: 10481997003** Collected: 07/02/19 11:26 Received: 07/03/19 10:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	2.5	0.48	1.83		07/11/19 22:47	75-00-3	
Dichlorodifluoromethane	**4.0**	ug/m3	1.8	0.54	1.83		07/11/19 22:47	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.41	1.83		07/11/19 22:47	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.75	0.27	1.83		07/11/19 22:47	107-06-2	
1,1-Dichloroethene	**6.2**	ug/m3	1.5	0.50	1.83		07/11/19 22:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	0.40	1.83		07/11/19 22:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	0.52	1.83		07/11/19 22:47	156-60-5	
Tetrachloroethene	**21.5**	ug/m3	1.3	0.57	1.83		07/11/19 22:47	127-18-4	
1,1,1-Trichloroethane	**72.1**	ug/m3	2.0	0.57	1.83		07/11/19 22:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	2.0	0.46	1.83		07/11/19 22:47	79-00-5	
Trichloroethene	**38.3**	ug/m3	1.0	0.47	1.83		07/11/19 22:47	79-01-6	
Trichlorofluoromethane	**3.4**	ug/m3	2.1	0.67	1.83		07/11/19 22:47	75-69-4	
Vinyl chloride	ND	ug/m3	0.48	0.23	1.83		07/11/19 22:47	75-01-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Sample: VS-4 **Lab ID: 10481997004** Collected: 07/02/19 11:38 Received: 07/03/19 10:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	2.6	0.50	1.94		07/11/19 22:17	75-00-3	
Dichlorodifluoromethane	**4.4**	ug/m3	2.0	0.57	1.94		07/11/19 22:17	75-71-8	
1,1-Dichloroethane	**4.2**	ug/m3	1.6	0.44	1.94		07/11/19 22:17	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.80	0.29	1.94		07/11/19 22:17	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.6	0.53	1.94		07/11/19 22:17	75-35-4	
cis-1,2-Dichloroethene	**8.2**	ug/m3	1.6	0.42	1.94		07/11/19 22:17	156-59-2	
trans-1,2-Dichloroethene	**3.9**	ug/m3	1.6	0.55	1.94		07/11/19 22:17	156-60-5	
Tetrachloroethene	**175**	ug/m3	1.3	0.61	1.94		07/11/19 22:17	127-18-4	
1,1,1-Trichloroethane	**456**	ug/m3	10.8	3.0	9.7		07/12/19 11:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	2.2	0.48	1.94		07/11/19 22:17	79-00-5	
Trichloroethene	**424**	ug/m3	5.3	2.5	9.7		07/12/19 11:24	79-01-6	
Trichlorofluoromethane	**2.9**	ug/m3	2.2	0.71	1.94		07/11/19 22:17	75-69-4	
Vinyl chloride	ND	ug/m3	0.50	0.24	1.94		07/11/19 22:17	75-01-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Sample: VS-5 **Lab ID: 10481997005** Collected: 07/02/19 11:08 Received: 07/03/19 10:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	2.5	0.49	1.87		07/11/19 21:47	75-00-3	
Dichlorodifluoromethane	**3.7**	ug/m3	1.9	0.55	1.87		07/11/19 21:47	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.42	1.87		07/11/19 21:47	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.77	0.28	1.87		07/11/19 21:47	107-06-2	
1,1-Dichloroethene	**3.1**	ug/m3	1.5	0.51	1.87		07/11/19 21:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	0.41	1.87		07/11/19 21:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	0.53	1.87		07/11/19 21:47	156-60-5	
Tetrachloroethene	**39.3**	ug/m3	1.3	0.59	1.87		07/11/19 21:47	127-18-4	
1,1,1-Trichloroethane	**128**	ug/m3	2.1	0.58	1.87		07/11/19 21:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	2.1	0.47	1.87		07/11/19 21:47	79-00-5	
Trichloroethene	**61.0**	ug/m3	1.0	0.48	1.87		07/11/19 21:47	79-01-6	
Trichlorofluoromethane	**4.1**	ug/m3	2.1	0.68	1.87		07/11/19 21:47	75-69-4	
Vinyl chloride	ND	ug/m3	0.49	0.24	1.87		07/11/19 21:47	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Sample: VS-6 **Lab ID: 10481997006** Collected: 07/02/19 10:59 Received: 07/03/19 10:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	2.5	0.48	1.83		07/11/19 21:16	75-00-3	
Dichlorodifluoromethane	**7.2**	ug/m3	1.8	0.54	1.83		07/11/19 21:16	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.41	1.83		07/11/19 21:16	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.75	0.27	1.83		07/11/19 21:16	107-06-2	
1,1-Dichloroethene	**1.9**	ug/m3	1.5	0.50	1.83		07/11/19 21:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	0.40	1.83		07/11/19 21:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	0.52	1.83		07/11/19 21:16	156-60-5	
Tetrachloroethene	**27.5**	ug/m3	1.3	0.57	1.83		07/11/19 21:16	127-18-4	
1,1,1-Trichloroethane	**16.7**	ug/m3	2.0	0.57	1.83		07/11/19 21:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	2.0	0.46	1.83		07/11/19 21:16	79-00-5	
Trichloroethene	**13.8**	ug/m3	1.0	0.47	1.83		07/11/19 21:16	79-01-6	
Trichlorofluoromethane	**4.0**	ug/m3	2.1	0.67	1.83		07/11/19 21:16	75-69-4	
Vinyl chloride	ND	ug/m3	0.48	0.23	1.83		07/11/19 21:16	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Sample: VS-7 **Lab ID: 10481997007** Collected: 07/02/19 10:51 Received: 07/03/19 10:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	2.5	0.49	1.87		07/11/19 20:46	75-00-3	
Dichlorodifluoromethane	**2.8**	ug/m3	1.9	0.55	1.87		07/11/19 20:46	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.42	1.87		07/11/19 20:46	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.77	0.28	1.87		07/11/19 20:46	107-06-2	
1,1-Dichloroethene	**1.8**	ug/m3	1.5	0.51	1.87		07/11/19 20:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	0.41	1.87		07/11/19 20:46	156-59-2	
trans-1,2-Dichloroethene	**2.0**	ug/m3	1.5	0.53	1.87		07/11/19 20:46	156-60-5	
Tetrachloroethene	**63.8**	ug/m3	1.3	0.59	1.87		07/11/19 20:46	127-18-4	
1,1,1-Trichloroethane	**292**	ug/m3	2.1	0.58	1.87		07/11/19 20:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	2.1	0.47	1.87		07/11/19 20:46	79-00-5	
Trichloroethene	**160**	ug/m3	1.0	0.48	1.87		07/11/19 20:46	79-01-6	
Trichlorofluoromethane	**7.5**	ug/m3	2.1	0.68	1.87		07/11/19 20:46	75-69-4	
Vinyl chloride	ND	ug/m3	0.49	0.24	1.87		07/11/19 20:46	75-01-4	

