

1 SHORE ROAD  
GLENWOOD LANDING, NEW YORK  
FORMER PENETREX PROCESSING  
SITE # 1-30-034

## INDOOR AIR QUALITY ASSESSMENT 2020

**SUBMITTED TO:**



New York State Department of Environmental Conservation  
Division of Environmental Remediation  
Remedial Bureau A, Section C  
625 Broadway  
Albany, New York 12233

**PREPARED FOR:**

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PWGC Project Number: PEN1101

**DECEMBER 2020**



**2020 INDOOR AIR QUALITY ASSESSMENT  
1 SHORE ROAD, GLENWOOD LANDING, NEW YORK**

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## 1.0 INTRODUCTION

P.W. Grosser Consulting, Inc. (PWGC) has prepared this report to document the results of the 2020 Indoor Air Quality (IAQ) Assessment that occurred on November 24, 2020 at 1 Shore Road, Glenwood Landing, New York. The site is currently listed as a New York State Department of Environmental Conservation (NYSDEC) Class IV inactive hazardous waste disposal site identified as I.D. No. 130034.

The site history has been documented in the prior submitted report, entitled *Periodic Review Report (PRR)* dated October 2020.

## 2.0 AIR SAMPLING

PWGC mobilized to the site on November 24, 2020 to perform the annual indoor air sampling during the heating season as per the 2015 Site Management Plan (SMP). Ambient indoor air monitoring is performed within the two on-site buildings to confirm that the two Sub Slab Depressurization Systems (SSDs) are mitigating vapor intrusion; see as built designs located in **Appendix A**. Additionally, one ambient outdoor air sample is collected from an upwind location to determine the contribution of off-site Volatile Organic Chemical (VOC) sources on indoor air quality. If indoor air concentrations exceed New York State Department of Health (NYSDOH) Indoor Air Guidance Levels for PCE ( $30 \mu\text{g}/\text{m}^3$ ) or TCE ( $2 \mu\text{g}/\text{m}^3$ ), the source of the VOCs will need to be determined and measures may need to be implemented to mitigate the air quality.

In addition to the outlined air sampling specified in the 2015 SMP, three additional soil vapor samples were collected from three of the previously installed vacuum monitoring points as per recommendations made in PWGC's Periodic Review Report submitted to the NYSDEC in October 2020.

### 2.1 Vacuum Readings

Vacuum readings from the four vacuum monitoring points in the commercial space and one vacuum reading point in the residential home were collected prior to the start of the air sampling. Negative pressure was recorded in each monitoring point, which ranged from -0.014 to -0.035 inches of water column, indicating that both SSDs are sufficiently creating a vacuum beneath the two buildings.

### 2.2 Air Sampling

A total of six ambient air samples were collected concurrently by PWGC which included five indoor air samples (one sample from each of the four main ground floor spaces in the commercial building and one from the basement of the residential home) and one outdoor air sample. Three additional soil vapor samples were



collected from two vacuum monitoring points in the commercial space and the vacuum monitoring point in the residential home. The vacuum monitoring points chosen to be sampled within the commercial space were based on elevated methylene chloride levels observed at those corresponding indoor air samples during the last indoor air sampling event in 2019. The sampling was performed in accordance with the site-specific SMP and the NYSDOH Vapor Intrusion Guidance.

Each of the indoor air samples was collected from a height representing the breathing zone (between three and five feet above the floor). The outdoor air sample was collected from approximately three feet above the ground and placed in the up-wind direction for that day.

Samples were collected into 2.7-liter Summa® vacuum canisters fitted with 1-hour flow controllers. The canisters were batch certified clean by the laboratory. The samples were submitted to Alpha Analytical Laboratories for analysis of VOCs by USEPA Method TO-15-SIM for the ambient air samples and TO-15 for the soil vapor samples.

A site plan illustrating the location of the sampling areas is included as **Figure 1**.

### **2.3 Air Sampling Results**

PCE was detected in the indoor air sample (IA001) in the residential home at a concentration of 2.27  $\mu\text{g}/\text{m}^3$ . This concentration is significantly less than the AGV for PCE at 30  $\mu\text{g}/\text{m}^3$ . TCE was not detected at concentrations greater than laboratory detection limits in IA001. SV001 was collected from the vacuum monitoring point in the basement of the residential home and corresponds to IA001. PCE and TCE were not detected at concentrations greater than laboratory detection limits.

PCE was detected in one of the four indoor air samples (IA003) in the commercial space at 0.163  $\mu\text{g}/\text{m}^3$ . This value is also significantly less than the AGV for PCE at 30  $\mu\text{g}/\text{m}^3$ . TCE was not detected at concentrations greater than laboratory detection limits in the indoor ambient air samples collected in the commercial space. Methylene Chloride was detected in the four ambient indoor air samples in the commercial space. Three samples (IA002 through IA004) had detections at concentrations greater than the AGV value of 60  $\mu\text{g}/\text{m}^3$  that ranged from 102  $\mu\text{g}/\text{m}^3$  to 2,140  $\mu\text{g}/\text{m}^3$ . SV002 and SV003 were collected from two of the vacuum monitoring points in the commercial space and correspond to IA003 and IA004. PCE was detected at 2.9  $\mu\text{g}/\text{m}^3$  in SV002 and 5.1  $\mu\text{g}/\text{m}^3$  in SV003. These concentrations are less than the lower sub-slab concentration range (less than 100  $\mu\text{g}/\text{m}^3$ ) on the



NYSDOH matrix for PCE. TCE was not detected at concentrations greater than laboratory detection limits. Methylene Chloride was detected at a concentration of 148  $\mu\text{g}/\text{m}^3$  in SV002 and 59.1  $\mu\text{g}/\text{m}^3$  in SV003.

Sampling results are summarized on **Table 1**. The complete analytical data package is included in **Appendix B**.

### 2.3.1 *Air Sampling Discussion*

Generally, concentrations of PCE and TCE from the November 24, 2020 sampling event were similar to previous sampling events in the residential and commercial spaces.

PCE and TCE sub-slab concentrations beneath the residential home were not detected at concentrations greater than laboratory detection limits, indicating that a substantial source of PCE and TCE in the soil vapor does not exist. This is consistent with the overall reduction in CVOC contaminate concentrations in the groundwater beneath the site which is the source of soil vapor.

Additionally, TCE sub-slab concentrations beneath the commercial space were not detected at concentrations greater than laboratory detection limits. PCE sub-slab concentrations beneath the commercial space were relatively low (2.9  $\mu\text{g}/\text{m}^3$  and 5.1  $\mu\text{g}/\text{m}^3$ ). This again indicates that a substantial source of PCE and TCE in the soil vapor does not exist and is consistent with the overall reduction in CVOC contaminate concentrations in the groundwater beneath the site which is the source of soil vapor.

Methylene Chloride was detected at concentrations greater than the AGV in the commercial space in past sampling events. The first detection of methylene chloride above its respective AGV value was during the first indoor air sampling event which took place in August 2005. The commercial building was then occupied by Parabit Manufacturing. Parabit manufactured automated teller machines and stored among several chemicals, including methylene chloride.

Methylene Chloride was subsequently not detected at a concentration greater than its AGV values during the May 2006 indoor air sampling event when Parabit no longer occupied the building. It was also not detected during the annual IAQs from 2015 through 2017.

Methylene Chloride was then detected at a concentration greater than its AGV value again in April 3, 2018 and March 15, 2019 in the commercial space; as well as during this current sampling event in the commercial space. Methylene chloride is not a target compound for the historical remediation of this site.



The current tenant in the commercial space is a wood working shop and has been present since 2018. During the chemical inventory on November 24, 2020, multiple 5-gallon containers of Formica Exterior Golden Glue was observed, as well as other open homemade containers of the substance. This substance is 70-90% Methylene Chloride by molecular weight and is believed to be the main source of the Methylene Chloride exceedances in the Indoor Air Concentrations and the Soil Vapor in the commercial space which is currently utilized as a woodworking factory. The Safety Data Sheet for Formica Exterior Golden Glue is included in **Appendix C**.

### **3.0 CONCLUSIONS AND RECOMMENDATIONS**

#### **3.1 Conclusions**

This report documents the indoor air quality assessment performed on November 24, 2020. The assessment included the collection of vacuum reading measurements from the five onsite vacuum reading points, the collection of one indoor air and sub-slab sample in the residential home, the collection of four indoor air and two sub-slab samples in the commercial space, and collection of an outdoor air sample.

Vacuum readings from the four vacuum monitoring points in the commercial space and one vacuum reading point in the residential home were collected prior to the start of the air sampling. Negative pressure was recorded in each monitoring point, which ranged from -0.014 to -0.035 inches of water column, indicating that the two SSDS are sufficiently creating a vacuum beneath the commercial and residential buildings.

Based on the air analytical data, the current concentrations of VOCs in the indoor air at the residential home on the site does not represent a concern. The SSDS at the residential home seems to be functioning correctly and is protecting the occupants against the potential for vapor intrusion.

The SSDS at the commercial building seems to be functioning correctly and is protecting the occupants against the potential for vapor intrusion.

The elevated concentrations of Methylene Chloride seem to be emanating from the current tenant's use of Formica Exterior Golden Glue.

#### **3.2 Recommendations**

At this time, PWGC offers the following recommendations for the site:



- Continue annual ambient indoor and outdoor monitoring with the next sampling event scheduled during the heating season in or about November 2021.



#### 4.0 REFERENCES

P.W. Grosser Consulting, *Site Management Plan*, 2015

P.W. Grosser Consulting, *Periodic Review Report*, October 2020

New York State Department of Health, *Vapor Intrusion Guidance*, October 2006





## FIGURES



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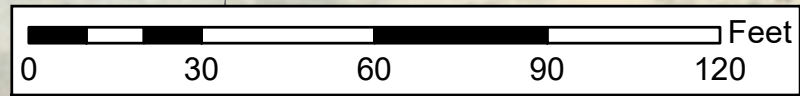
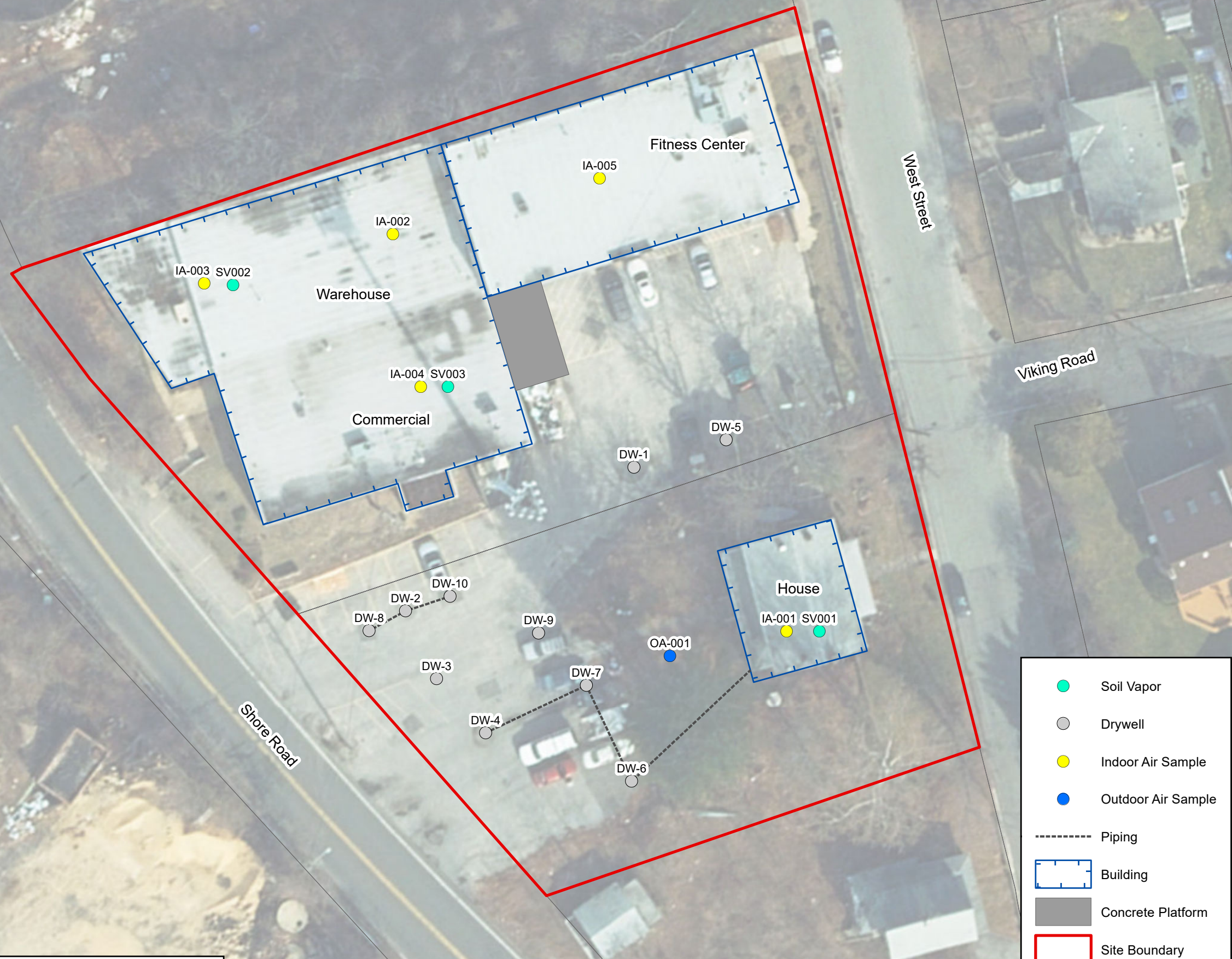

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

Project:	PEN1101	Designed by:	JFC
Date:	12/18/2020	Drawn by:	TJS
Scale:	AS SHOWN	Approved by:	JFC

## Air Sample Locations

1 Shore Rd  
Glenwood Landing, NY



SV001 was sampled on March 15, 2019.