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ANALYTICAL RESULTS

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Sample: VS-8 **Lab ID: 10481997008** Collected: 07/02/19 10:23 Received: 07/03/19 10:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	2.5	0.48	1.83		07/11/19 20:16	75-00-3	
Dichlorodifluoromethane	**2.4**	ug/m3	1.8	0.54	1.83		07/11/19 20:16	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.41	1.83		07/11/19 20:16	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.75	0.27	1.83		07/11/19 20:16	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	0.50	1.83		07/11/19 20:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	0.40	1.83		07/11/19 20:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	0.52	1.83		07/11/19 20:16	156-60-5	
Tetrachloroethene	**1.8**	ug/m3	1.3	0.57	1.83		07/11/19 20:16	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	2.0	0.57	1.83		07/11/19 20:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	2.0	0.46	1.83		07/11/19 20:16	79-00-5	
Trichloroethene	ND	ug/m3	1.0	0.47	1.83		07/11/19 20:16	79-01-6	
Trichlorofluoromethane	**2.9**	ug/m3	2.1	0.67	1.83		07/11/19 20:16	75-69-4	
Vinyl chloride	ND	ug/m3	0.48	0.23	1.83		07/11/19 20:16	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Sample: VS-9 **Lab ID: 10481997009** Collected: 07/02/19 10:12 Received: 07/03/19 10:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	2.5	0.49	1.87		07/11/19 19:45	75-00-3	
Dichlorodifluoromethane	**2.5**	ug/m3	1.9	0.55	1.87		07/11/19 19:45	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.42	1.87		07/11/19 19:45	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.77	0.28	1.87		07/11/19 19:45	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	0.51	1.87		07/11/19 19:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	0.41	1.87		07/11/19 19:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	0.53	1.87		07/11/19 19:45	156-60-5	
Tetrachloroethene	**9.6**	ug/m3	1.3	0.59	1.87		07/11/19 19:45	127-18-4	
1,1,1-Trichloroethane	**3.9**	ug/m3	2.1	0.58	1.87		07/11/19 19:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	2.1	0.47	1.87		07/11/19 19:45	79-00-5	
Trichloroethene	**1.3**	ug/m3	1.0	0.48	1.87		07/11/19 19:45	79-01-6	
Trichlorofluoromethane	**5.9**	ug/m3	2.1	0.68	1.87		07/11/19 19:45	75-69-4	
Vinyl chloride	ND	ug/m3	0.49	0.24	1.87		07/11/19 19:45	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Sample: VS-10 **Lab ID: 10481997010** Collected: 07/02/19 10:03 Received: 07/03/19 10:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	ND	ug/m3	2.4	0.47	1.8		07/11/19 19:15	75-00-3	
Dichlorodifluoromethane	**2.5**	ug/m3	1.8	0.53	1.8		07/11/19 19:15	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	0.40	1.8		07/11/19 19:15	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	0.27	1.8		07/11/19 19:15	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	0.49	1.8		07/11/19 19:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	0.39	1.8		07/11/19 19:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	0.51	1.8		07/11/19 19:15	156-60-5	
Tetrachloroethene	**2.3**	ug/m3	1.2	0.57	1.8		07/11/19 19:15	127-18-4	
1,1,1-Trichloroethane	**2.9**	ug/m3	2.0	0.56	1.8		07/11/19 19:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	2.0	0.45	1.8		07/11/19 19:15	79-00-5	
Trichloroethene	**1.2**	ug/m3	0.98	0.46	1.8		07/11/19 19:15	79-01-6	
Trichlorofluoromethane	ND	ug/m3	2.1	0.66	1.8		07/11/19 19:15	75-69-4	
Vinyl chloride	ND	ug/m3	0.47	0.23	1.8		07/11/19 19:15	75-01-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

QC Batch: 618914 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10481997001, 10481997002, 10481997003, 10481997004, 10481997005, 10481997006, 10481997007, 10481997008, 10481997009, 10481997010

METHOD BLANK: 3342288 Matrix: Air
Associated Lab Samples: 10481997001, 10481997002, 10481997003, 10481997004, 10481997005, 10481997006, 10481997007, 10481997008, 10481997009, 10481997010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	07/11/19 09:47	
1,1,2-Trichloroethane	ug/m3	ND	1.1	07/11/19 09:47	
1,1-Dichloroethane	ug/m3	ND	0.82	07/11/19 09:47	
1,1-Dichloroethene	ug/m3	ND	0.81	07/11/19 09:47	
1,2-Dichloroethane	ug/m3	ND	0.41	07/11/19 09:47	
Chloroethane	ug/m3	ND	1.3	07/11/19 09:47	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	07/11/19 09:47	
Dichlorodifluoromethane	ug/m3	ND	1.0	07/11/19 09:47	
Tetrachloroethene	ug/m3	ND	0.69	07/11/19 09:47	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	07/11/19 09:47	
Trichloroethene	ug/m3	ND	0.55	07/11/19 09:47	
Trichlorofluoromethane	ug/m3	ND	1.1	07/11/19 09:47	
Vinyl chloride	ug/m3	ND	0.26	07/11/19 09:47	

LABORATORY CONTROL SAMPLE: 3342289

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	55.2	99	70-130	
1,1,2-Trichloroethane	ug/m3	55.5	57.6	104	70-130	
1,1-Dichloroethane	ug/m3	41.1	41.4	101	70-130	
1,1-Dichloroethene	ug/m3	40.3	39.5	98	70-130	
1,2-Dichloroethane	ug/m3	41.1	40.4	98	70-130	
Chloroethane	ug/m3	26.8	25.4	95	70-130	
cis-1,2-Dichloroethene	ug/m3	40.3	41.1	102	70-130	
Dichlorodifluoromethane	ug/m3	50.3	48.3	96	70-130	
Tetrachloroethene	ug/m3	68.9	76.9	111	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	41.1	102	70-130	
Trichloroethene	ug/m3	54.6	57.1	105	70-130	
Trichlorofluoromethane	ug/m3	57.1	56.4	99	65-130	
Vinyl chloride	ug/m3	26	24.5	94	70-130	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 51-0367.00 Nor Lake
Pace Project No.: 10481997

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10481997001	**VS-1**	TO-15	618914		
10481997002	**VS-2**	TO-15	618914		
10481997003	**VS-3**	TO-15	618914		
10481997004	**VS-4**	TO-15	618914		
10481997005	**VS-5**	TO-15	618914		
10481997006	**VS-6**	TO-15	618914		
10481997007	**VS-7**	TO-15	618914		
10481997008	**VS-8**	TO-15	618914		
10481997009	**VS-9**	TO-15	618914		
10481997010	**VS-10**	TO-15	618914		

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AIR: CHAIN-OF-CUSTODY /

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WO# : 10481997

10481997

38717

Page: 1 of

Section A Required Client Information:

Company: Ayres Associates
Address: 3433 Oakwood Hills Pkwy
Eau Claire, WI 54701
Email To: banachm@ayresassociates.com
Phone: 7158317659 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Mitch Banach
Copy To: Aldrich@ayresassociates.com
Purchase Order No.:
Project Name: N. Lake
Project Number: 51-0367.00

Section C Invoice Information:

Attention: Same
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 39395 #2

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

Location of Sampling by State: WI

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

Report Level II. III. IV. Other

'Section D Required Client Information

AIR SAMPLE ID

Sample IDs MUST BE UNIQUE

Valid Media Codes

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

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	Canister Pressure (Initial Field - In Hg)	Canister Pressure (Final Field - In Hg)	Summa Can Number	Flow Control Number	Method: PM10	JC - Fixed Gas (%)	TO-3 BTEX	TO-3M (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
1	VS-1	1LC		7/2/19	1158	7/2/19	1207	29.5	2.0	2649	1203									X	001
2	VS-2				1148		1156	30.5	2.0	3141	0831										002
3	VS-3				1119		1126	30.0	2.5	2414	1130										003
4	VS-4				1128		1138	28.0	3.5	3197	0706										004
5	VS-5				1101		1108	29.0	3.0	2651	1684										005
6	VS-6				1052		1059	28.0	3.5	2078	1743										006
7	VS-7				1044		1051	29.0	3.0	2511	1822										007
8	VS-8				1016		1023	29.5	3.0	1793	1141										008
9	VS-9				1005		1012	27.5	3.0	3149	0795										009
10	VS-10	1LC		7/2/19	956	7/2/19	1003	27.0	2.0	2252	1625									X	010
11																					
12																					

Comments:

See previous two rounds for TO-15 analyte list.

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	07/02/19	1431	[signature] PACE	7/3/19 7/3/19 CMW	1030

SAMPLE CONDITIONS

—	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mitchell Banach

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 07/02/19

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 31Jan2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.18	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: AYRES ASSOCIATES

Project #: WO#: 10481997

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

Tracking Number: 1083 0178 3272, 3261

PM: JDD **Due Date:** 07/11/19

CLIENT: AYRES ASSOC.

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

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

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

Temp should be above freezing to 6°C **Correction Factor:** X **Date & Initials of Person Examining Contents:** 7/5/19 CMY

Type of ice Received ☐ Blue ☐ Wet ☒ None

		Comments:
Chain of Custody Present?	☒ Yes ☐ No	1.
Chain of Custody Filled Out?	☒ Yes ☐ No	2.
Chain of Custody Relinquished?	☒ Yes ☐ No	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No	7.
Sufficient Volume?	☒ Yes ☐ No	8.
Correct Containers Used?	☒ Yes ☐ No	9.
-Pace Containers Used?	☒ Yes ☐ No	
Containers Intact?	☒ Yes ☐ No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	☒ Yes ☐ No	12.
Do cans need to be pressurized (3C and ASTM 1946 DO NOT PRESSURIZE)?	☒ Yes ☐ No	13.