- Soil Vapor
- Drywell
- Indoor Air Sample
- Outdoor Air Sample
- Piping
- Building
- Concrete Platform
- Site Boundary
- Tax Lot Boundary



## TABLE



Table 1  
November 2020 VOC Air Analytical Data  
1 Shore Road, Glenwood Landing, NY

Location: Sample ID: Corresponding IA Sampling Date: Lab Sample ID: Sample Type:	NYSDOH AGV	Residential IA001 N/A 11/24/2020 L2052671-01 Indoor Air	Commercial IA002 N/A 11/24/2021 L2052671-02 Indoor Air	Commercial IA003 N/A 11/24/2022 L2052671-03 Indoor Air	Commercial IA004 N/A 11/24/2023 L2052671-04 Indoor Air	Commercial IA005 N/A 11/24/2024 L2052671-05 Indoor Air	Residential SV001 IA001 11/24/2025 L2052671-06 Soil Vapor	Commercial SV002 IA003 11/24/2026 L2052671-07 Soil Vapor	Commercial SV003 IA004 11/24/2027 L2052671-08 Soil Vapor	Outdoor Air OA001 N/A 11/24/2028 L2052671-09 Outdoor Air
Volatile Organic Compounds (µg/m <sup>3</sup> )										
1,1,1-Trichloroethane	NS	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	1.09 U	1.09 U	1.09 U	0.109 U
1,1,2,2-Tetrachloroethane	NS	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U
1,1,2-Trichloroethane	NS	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U
1,1-Dichloroethane	NS	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U
1,1-Dichloroethene	NS	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.793 U	0.793 U	0.793 U	0.079 U
1,2,4-Trichlorobenzene	NS	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U
1,2,4-Trimethylbenzene	NS	0.983 U	0.983 U	1.58	0.983 U	0.983 U	2.58	3.45	0.983 U	0.983 U
1,2-Dibromoethane	NS	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U
1,2-Dichlorobenzene	NS	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,2-Dichloroethane	NS	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U
1,2-Dichloropropane	NS	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U
1,3,5-Trimethylbenzene	NS	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U
1,3-Butadiene	NS	0.442 U	0.442 U	0.442 U	0.442 U	0.442 U	0.442 U	0.442 U	0.442 U	0.442 U
1,3-Dichlorobenzene	NS	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dichlorobenzene	NS	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dioxane	NS	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U
2,2,4-Trimethylpentane	NS	0.934 U	0.934 U	0.934 U	0.934 U	0.934 U	3.73	3.2	0.934 U	0.934 U
2-Butanone	NS	1.47 U	4.78	5.66	2.75	75.2	2.72	2.8	2.75	1.47 U
2-Hexanone	NS	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
3-Chloropropene	NS	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U
4-Ethyltoluene	NS	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U
4-Methyl-2-pentanone	NS	2.05 U	12.8	16.9	9.92	241	2.85	4.02	8.81	2.05 U
Acetone	NS	9.67	72.5	82.7	42.5	782	12.5	16.7	41.8	3.75
Benzene	NS	0.639 U	0.811	0.751	0.639 U	0.639 U	1.82	1.79	0.639 U	0.639 U
Benzyl chloride	NS	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U
Bromodichloromethane	NS	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U
Bromoform	NS	2.07 U	2.07 U	2.07 U	2.07 U	2.07 U	2.07 U	2.07 U	2.07 U	2.07 U
Bromomethane	NS	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U
Carbon disulfide	NS	0.623 U	0.623 U	0.623 U	0.623 U	0.623 U	0.623 U	0.623 U	0.623 U	0.623 U
Carbon tetrachloride	NS	0.428	0.478	0.478	0.434	0.403 U	1.26 U	1.26 U	1.26 U	0.079 U
Chlorobenzene	NS	0.921 U	0.921 U	0.921 U	0.921 U	0.921 U	0.921 U	0.921 U	0.921 U	0.921 U
Chloroethane	NS	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U
Chloroform	NS	0.977 U	0.977 U	0.977 U	0.977 U	0.977 U	0.977 U	0.977 U	0.977 U	0.977 U
Chloromethane	NS	0.952	1.02	0.968	0.927	0.968	1.06	0.413 U	1.04	0.977
cis-1,2-Dichloroethene	NS	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.793 U	0.793 U	0.793 U	0.079 U
cis-1,3-Dichloropropene	NS	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U
Cyclohexane	NS	0.688 U	0.688 U	0.688 U	0.688 U	0.688 U	1.46	1.46	0.688 U	0.688 U
Dibromochloromethane	NS	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Dichlorodifluoromethane	NS	2.31	2.33	2.22	2.29	2.28	2.56	2.41	2.37	2.32
Ethanol	NS	11.9	136	132	113	522	49.7	70.1	45.6	9.42 U
Ethyl Acetate	NS	1.8 U	37.5	48.6	18.3	307	1.8 U	2.21	10.6	1.8 U
Ethylbenzene	NS	0.869 U	14.5	19.4	3.6	48.2	2.6	3.5	2.36	0.869 U
Freon-113	NS	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U
Freon-114	NS	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Heptane	NS	0.82 U	0.82 U	0.82 U	0.82 U	1.73	2.98	2.9	0.82 U	0.82 U
Hexachlorobutadiene	NS	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U
Isopropanol	NS	1.23 U	12.1	14.8	13	477	6.15	9.54	13.3	1.23 U
Methyl tert butyl ether	NS	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U
Methylene chloride	60	1.74 U	2140	5490	102	16.4	31.4	148	59.1	11.6
n-Hexane	NS	0.705 U	8.11	13.7	0.705 U	1.26	3.88	4.9	1.06	0.705 U
o-Xylene	NS	0.869 U	18	23.8	4.2	43.4	2.78	3.92	2.91	0.869 U
p/m-Xylene	NS	1.74 U	73	96	19.5	202	10.6	16.6	12.6	1.74 U
Styrene	NS	0.852 U	1.51	1.47	0.852 U	4.16	0.852 U	0.852 U	0.852 U	0.852 U
Tetrachloroethene	30	2.27	0.149 U	0.163	0.136 U	0.176 U	1.36 U	2.9	5.1	0.136 U
Tetrahydrofuran	NS	1.47 U	2.21	3.07	1.47 U	1.47 U	1.47 U	1.47 U	3.01	1.47 U
Toluene	NS	6.48	186	237	108	2200	18.7	41.1	105	1.09
trans-1,2-Dichloroethene	NS	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U
trans-1,3-Dichloropropene	NS	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U
Trichloroethene	2	0.107 U	0.107 U	0.107 U	0.107 U	0.107 U	1.07 U	1.07 U	1.07 U	0.107 U
Trichlorofluoromethane	NS	1.28	1.19	1.19	1.28	1.25	1.49	1.39	1.33	1.26
Vinyl bromide	NS	0.874 U	0.874 U	0.874 U	0.874 U	0.874 U	0.874 U	0.874 U	0.874 U	0.874 U
Vinyl chloride	NS	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.511 U	0.511 U	0.511 U	0.051 U

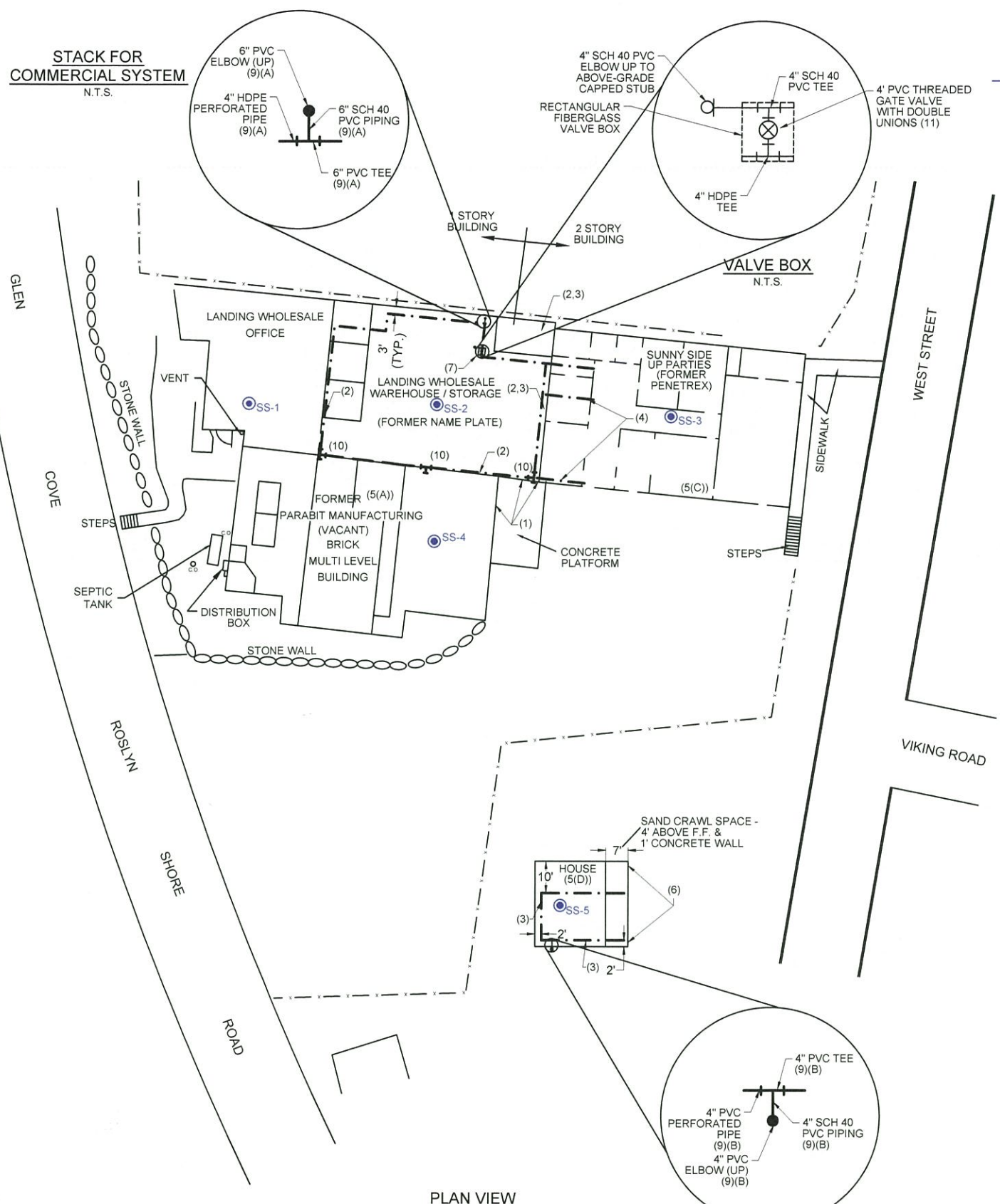
Notes:  
1 - Air Guideline Values, NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (applies to indoor/ambient air only)  
J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL).  
U - Not detected at the reported detection limit for the sample.  
Shaded text denotes indoor air concentrations exceed NYSDOH AGV



**APPENDIX A**

**SSDS As Built Designs**



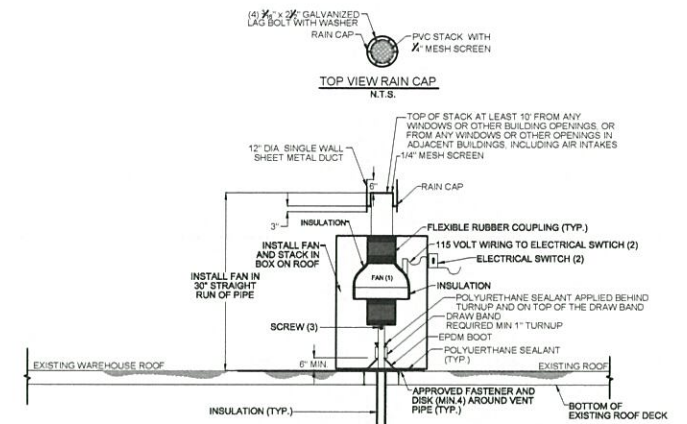


PLAN VIEW



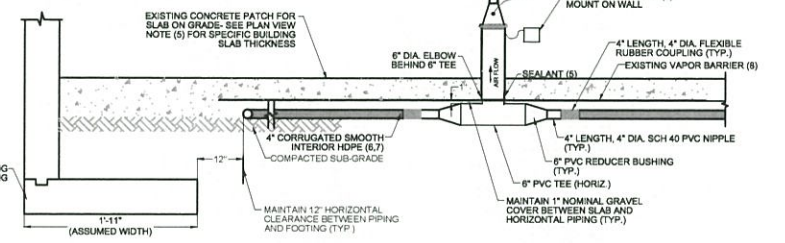
- LEGEND**
- SOLID PIPE
  - - - PERFORATED PIPE
  - SS-2 SUB-SLAB VAPOR SAMPLING LOCATION

- NOTES:**
1. THE LAND WHOLESALE WAREHOUSE, SUNNY SIDE UP PARTIES, AND PARABIT MANUFACTURING BUILDINGS ARE ASSUMED TO HAVE SEPARATE FOUNDATIONS.
  2. INSTALL HDPE PERFORATED PIPING 3' FROM INTERIOR WALL. THIS ASSUMES FOOTINGS ARE 2' WIDE, FROM THE INTERIOR WALLS, AND THEREFORE THE PIPING IS 12" INSIDE OF THE FOOTINGS.
  3. INSTALL 4" DIA. SCH 40 PVC SOLID PIPE IN SAME TRENCH AS HDPE PERFORATED PIPE W/ 12" OF CLEARANCE FROM FOUNDATION WALL.
  4. INSTALL 3-15' SECTIONS OF 4" PVC PERFORATED PIPE W/ CAPPED ENDS. REFER TO CONSTRUCTION DETAILS (THIS SHEET). REMOVE CYLINDRICAL SECTIONS OF SOIL WITH HIGH PRESSURE AIR TO INSTALL PIPE.
  5. (A) 10" THICK EXIST. CONCRETE SLAB WITH VAPOR BARRIER. (B) 11" THICK EXIST. CONCRETE SLAB WITH VAPOR BARRIER. (C) 11" THICK EXIST. CONCRETE SLAB WITH VAPOR BARRIER. (D) 4" THICK EXIST. CONCRETE SLAB.
  6. INSTALL 2-8' SECTIONS OF 4" PVC PERFORATED PIPE. REFER TO (4) ABOVE FOR INSTALLATION DETAILS.
  7. INSTALL CAPPED STUB OF 4" PVC SOLID PIPE 4" ABOVE F.F. FOR POSSIBLE FUTURE CONNECTION TO STACK & FAN. FAN & STACK WILL BE INSTALLED IF CONTAMINANT CONCENTRATIONS BENEATH THE SUNNY SIDE SLAB ARE NOT REDUCED WITHIN THE TIME INDICATED BY THE SAMPLING PLAN. AT THAT TIME, THE GATE VALVE WHICH ALLOWS FLOW FROM THE SUNNY SIDE SYSTEM INTO THE LANDING SYSTEM WILL BE CLOSED, ISOLATING THE TWO SYSTEMS.
  8. INSTALL 4" CAPPED STUB FOR POSSIBLE FUTURE EXPANSION ON SOUTH SIDE OF BUILDING.
  9. (A) FOR DETAILS OF THE 6" PVC TEE, CONNECTING HORIZONTAL PIPING, VERTICAL PIPING, ABOVE GRADE EQUIPMENT & THE EXHAUST STACK, REFER TO SUB-SLAB DE-PRESSURIZATION SYSTEM DETAIL FOR COMMERCIAL BUILDINGS (THIS SHEET). (B) FOR DETAILS OF THE 4" PVC TEE, CONNECTING HORIZONTAL PIPING, VERTICAL PIPING, ABOVE GRADE EQUIPMENT & THE EXHAUST STACK, REFER TO SUB-SLAB DE-PRESSURIZATION SYSTEM-DETAIL FOR RESIDENTIAL BUILDING (THIS SHEET).
  10. INSTALL 4" HDPE TEES FOR POSSIBLE FUTURE EXPANSION OF SYSTEM.
  11. INFILTEC WWM-93C OR APPROVED EQUAL. CONNECT POWER SUPPLY FOR MONITOR ON DEDICATED CIRCUIT.