Samples Received: Pressure Gauge # ☐ 10AIR34 ☒ 10AIR35

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
VS-1	2649	1203	-2	-10	-9	3098	0795	-3	"
-2	3141	0831	-2	"	-10	2252	1625	-2	"
-3	2414	1130	-2.5	"					
-4	3197	0706	-4	"					
-5	2651	1684	-3	"					
-6	2078	1743	-2.5	"					
-7	2511	1822	-3	"					
-8	1793	1141	-2.5	"					

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Ann Asp **Date:** 7/5/19

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

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

December 04, 2019

Greg Aldrian
Ayres & Associates
3433 Oakwood Hills Parkway
P.O. Box 1590
Eau Claire, WI 54702

RE: Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Dear Greg Aldrian:
Enclosed are the analytical results for sample(s) received by the laboratory on November 22, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jared Dickinson
jared.dickinson@pacelabs.com
(612)607-1700
Project Manager

Enclosures

Pace Analytical Services, LLC
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Minneapolis, MN 55414
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CERTIFICATIONS

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE SUMMARY

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10500545001	**VS-1**	Air	11/21/19 11:14	11/22/19 11:40
10500545002	**VS-2**	Air	11/21/19 11:26	11/22/19 11:40
10500545003	**VS-3**	Air	11/21/19 11:45	11/22/19 11:40
10500545004	**VS-4**	Air	11/21/19 12:06	11/22/19 11:40
10500545005	**VS-5**	Air	11/21/19 12:27	11/22/19 11:40
10500545006	**VS-6**	Air	11/21/19 12:56	11/22/19 11:40
10500545007	**VS-7**	Air	11/21/19 01:15	11/22/19 11:40
10500545008	**VS-8**	Air	11/21/19 01:31	11/22/19 11:40
10500545009	**VS-9**	Air	11/21/19 01:48	11/22/19 11:40
10500545010	**VS-10**	Air	11/21/19 02:09	11/22/19 11:40

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10500545001	**VS-1**	TO-15	MJL	13	PASI-M
10500545002	**VS-2**	TO-15	MJL	13	PASI-M
10500545003	**VS-3**	TO-15	MJL	13	PASI-M
10500545004	**VS-4**	TO-15	MJL	13	PASI-M
10500545005	**VS-5**	TO-15	MJL	13	PASI-M
10500545006	**VS-6**	TO-15	MJL	13	PASI-M
10500545007	**VS-7**	TO-15	MJL	13	PASI-M
10500545008	**VS-8**	TO-15	MJL	13	PASI-M
10500545009	**VS-9**	TO-15	MJL	13	PASI-M
10500545010	**VS-10**	TO-15	MJL	13	PASI-M