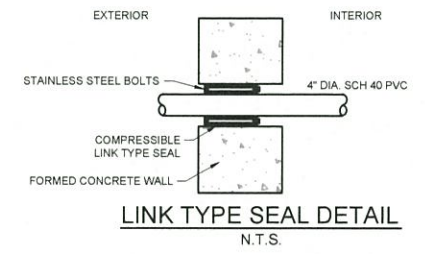


**NOTES FOR VERTICAL PIPING / STACK AT COMMERCIAL BUILDINGS:**

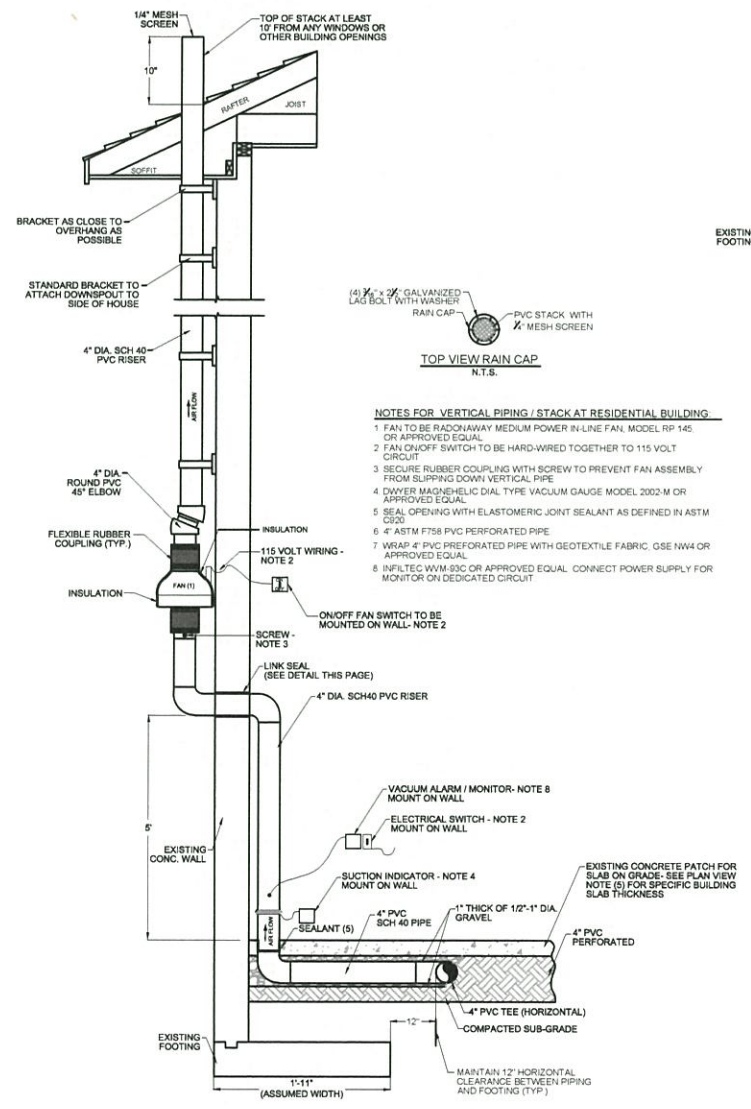
1. FAN TO BE RADONWAY HIGH-FLOW IN-LINE FAN, MODEL RP 205 OR APPROVED EQUAL.
2. FAN ON/OFF SWITCH TO BE HARD-WIRED TOGETHER TO 115 VOLT CIRCUIT.
3. SECURE RUBBER COUPLING WITH SCREW TO PREVENT FAN ASSEMBLY FROM SLIPPING DOWN VERTICAL PIPE.
4. DWYER MAGNETIC DIAL TYPE VACUUM GAUGE MODEL 2002-M OR APPROVED EQUAL.
5. SEAL OPENING WITH ELASTOMERIC JOINT SEALANT AS DEFINED IN ASTM D520.
6. HIGH DENSITY POLYETHYLENE CORRUGATED PERFORATED PIPE WITH SMOOTH INTERIOR WATERWAY. ADS 1-12 OR APPROVED EQUAL.
7. WRAP 4" HDPE PIPE WITH GEOTEXTILE FABRIC. GSE NW4 OR APPROVED EQUAL.
8. IF EXISTING VAPOR BARRIER IS DAMAGED DURING CONCRETE SLAB CUTTING, REPLACE W/ 4 MIL HDPE OR 10 MIL PE VAPOR BARRIER.
9. INFILTEC WWM-93C OR APPROVED EQUAL. CONNECT POWER SUPPLY FOR MONITOR ON DEDICATED CIRCUIT.



**SUB-SLAB DE-PRESSURIZATION SYSTEM DETAIL FOR COMMERCIAL BUILDINGS**  
N.T.S.



**LINK TYPE SEAL DETAIL**  
N.T.S.



**SUB-SLAB DE-PRESSURIZATION SYSTEM DETAIL FOR RESIDENTIAL BUILDING**  
N.T.S.

REVISIONS	DATE	INITIAL	COMMENTS

AS-BUILT SITE PLAN AND DETAILS  
1 SHORE ROAD  
GLENWOOD LANDING  
FORMER PENETREX PROCESSING  
NYSDEC I.D. No. 130034

**PWGC**  
Strategic Environmental & Engineering Solutions  
630 Johnson Ave. Suite 7 Bohemia, N.Y. 11716-2618  
Ph: 631 589-3333 Fax: 631 589-3708 E-mail: info@pwgrosser.com

Project: PEN0001 Approved By: PWG Figure No:  
Designed By: DD Date: 8/15/07  
Drawn By: TC/LLG Scale: AS SHOWN

9



**APPENDIX B**

**Analytical Data Package**



## ANALYTICAL REPORT

Lab Number:	L2052671
Client:	P. W. Grosser 630 Johnson Avenue Suite 7 Bohemia, NY 11716
ATTN:	Janelle Cooley
Phone:	(631) 589-8705
Project Name:	PEN1101
Project Number:	PEN1101
Report Date:	12/04/20

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)





Project Name: PEN1101

Project Number: PEN1101

Lab Number: L2052671

Report Date: 12/04/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2052671-01	IA001	AIR	1 SHORE RD., GLENWOOD LANDING	11/24/20 13:50	11/24/20
L2052671-02	IA002	AIR	1 SHORE RD., GLENWOOD LANDING	11/24/20 14:34	11/24/20
L2052671-03	IA003	AIR	1 SHORE RD., GLENWOOD LANDING	11/24/20 14:07	11/24/20
L2052671-04	IA004	AIR	1 SHORE RD., GLENWOOD LANDING	11/24/20 15:05	11/24/20
L2052671-05	IA005	AIR	1 SHORE RD., GLENWOOD	11/24/20 15:29	11/24/20
L2052671-06	OA001	AIR	1 SHORE RD., GLENWOOD	11/24/20 15:25	11/24/20
L2052671-07	SV001	SOIL_VAPOR	1 SHORE RD., GLENWOOD	11/24/20 13:50	11/24/20
L2052671-08	SV002	SOIL_VAPOR	1 SHORE RD., GLENWOOD	11/24/20 14:06	11/24/20
L2052671-09	SV003	SOIL_VAPOR	1 SHORE RD., GLENWOOD	11/24/20 14:34	11/24/20

**Project Name:** PEN1101  
**Project Number:** PEN1101

**Lab Number:** L2052671  
**Report Date:** 12/04/20

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

**HOLD POLICY** - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

---

**Project Name:** PEN1101  
**Project Number:** PEN1101

**Lab Number:** L2052671  
**Report Date:** 12/04/20

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on November 23, 2020. The canister certification results are provided as an addendum.

L2052671-02: The sample was re-analyzed on dilution in order to quantify the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

L2052671-03: The sample was re-analyzed on dilution in order to quantify the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

L2052671-05: The sample was re-analyzed on dilution in order to quantify the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

The WG1440378-3 LCS recovery for carbon tetrachloride (136%) is above the upper 130% acceptance limit. All samples associated with this LCS do not have reportable amounts of this analyte.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 12/04/20

**AIR**

**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-01  
 Client ID: IA001  
 Sample Location: 1 SHORE RD., GLENWOOD LANDING

Date Collected: 11/24/20 13:50  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/02/20 19:11  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Dichlorodifluoromethane	0.467	0.200	--	2.31	0.989	--		1
Chloromethane	0.461	0.200	--	0.952	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	6.32	5.00	--	11.9	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	4.07	1.00	--	9.67	2.38	--		1
Trichlorofluoromethane	0.227	0.200	--	1.28	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-01

Date Collected: 11/24/20 13:50

Client ID: IA001

Date Received: 11/24/20

Sample Location: 1 SHORE RD., GLENWOOD LANDING

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	1.72	0.200	--	6.48	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-01

Date Collected: 11/24/20 13:50

Client ID: IA001

Date Received: 11/24/20

Sample Location: 1 SHORE RD., GLENWOOD LANDING

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	91		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-01  
 Client ID: IA001  
 Sample Location: 1 SHORE RD., GLENWOOD LANDING

Date Collected: 11/24/20 13:50  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 12/02/20 19:11  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.068	0.020	--	0.428	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.335	0.020	--	2.27	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	94		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	90		60-140





**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-02  
 Client ID: IA002  
 Sample Location: 1 SHORE RD., GLENWOOD LANDING

Date Collected: 11/24/20 14:34  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/02/20 19:50  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Dichlorodifluoromethane	0.472	0.200	--	2.33	0.989	--		1
Chloromethane	0.496	0.200	--	1.02	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	72.2	5.00	--	136	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	30.5	1.00	--	72.5	2.38	--		1
Trichlorofluoromethane	0.211	0.200	--	1.19	1.12	--		1
Isopropanol	4.94	0.500	--	12.1	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	517	0.500	--	1800	1.74	--	E	1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	1.62	0.500	--	4.78	1.47	--		1
Ethyl Acetate	10.4	0.500	--	37.5	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	0.748	0.500	--	2.21	1.47	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-02

Date Collected: 11/24/20 14:34

Client ID: IA002

Date Received: 11/24/20

Sample Location: 1 SHORE RD., GLENWOOD LANDING

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	2.30	0.200	--	8.11	0.705	--		1
Benzene	0.254	0.200	--	0.811	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	3.13	0.500	--	12.8	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	49.4	0.200	--	186	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	3.34	0.200	--	14.5	0.869	--		1
p/m-Xylene	16.8	0.400	--	73.0	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.354	0.200	--	1.51	0.852	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	4.14	0.200	--	18.0	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-02

Date Collected: 11/24/20 14:34

Client ID: IA002

Date Received: 11/24/20

Sample Location: 1 SHORE RD., GLENWOOD LANDING

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	93		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-02  
 Client ID: IA002  
 Sample Location: 1 SHORE RD., GLENWOOD LANDING

Date Collected: 11/24/20 14:34  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 12/02/20 19:50  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.076	0.020	--	0.478	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.022	0.020	--	0.149	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	98		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	93		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-02 D  
 Client ID: IA002  
 Sample Location: 1 SHORE RD., GLENWOOD LANDING

Date Collected: 11/24/20 14:34  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/03/20 08:10  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	617	5.00	--	2140	17.4	--		10

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	92		60-140



**Project Name:** PEN1101  
**Project Number:** PEN1101

**Lab Number:** L2052671  
**Report Date:** 12/04/20

### SAMPLE RESULTS

Lab ID: L2052671-03  
 Client ID: IA003  
 Sample Location: 1 SHORE RD., GLENWOOD LANDING

Date Collected: 11/24/20 14:07  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/02/20 20:30  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.448	0.200	--	2.22	0.989	--		1
Chloromethane	0.469	0.200	--	0.968	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	69.9	5.00	--	132	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	34.8	1.00	--	82.7	2.38	--		1
Trichlorofluoromethane	0.212	0.200	--	1.19	1.12	--		1
Isopropanol	6.03	0.500	--	14.8	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	979	0.500	--	3400	1.74	--	E	1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	1.92	0.500	--	5.66	1.47	--		1
Ethyl Acetate	13.5	0.500	--	48.6	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	1.04	0.500	--	3.07	1.47	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-03

Date Collected: 11/24/20 14:07

Client ID: IA003

Date Received: 11/24/20

Sample Location: 1 SHORE RD., GLENWOOD LANDING

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	3.88	0.200	--	13.7	0.705	--		1
Benzene	0.235	0.200	--	0.751	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	4.13	0.500	--	16.9	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	63.0	0.200	--	237	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	4.47	0.200	--	19.4	0.869	--		1
p/m-Xylene	22.1	0.400	--	96.0	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.345	0.200	--	1.47	0.852	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	5.48	0.200	--	23.8	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-03

Date Collected: 11/24/20 14:07

Client ID: IA003

Date Received: 11/24/20

Sample Location: 1 SHORE RD., GLENWOOD LANDING

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
1,2,4-Trimethylbenzene	0.321	0.200	--	1.58	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	98		60-140





**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-03  
 Client ID: IA003  
 Sample Location: 1 SHORE RD., GLENWOOD LANDING