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ANALYTICAL RESULTS

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Sample: VS-1 **Lab ID: 10500545001** Collected: 11/21/19 11:14 Received: 11/22/19 11:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<1.4**	ug/m3	2.9	1.4	5.47		12/02/19 15:32	75-00-3	
Dichlorodifluoromethane	**2.4J**	ug/m3	5.5	1.6	5.47		12/02/19 15:32	75-71-8	
1,1-Dichloroethane	**<1.2**	ug/m3	4.5	1.2	5.47		12/02/19 15:32	75-34-3	
1,2-Dichloroethane	**<0.82**	ug/m3	2.2	0.82	5.47		12/02/19 15:32	107-06-2	
1,1-Dichloroethene	**<1.5**	ug/m3	4.4	1.5	5.47		12/02/19 15:32	75-35-4	
cis-1,2-Dichloroethene	**<1.2**	ug/m3	4.4	1.2	5.47		12/02/19 15:32	156-59-2	
trans-1,2-Dichloroethene	**<1.6**	ug/m3	4.4	1.6	5.47		12/02/19 15:32	156-60-5	
Tetrachloroethene	**8.0**	ug/m3	3.8	1.7	5.47		12/02/19 15:32	127-18-4	
1,1,1-Trichloroethane	**6.2**	ug/m3	6.1	1.7	5.47		12/02/19 15:32	71-55-6	
1,1,2-Trichloroethane	**<1.3**	ug/m3	3.0	1.3	5.47		12/02/19 15:32	79-00-5	
Trichloroethene	**<1.4**	ug/m3	3.0	1.4	5.47		12/02/19 15:32	79-01-6	
Trichlorofluoromethane	**3.1J**	ug/m3	6.2	2.0	5.47		12/02/19 15:32	75-69-4	
Vinyl chloride	**<0.69**	ug/m3	1.4	0.69	5.47		12/02/19 15:32	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Sample: VS-2 **Lab ID: 10500545002** Collected: 11/21/19 11:26 Received: 11/22/19 11:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.50**	ug/m3	1.0	0.50	1.94		11/28/19 00:22	75-00-3	
Dichlorodifluoromethane	**1.8J**	ug/m3	2.0	0.57	1.94		11/28/19 00:22	75-71-8	
1,1-Dichloroethane	**<0.44**	ug/m3	1.6	0.44	1.94		11/28/19 00:22	75-34-3	
1,2-Dichloroethane	**<0.29**	ug/m3	0.80	0.29	1.94		11/28/19 00:22	107-06-2	
1,1-Dichloroethene	**<0.53**	ug/m3	1.6	0.53	1.94		11/28/19 00:22	75-35-4	
cis-1,2-Dichloroethene	**<0.42**	ug/m3	1.6	0.42	1.94		11/28/19 00:22	156-59-2	
trans-1,2-Dichloroethene	**<0.55**	ug/m3	1.6	0.55	1.94		11/28/19 00:22	156-60-5	
Tetrachloroethene	**118**	ug/m3	1.3	0.61	1.94		11/28/19 00:22	127-18-4	
1,1,1-Trichloroethane	**72.3**	ug/m3	2.2	0.60	1.94		11/28/19 00:22	71-55-6	
1,1,2-Trichloroethane	**<0.47**	ug/m3	1.1	0.47	1.94		11/28/19 00:22	79-00-5	
Trichloroethene	**1.2**	ug/m3	1.1	0.49	1.94		11/28/19 00:22	79-01-6	
Trichlorofluoromethane	**3.8**	ug/m3	2.2	0.71	1.94		11/28/19 00:22	75-69-4	
Vinyl chloride	**<0.24**	ug/m3	0.50	0.24	1.94		11/28/19 00:22	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Sample: VS-3 **Lab ID: 10500545003** Collected: 11/21/19 11:45 Received: 11/22/19 11:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.49**	ug/m3	1.0	0.49	1.87		11/27/19 23:52	75-00-3	
Dichlorodifluoromethane	**<0.55**	ug/m3	1.9	0.55	1.87		11/27/19 23:52	75-71-8	
1,1-Dichloroethane	**<0.42**	ug/m3	1.5	0.42	1.87		11/27/19 23:52	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/m3	0.77	0.28	1.87		11/27/19 23:52	107-06-2	
1,1-Dichloroethene	**<0.51**	ug/m3	1.5	0.51	1.87		11/27/19 23:52	75-35-4	
cis-1,2-Dichloroethene	**<0.41**	ug/m3	1.5	0.41	1.87		11/27/19 23:52	156-59-2	
trans-1,2-Dichloroethene	**<0.53**	ug/m3	1.5	0.53	1.87		11/27/19 23:52	156-60-5	
Tetrachloroethene	**307**	ug/m3	1.3	0.59	1.87		11/27/19 23:52	127-18-4	
1,1,1-Trichloroethane	**3.9**	ug/m3	2.1	0.58	1.87		11/27/19 23:52	71-55-6	
1,1,2-Trichloroethane	**<0.45**	ug/m3	1.0	0.45	1.87		11/27/19 23:52	79-00-5	
Trichloroethene	**<0.47**	ug/m3	1.0	0.47	1.87		11/27/19 23:52	79-01-6	
Trichlorofluoromethane	**3.9**	ug/m3	2.1	0.68	1.87		11/27/19 23:52	75-69-4	
Vinyl chloride	**<0.24**	ug/m3	0.49	0.24	1.87		11/27/19 23:52	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Sample: VS-4 **Lab ID: 10500545004** Collected: 11/21/19 12:06 Received: 11/22/19 11:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.49**	ug/m3	1.0	0.49	1.87		11/27/19 23:22	75-00-3	
Dichlorodifluoromethane	**<0.55**	ug/m3	1.9	0.55	1.87		11/27/19 23:22	75-71-8	
1,1-Dichloroethane	**<0.42**	ug/m3	1.5	0.42	1.87		11/27/19 23:22	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/m3	0.77	0.28	1.87		11/27/19 23:22	107-06-2	
1,1-Dichloroethene	**<0.51**	ug/m3	1.5	0.51	1.87		11/27/19 23:22	75-35-4	
cis-1,2-Dichloroethene	**<0.41**	ug/m3	1.5	0.41	1.87		11/27/19 23:22	156-59-2	
trans-1,2-Dichloroethene	**<0.53**	ug/m3	1.5	0.53	1.87		11/27/19 23:22	156-60-5	
Tetrachloroethene	**345**	ug/m3	1.3	0.59	1.87		11/27/19 23:22	127-18-4	
1,1,1-Trichloroethane	**0.87J**	ug/m3	2.1	0.58	1.87		11/27/19 23:22	71-55-6	
1,1,2-Trichloroethane	**<0.45**	ug/m3	1.0	0.45	1.87		11/27/19 23:22	79-00-5	
Trichloroethene	**<0.47**	ug/m3	1.0	0.47	1.87		11/27/19 23:22	79-01-6	
Trichlorofluoromethane	**3.7**	ug/m3	2.1	0.68	1.87		11/27/19 23:22	75-69-4	
Vinyl chloride	**<0.24**	ug/m3	0.49	0.24	1.87		11/27/19 23:22	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Sample: VS-5 **Lab ID: 10500545005** Collected: 11/21/19 12:27 Received: 11/22/19 11:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.47**	ug/m3	0.96	0.47	1.8		11/27/19 22:52	75-00-3	
Dichlorodifluoromethane	**1.1J**	ug/m3	1.8	0.53	1.8		11/27/19 22:52	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/m3	1.5	0.40	1.8		11/27/19 22:52	75-34-3	
1,2-Dichloroethane	**<0.27**	ug/m3	0.74	0.27	1.8		11/27/19 22:52	107-06-2	
1,1-Dichloroethene	**<0.49**	ug/m3	1.5	0.49	1.8		11/27/19 22:52	75-35-4	
cis-1,2-Dichloroethene	**<0.39**	ug/m3	1.5	0.39	1.8		11/27/19 22:52	156-59-2	
trans-1,2-Dichloroethene	**0.77J**	ug/m3	1.5	0.51	1.8		11/27/19 22:52	156-60-5	
Tetrachloroethene	**769**	ug/m3	24.8	11.3	36		11/30/19 12:27	127-18-4	
1,1,1-Trichloroethane	**<0.56**	ug/m3	2.0	0.56	1.8		11/27/19 22:52	71-55-6	
1,1,2-Trichloroethane	**<0.44**	ug/m3	1.0	0.44	1.8		11/27/19 22:52	79-00-5	
Trichloroethene	**<0.46**	ug/m3	0.98	0.46	1.8		11/27/19 22:52	79-01-6	
Trichlorofluoromethane	**4.7**	ug/m3	2.1	0.66	1.8		11/27/19 22:52	75-69-4	
Vinyl chloride	**<0.23**	ug/m3	0.47	0.23	1.8		11/27/19 22:52	75-01-4	