Date Collected: 11/24/20 14:07  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 12/02/20 20:30  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.076	0.020	--	0.478	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.024	0.020	--	0.163	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	97		60-140
bromochloromethane	100		60-140
chlorobenzene-d5	98		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-03 D  
 Client ID: IA003  
 Sample Location: 1 SHORE RD., GLENWOOD LANDING

Date Collected: 11/24/20 14:07  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/04/20 11:23  
 Analyst: EW

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	1580	12.5	--	5490	43.4	--		25

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	90		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-04  
 Client ID: IA004  
 Sample Location: 1 SHORE RD., GLENWOOD LANDING

Date Collected: 11/24/20 15:05  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/02/20 21:10  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Dichlorodifluoromethane	0.464	0.200	--	2.29	0.989	--		1
Chloromethane	0.449	0.200	--	0.927	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	59.9	5.00	--	113	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	17.9	1.00	--	42.5	2.38	--		1
Trichlorofluoromethane	0.228	0.200	--	1.28	1.12	--		1
Isopropanol	5.28	0.500	--	13.0	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	29.3	0.500	--	102	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.934	0.500	--	2.75	1.47	--		1
Ethyl Acetate	5.08	0.500	--	18.3	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-04

Date Collected: 11/24/20 15:05

Client ID: IA004

Date Received: 11/24/20

Sample Location: 1 SHORE RD., GLENWOOD LANDING

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	2.42	0.500	--	9.92	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	28.6	0.200	--	108	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.828	0.200	--	3.60	0.869	--		1
p/m-Xylene	4.50	0.400	--	19.5	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.968	0.200	--	4.20	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-04

Date Collected: 11/24/20 15:05

Client ID: IA004

Date Received: 11/24/20

Sample Location: 1 SHORE RD., GLENWOOD LANDING

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	95		60-140



**Project Name:** PEN1101  
**Project Number:** PEN1101

**Lab Number:** L2052671  
**Report Date:** 12/04/20

### SAMPLE RESULTS

Lab ID: L2052671-04  
 Client ID: IA004  
 Sample Location: 1 SHORE RD., GLENWOOD LANDING

Date Collected: 11/24/20 15:05  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 12/02/20 21:10  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.069	0.020	--	0.434	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	96		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	94		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-05  
 Client ID: IA005  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 15:29  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/02/20 21:49  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Dichlorodifluoromethane	0.461	0.200	--	2.28	0.989	--		1
Chloromethane	0.469	0.200	--	0.968	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	277	5.00	--	522	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	329	1.00	--	782	2.38	--		1
Trichlorofluoromethane	0.223	0.200	--	1.25	1.12	--		1
Isopropanol	194	0.500	--	477	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	4.71	0.500	--	16.4	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	25.5	0.500	--	75.2	1.47	--		1
Ethyl Acetate	85.2	0.500	--	307	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-05  
 Client ID: IA005  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 15:29  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.358	0.200	--	1.26	0.705	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.421	0.200	--	1.73	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	58.9	0.500	--	241	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	332	0.200	--	1250	0.754	--	E	1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	11.1	0.200	--	48.2	0.869	--		1
p/m-Xylene	46.4	0.400	--	202	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.977	0.200	--	4.16	0.852	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	10.0	0.200	--	43.4	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1





**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-05  
 Client ID: IA005  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 15:29  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	97		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-05  
 Client ID: IA005  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 15:29  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 12/02/20 21:49  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.064	0.020	--	0.403	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.026	0.020	--	0.176	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	99		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	97		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-05 D  
 Client ID: IA005  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 15:29  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/03/20 09:27  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Toluene	585	1.25	--	2200	4.71	--		6.25

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	85		60-140
Bromochloromethane	82		60-140
chlorobenzene-d5	85		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-06  
 Client ID: OA001  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 15:25  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/02/20 18:31  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Dichlorodifluoromethane	0.469	0.200	--	2.32	0.989	--		1
Chloromethane	0.473	0.200	--	0.977	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	1.58	1.00	--	3.75	2.38	--		1
Trichlorofluoromethane	0.225	0.200	--	1.26	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	3.34	0.500	--	11.6	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-06  
 Client ID: OA001  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 15:25  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.288	0.200	--	1.09	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-06  
 Client ID: OA001  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 15:25  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	91		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-06  
 Client ID: OA001  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 15:25  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 12/02/20 18:31  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.076	0.020	--	0.478	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	92		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	90		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-07  
 Client ID: SV001  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 13:50  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/03/20 10:06  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Dichlorodifluoromethane	0.517	0.200	--	2.56	0.989	--		1
Chloromethane	0.513	0.200	--	1.06	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	26.4	5.00	--	49.7	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	5.25	1.00	--	12.5	2.38	--		1
Trichlorofluoromethane	0.265	0.200	--	1.49	1.12	--		1
Isopropanol	2.50	0.500	--	6.15	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	1.44	0.500	--	4.37	1.52	--		1
Methylene chloride	9.05	0.500	--	31.4	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.923	0.500	--	2.72	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1





**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-07  
 Client ID: SV001  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 13:50  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	1.10	0.200	--	3.88	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	0.569	0.200	--	1.82	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	0.423	0.200	--	1.46	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	0.798	0.200	--	3.73	0.934	--		1
Heptane	0.727	0.200	--	2.98	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	0.696	0.500	--	2.85	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	4.96	0.200	--	18.7	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.598	0.200	--	2.60	0.869	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-07  
 Client ID: SV001  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 13:50  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
p/m-Xylene	2.45	0.400	--	10.6	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.640	0.200	--	2.78	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	0.525	0.200	--	2.58	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	87		60-140
Bromochloromethane	84		60-140
chlorobenzene-d5	82		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-08  
 Client ID: SV002  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 14:06  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/03/20 10:47  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Dichlorodifluoromethane	0.487	0.200	--	2.41	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	37.2	5.00	--	70.1	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	7.02	1.00	--	16.7	2.38	--		1
Trichlorofluoromethane	0.247	0.200	--	1.39	1.12	--		1
Isopropanol	3.88	0.500	--	9.54	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	2.46	0.500	--	7.46	1.52	--		1
Methylene chloride	42.7	0.500	--	148	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.951	0.500	--	2.80	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-08  
 Client ID: SV002  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 14:06  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Ethyl Acetate	0.613	0.500	--	2.21	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	1.39	0.200	--	4.90	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	0.559	0.200	--	1.79	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	0.425	0.200	--	1.46	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	0.686	0.200	--	3.20	0.934	--		1
Heptane	0.708	0.200	--	2.90	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	0.981	0.500	--	4.02	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	10.9	0.200	--	41.1	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	0.427	0.200	--	2.90	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.805	0.200	--	3.50	0.869	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-08  
 Client ID: SV002  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 14:06  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
p/m-Xylene	3.82	0.400	--	16.6	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.902	0.200	--	3.92	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	0.702	0.200	--	3.45	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	91		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-09  
 Client ID: SV003  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 14:34  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/03/20 11:26  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Dichlorodifluoromethane	0.479	0.200	--	2.37	0.989	--		1
Chloromethane	0.505	0.200	--	1.04	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	24.2	5.00	--	45.6	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	17.6	1.00	--	41.8	2.38	--		1
Trichlorofluoromethane	0.237	0.200	--	1.33	1.12	--		1
Isopropanol	5.41	0.500	--	13.3	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	17.0	0.500	--	59.1	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.931	0.500	--	2.75	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-09  
 Client ID: SV003  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 14:34  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Ethyl Acetate	2.94	0.500	--	10.6	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	1.02	0.500	--	3.01	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.300	0.200	--	1.06	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	2.15	0.500	--	8.81	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	27.8	0.200	--	105	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	0.752	0.200	--	5.10	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.543	0.200	--	2.36	0.869	--		1