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ANALYTICAL RESULTS

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Sample: VS-6 **Lab ID: 10500545006** Collected: 11/21/19 12:56 Received: 11/22/19 11:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.45**	ug/m3	0.93	0.45	1.74		11/27/19 22:23	75-00-3	
Dichlorodifluoromethane	**8.5**	ug/m3	1.8	0.51	1.74		11/27/19 22:23	75-71-8	
1,1-Dichloroethane	**<0.39**	ug/m3	1.4	0.39	1.74		11/27/19 22:23	75-34-3	
1,2-Dichloroethane	**<0.26**	ug/m3	0.72	0.26	1.74		11/27/19 22:23	107-06-2	
1,1-Dichloroethene	**1.1J**	ug/m3	1.4	0.48	1.74		11/27/19 22:23	75-35-4	
cis-1,2-Dichloroethene	**<0.38**	ug/m3	1.4	0.38	1.74		11/27/19 22:23	156-59-2	
trans-1,2-Dichloroethene	**1.2J**	ug/m3	1.4	0.50	1.74		11/27/19 22:23	156-60-5	
Tetrachloroethene	**75.0**	ug/m3	1.2	0.55	1.74		11/27/19 22:23	127-18-4	
1,1,1-Trichloroethane	**90.9**	ug/m3	1.9	0.54	1.74		11/27/19 22:23	71-55-6	
1,1,2-Trichloroethane	**<0.42**	ug/m3	0.97	0.42	1.74		11/27/19 22:23	79-00-5	
Trichloroethene	**25.1**	ug/m3	0.95	0.44	1.74		11/27/19 22:23	79-01-6	
Trichlorofluoromethane	**8.6**	ug/m3	2.0	0.64	1.74		11/27/19 22:23	75-69-4	
Vinyl chloride	**<0.22**	ug/m3	0.45	0.22	1.74		11/27/19 22:23	75-01-4	

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ANALYTICAL RESULTS

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Sample: VS-7 **Lab ID: 10500545007** Collected: 11/21/19 01:15 Received: 11/22/19 11:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.44**	ug/m3	0.92	0.44	1.71		11/27/19 21:53	75-00-3	
Dichlorodifluoromethane	**0.87J**	ug/m3	1.7	0.50	1.71		11/27/19 21:53	75-71-8	
1,1-Dichloroethane	**<0.38**	ug/m3	1.4	0.38	1.71		11/27/19 21:53	75-34-3	
1,2-Dichloroethane	**<0.26**	ug/m3	0.70	0.26	1.71		11/27/19 21:53	107-06-2	
1,1-Dichloroethene	**<0.47**	ug/m3	1.4	0.47	1.71		11/27/19 21:53	75-35-4	
cis-1,2-Dichloroethene	**<0.37**	ug/m3	1.4	0.37	1.71		11/27/19 21:53	156-59-2	
trans-1,2-Dichloroethene	**3.6**	ug/m3	1.4	0.49	1.71		11/27/19 21:53	156-60-5	
Tetrachloroethene	**842**	ug/m3	23.6	10.7	34.2		11/30/19 12:55	127-18-4	
1,1,1-Trichloroethane	**<0.53**	ug/m3	1.9	0.53	1.71		11/27/19 21:53	71-55-6	
1,1,2-Trichloroethane	**<0.41**	ug/m3	0.95	0.41	1.71		11/27/19 21:53	79-00-5	
Trichloroethene	**<0.43**	ug/m3	0.93	0.43	1.71		11/27/19 21:53	79-01-6	
Trichlorofluoromethane	**4.4**	ug/m3	1.9	0.63	1.71		11/27/19 21:53	75-69-4	
Vinyl chloride	**<0.22**	ug/m3	0.44	0.22	1.71		11/27/19 21:53	75-01-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Sample: VS-8 **Lab ID: 10500545008** Collected: 11/21/19 01:31 Received: 11/22/19 11:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.44**	ug/m3	0.90	0.44	1.68		11/27/19 21:23	75-00-3	
Dichlorodifluoromethane	**2.5**	ug/m3	1.7	0.49	1.68		11/27/19 21:23	75-71-8	
1,1-Dichloroethane	**<0.38**	ug/m3	1.4	0.38	1.68		11/27/19 21:23	75-34-3	
1,2-Dichloroethane	**<0.25**	ug/m3	0.69	0.25	1.68		11/27/19 21:23	107-06-2	
1,1-Dichloroethene	**<0.46**	ug/m3	1.4	0.46	1.68		11/27/19 21:23	75-35-4	
cis-1,2-Dichloroethene	**<0.37**	ug/m3	1.4	0.37	1.68		11/27/19 21:23	156-59-2	
trans-1,2-Dichloroethene	**<0.48**	ug/m3	1.4	0.48	1.68		11/27/19 21:23	156-60-5	
Tetrachloroethene	**7.3**	ug/m3	1.2	0.53	1.68		11/27/19 21:23	127-18-4	
1,1,1-Trichloroethane	**<0.52**	ug/m3	1.9	0.52	1.68		11/27/19 21:23	71-55-6	
1,1,2-Trichloroethane	**<0.41**	ug/m3	0.93	0.41	1.68		11/27/19 21:23	79-00-5	
Trichloroethene	**<0.43**	ug/m3	0.92	0.43	1.68		11/27/19 21:23	79-01-6	
Trichlorofluoromethane	**5.0**	ug/m3	1.9	0.61	1.68		11/27/19 21:23	75-69-4	
Vinyl chloride	**<0.21**	ug/m3	0.44	0.21	1.68		11/27/19 21:23	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Sample: VS-9 **Lab ID: 10500545009** Collected: 11/21/19 01:48 Received: 11/22/19 11:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.44**	ug/m3	0.90	0.44	1.68		11/27/19 20:53	75-00-3	
Dichlorodifluoromethane	**2.6**	ug/m3	1.7	0.49	1.68		11/27/19 20:53	75-71-8	
1,1-Dichloroethane	**<0.38**	ug/m3	1.4	0.38	1.68		11/27/19 20:53	75-34-3	
1,2-Dichloroethane	**<0.25**	ug/m3	0.69	0.25	1.68		11/27/19 20:53	107-06-2	
1,1-Dichloroethene	**<0.46**	ug/m3	1.4	0.46	1.68		11/27/19 20:53	75-35-4	
cis-1,2-Dichloroethene	**<0.37**	ug/m3	1.4	0.37	1.68		11/27/19 20:53	156-59-2	
trans-1,2-Dichloroethene	**<0.48**	ug/m3	1.4	0.48	1.68		11/27/19 20:53	156-60-5	
Tetrachloroethene	**3.2**	ug/m3	1.2	0.53	1.68		11/27/19 20:53	127-18-4	
1,1,1-Trichloroethane	**<0.52**	ug/m3	1.9	0.52	1.68		11/27/19 20:53	71-55-6	
1,1,2-Trichloroethane	**<0.41**	ug/m3	0.93	0.41	1.68		11/27/19 20:53	79-00-5	
Trichloroethene	**<0.43**	ug/m3	0.92	0.43	1.68		11/27/19 20:53	79-01-6	
Trichlorofluoromethane	**2.4**	ug/m3	1.9	0.61	1.68		11/27/19 20:53	75-69-4	
Vinyl chloride	**<0.21**	ug/m3	0.44	0.21	1.68		11/27/19 20:53	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Sample: VS-10 **Lab ID: 10500545010** Collected: 11/21/19 02:09 Received: 11/22/19 11:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Chloroethane	**<0.49**	ug/m3	1.0	0.49	1.87		11/27/19 20:23	75-00-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.9	0.55	1.87		11/27/19 20:23	75-71-8	
1,1-Dichloroethane	**<0.42**	ug/m3	1.5	0.42	1.87		11/27/19 20:23	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/m3	0.77	0.28	1.87		11/27/19 20:23	107-06-2	
1,1-Dichloroethene	**<0.51**	ug/m3	1.5	0.51	1.87		11/27/19 20:23	75-35-4	
cis-1,2-Dichloroethene	**<0.41**	ug/m3	1.5	0.41	1.87		11/27/19 20:23	156-59-2	
trans-1,2-Dichloroethene	**<0.53**	ug/m3	1.5	0.53	1.87		11/27/19 20:23	156-60-5	
Tetrachloroethene	**1.8**	ug/m3	1.3	0.59	1.87		11/27/19 20:23	127-18-4	
1,1,1-Trichloroethane	**<0.58**	ug/m3	2.1	0.58	1.87		11/27/19 20:23	71-55-6	
1,1,2-Trichloroethane	**<0.45**	ug/m3	1.0	0.45	1.87		11/27/19 20:23	79-00-5	
Trichloroethene	**<0.47**	ug/m3	1.0	0.47	1.87		11/27/19 20:23	79-01-6	
Trichlorofluoromethane	**2.0J**	ug/m3	2.1	0.68	1.87		11/27/19 20:23	75-69-4	
Vinyl chloride	**<0.24**	ug/m3	0.49	0.24	1.87		11/27/19 20:23	75-01-4	

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

QC Batch: 647683 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10500545001

METHOD BLANK: 3484854 Matrix: Air
Associated Lab Samples: 10500545001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.31	1.1	12/02/19 09:03	
1,1,2-Trichloroethane	ug/m3	<0.24	0.56	12/02/19 09:03	
1,1-Dichloroethane	ug/m3	<0.22	0.82	12/02/19 09:03	
1,1-Dichloroethene	ug/m3	<0.27	0.81	12/02/19 09:03	
1,2-Dichloroethane	ug/m3	<0.15	0.41	12/02/19 09:03	
Chloroethane	ug/m3	<0.26	0.54	12/02/19 09:03	
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	12/02/19 09:03	
Dichlorodifluoromethane	ug/m3	<0.29	1.0	12/02/19 09:03	
Tetrachloroethene	ug/m3	<0.31	0.69	12/02/19 09:03	
trans-1,2-Dichloroethene	ug/m3	<0.28	0.81	12/02/19 09:03	
Trichloroethene	ug/m3	<0.25	0.55	12/02/19 09:03	
Trichlorofluoromethane	ug/m3	<0.37	1.1	12/02/19 09:03	
Vinyl chloride	ug/m3	<0.13	0.26	12/02/19 09:03	

LABORATORY CONTROL SAMPLE: 3484855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	51.8	93	70-130	
1,1,2-Trichloroethane	ug/m3	55.5	56.9	103	70-130	
1,1-Dichloroethane	ug/m3	41.1	40.2	98	70-130	
1,1-Dichloroethene	ug/m3	40.3	39.2	97	70-130	
1,2-Dichloroethane	ug/m3	41.1	41.7	101	70-130	
Chloroethane	ug/m3	26.8	27.2	102	70-130	
cis-1,2-Dichloroethene	ug/m3	40.3	40.8	101	70-130	
Dichlorodifluoromethane	ug/m3	50.3	47.9	95	70-130	
Tetrachloroethene	ug/m3	68.9	67.5	98	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	39.5	98	70-130	
Trichloroethene	ug/m3	54.6	51.1	94	70-130	
Trichlorofluoromethane	ug/m3	57.1	53.8	94	65-130	
Vinyl chloride	ug/m3	26	25.9	100	70-130	

SAMPLE DUPLICATE: 3485223

Parameter	Units	10500662001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<0.44		25	
1,1,2-Trichloroethane	ug/m3	ND	<0.35		25	
1,1-Dichloroethane	ug/m3	ND	<0.32		25	
1,1-Dichloroethene	ug/m3	ND	<0.39		25	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

SAMPLE DUPLICATE: 3485223

Parameter	Units	10500662001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/m3	ND	<0.22		25	
Chloroethane	ug/m3	ND	<0.37		25	
cis-1,2-Dichloroethene	ug/m3	ND	<0.32		25	
Dichlorodifluoromethane	ug/m3	91.4	89.5	2	25	
Tetrachloroethene	ug/m3	2.6	2.7	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.41		25	
Trichloroethene	ug/m3	ND	<0.36		25	
Trichlorofluoromethane	ug/m3	2.5	2.3	5	25	
Vinyl chloride	ug/m3	ND	<0.18		25	

SAMPLE DUPLICATE: 3485224

Parameter	Units	10500662002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<0.36		25	
1,1,2-Trichloroethane	ug/m3	ND	<0.29		25	
1,1-Dichloroethane	ug/m3	ND	<0.27		25	
1,1-Dichloroethene	ug/m3	ND	<0.32		25	
1,2-Dichloroethane	ug/m3	ND	<0.18		25	
Chloroethane	ug/m3	ND	<0.31		25	
cis-1,2-Dichloroethene	ug/m3	ND	<0.26		25	
Dichlorodifluoromethane	ug/m3	33.1	33.2	0	25	
Tetrachloroethene	ug/m3	12.0	12.3	2	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.34		25	
Trichloroethene	ug/m3	ND	<0.30		25	
Trichlorofluoromethane	ug/m3	ND	1.2J		25	
Vinyl chloride	ug/m3	ND	<0.15		25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 51-0367.10 NOR LAKE
Pace Project No.: 10500545

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10500545001	**VS-1**	TO-15	647683		
10500545002	**VS-2**	TO-15	647401		
10500545003	**VS-3**	TO-15	647401		
10500545004	**VS-4**	TO-15	647401		
10500545005	**VS-5**	TO-15	647401		
10500545006	**VS-6**	TO-15	647401		
10500545007	**VS-7**	TO-15	647401		
10500545008	**VS-8**	TO-15	647401		
10500545009	**VS-9**	TO-15	647401		
10500545010	**VS-10**	TO-15	647401		

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AIR: CHAIN-OF-CUSTO

The Chain-of-Custody is a LEGAL DOCUMENT. Al

WO# : 10500545

10500545

48163

Page: of

Section A Required Client Information:

Company: AYRES ASSOCIATES
Address: 3433 OAKWOOD PKY
EAU CLAIRE, WI 54701
Email To: AUBREY.GALBRAITH@AYRESASSOCIATES.COM
Phone: 715-834-3161 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: GREG ALBRIAN
Copy To:
Purchase Order No.:
Project Name: NOR-LAKE
Project Number: 51-0367-10

Section C Invoice Information:

Attention:
Company Name: SAME
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 39395 #7

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

Location of Sampling by State: WI

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level: II. III. IV. Other

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

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

Method: PM10 | 3C - Fixed Gas (%) | TO-3 BTEX | TO-3M (Methane) | TO-14 | TO-15 Full List VOCs | TO-15 Short List BTEX | TO-15 Short List Chlorinated | TO-15 Short List (other)

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Pace Lab ID
1	VS-1	1LC		11/21/19	11:05	11/21/19	11:14	28.0	3.0	3319	0773	001
2	VS-2				11:16		11:26	29.0	2.0	1108	2372	002
3	VS-3				11:35		11:45	29.5	3.0	2014	1825	003
4	VS-4				11:55		12:06	29.5	3.0	2247	1712	004
5	VS-5				12:16		12:27	29.0	1.0	2236	0796	005
6	VS-6				12:40		12:56	29.5	1.0	3150	1636	006
7	VS-7				1:04		1:15	28.5	3.0	2442	1660	007
8	VS-8				1:26		1:31	29.5	3.0	2399	0625	008
9	VS-9				1:40		1:48	29.0	2.0	1150	0617	009
10	VS-10				2:00		2:07	29.5	3.0	2521	2279	010
11												
12												

Comments :

RUN SAME TO-15 ANALYTES AS THE 3RD SAMPLING EVENT

ORIGINAL

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	11/21/19	4:30	FEDEX	11/21/19	4:30
			WOL Pace	11/22/19	11:40

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: GREG ALBRIAN

SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY): 11/21/19

Pace Analytical®	Document Name: Air Sample Condition Upon Receipt	Document Revised: 14Oct2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.19	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: AYRES ASSO.

Project #: WO# : 10500545

PM: JDD Due Date: 12/03/19

CLIENT: AYRES ASSOC.

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

Tracking Number: 1083 0282 4162

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

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

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

Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** WD 11/22/19

Type of ice Received ☐ Blue ☐ Wet ☑ None

		Comments:
Chain of Custody Present?	☑ Yes ☐ No	1.
Chain of Custody Filled Out?	☑ Yes ☐ No	2.
Chain of Custody Relinquished?	☑ Yes ☐ No	3.
Sampler Name and/or Signature on COC?	☑ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes ☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☑ No	6.
Rush Turn Around Time Requested?	☐ Yes ☑ No	7.
Sufficient Volume?	☑ Yes ☐ No	8.
Correct Containers Used? -Pace Containers Used?	☑ Yes ☐ No ☑ Yes ☐ No	9.
Containers Intact?	☑ Yes ☐ No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	☑ Yes ☐ No	12. VS-7 Can# is wrong on CoC CANS WERE NOT LABELED, SORTED BY CAN#
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☑ Yes ☐ No	13.

Gauge # ☐ 10AIR26 ☑ 10AIR34 ☐ 10AIR35 ☐ 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
VS-1	3191	0873	-2	Ho	VS-9	1150	0617	0	Ho
VS-2	1108	2372	-4	Ho	VS-10	2521	2279	-3	Ho
VS-3	2011	1825	-3	Ho					
VS-4	2247	1712	-3	Ho					
VS-5	2230	0796	-2	Ho					
VS-6	3150	1636	-1	Ho					
VS-7	2422	1660	-0.5	Ho					
VS-8	2399	0625	0	Ho					

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** 11/25/19

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