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**SAMPLE RESULTS**

Lab ID: L2052671-09  
 Client ID: SV003  
 Sample Location: 1 SHORE RD., GLENWOOD

Date Collected: 11/24/20 14:34  
 Date Received: 11/24/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
p/m-Xylene	2.90	0.400	--	12.6	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.670	0.200	--	2.91	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	88		60-140





Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 12/02/20 15:21

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-09 Batch: WG1440378-4								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1



Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 12/02/20 15:21

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-09 Batch: WG1440378-4								
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1



Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 12/02/20 15:21

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-09 Batch: WG1440378-4								
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 12/02/20 16:00

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1440379-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1

Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 12/03/20 18:29

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 03 Batch: WG1441192-4								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1



Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 12/03/20 18:29

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 03 Batch: WG1441192-4								
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1

Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 12/03/20 18:29

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 03 Batch: WG1441192-4								
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-09 Batch: WG1440378-3								
Dichlorodifluoromethane	111		-		70-130	-		
Chloromethane	98		-		70-130	-		
Freon-114	106		-		70-130	-		
Vinyl chloride	109		-		70-130	-		
1,3-Butadiene	107		-		70-130	-		
Bromomethane	109		-		70-130	-		
Chloroethane	108		-		70-130	-		
Ethanol	94		-		40-160	-		
Vinyl bromide	104		-		70-130	-		
Acetone	91		-		40-160	-		
Trichlorofluoromethane	123		-		70-130	-		
Isopropanol	90		-		40-160	-		
1,1-Dichloroethene	118		-		70-130	-		
Tertiary butyl Alcohol	97		-		70-130	-		
Methylene chloride	108		-		70-130	-		
3-Chloropropene	112		-		70-130	-		
Carbon disulfide	102		-		70-130	-		
Freon-113	114		-		70-130	-		
trans-1,2-Dichloroethene	107		-		70-130	-		
1,1-Dichloroethane	109		-		70-130	-		
Methyl tert butyl ether	100		-		70-130	-		
2-Butanone	106		-		70-130	-		
cis-1,2-Dichloroethene	116		-		70-130	-		



## Lab Control Sample Analysis

### Batch Quality Control

Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-09 Batch: WG1440378-3								
Ethyl Acetate	107		-		70-130	-		
Chloroform	118		-		70-130	-		
Tetrahydrofuran	104		-		70-130	-		
1,2-Dichloroethane	122		-		70-130	-		
n-Hexane	116		-		70-130	-		
1,1,1-Trichloroethane	130		-		70-130	-		
Benzene	112		-		70-130	-		
Carbon tetrachloride	136	Q	-		70-130	-		
Cyclohexane	118		-		70-130	-		
1,2-Dichloropropane	109		-		70-130	-		
Bromodichloromethane	124		-		70-130	-		
1,4-Dioxane	120		-		70-130	-		
Trichloroethene	116		-		70-130	-		
2,2,4-Trimethylpentane	117		-		70-130	-		
Heptane	112		-		70-130	-		
cis-1,3-Dichloropropene	125		-		70-130	-		
4-Methyl-2-pentanone	116		-		70-130	-		
trans-1,3-Dichloropropene	111		-		70-130	-		
1,1,2-Trichloroethane	115		-		70-130	-		
Toluene	102		-		70-130	-		
2-Hexanone	109		-		70-130	-		
Dibromochloromethane	118		-		70-130	-		
1,2-Dibromoethane	104		-		70-130	-		

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-09 Batch: WG1440378-3								
Tetrachloroethene	104		-		70-130	-		
Chlorobenzene	104		-		70-130	-		
Ethylbenzene	110		-		70-130	-		
p/m-Xylene	110		-		70-130	-		
Bromoform	116		-		70-130	-		
Styrene	109		-		70-130	-		
1,1,2,2-Tetrachloroethane	108		-		70-130	-		
o-Xylene	113		-		70-130	-		
4-Ethyltoluene	102		-		70-130	-		
1,3,5-Trimethylbenzene	90		-		70-130	-		
1,2,4-Trimethylbenzene	107		-		70-130	-		
Benzyl chloride	108		-		70-130	-		
1,3-Dichlorobenzene	105		-		70-130	-		
1,4-Dichlorobenzene	104		-		70-130	-		
1,2-Dichlorobenzene	104		-		70-130	-		
1,2,4-Trichlorobenzene	104		-		70-130	-		
Hexachlorobutadiene	118		-		70-130	-		

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: PEN1101

Project Number: PEN1101

Lab Number: L2052671

Report Date: 12/04/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1440379-3								
Vinyl chloride	106		-		70-130	-		25
1,1-Dichloroethene	115		-		70-130	-		25
cis-1,2-Dichloroethene	112		-		70-130	-		25
1,1,1-Trichloroethane	121		-		70-130	-		25
Carbon tetrachloride	127		-		70-130	-		25
Trichloroethene	114		-		70-130	-		25
Tetrachloroethene	100		-		70-130	-		25

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 03 Batch: WG1441192-3								
Dichlorodifluoromethane	109		-		70-130	-		
Chloromethane	97		-		70-130	-		
Freon-114	107		-		70-130	-		
Vinyl chloride	109		-		70-130	-		
1,3-Butadiene	108		-		70-130	-		
Bromomethane	112		-		70-130	-		
Chloroethane	111		-		70-130	-		
Ethanol	93		-		40-160	-		
Vinyl bromide	108		-		70-130	-		
Acetone	91		-		40-160	-		
Trichlorofluoromethane	131	Q	-		70-130	-		
Isopropanol	93		-		40-160	-		
1,1-Dichloroethene	122		-		70-130	-		
Tertiary butyl Alcohol	99		-		70-130	-		
Methylene chloride	110		-		70-130	-		
3-Chloropropene	114		-		70-130	-		
Carbon disulfide	103		-		70-130	-		
Freon-113	118		-		70-130	-		
trans-1,2-Dichloroethene	110		-		70-130	-		
1,1-Dichloroethane	112		-		70-130	-		
Methyl tert butyl ether	100		-		70-130	-		
2-Butanone	112		-		70-130	-		
cis-1,2-Dichloroethene	118		-		70-130	-		

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 03 Batch: WG1441192-3								
Ethyl Acetate	113		-		70-130	-		
Chloroform	121		-		70-130	-		
Tetrahydrofuran	106		-		70-130	-		
1,2-Dichloroethane	127		-		70-130	-		
n-Hexane	114		-		70-130	-		
1,1,1-Trichloroethane	128		-		70-130	-		
Benzene	110		-		70-130	-		
Carbon tetrachloride	135	Q	-		70-130	-		
Cyclohexane	115		-		70-130	-		
1,2-Dichloropropane	110		-		70-130	-		
Bromodichloromethane	125		-		70-130	-		
1,4-Dioxane	121		-		70-130	-		
Trichloroethene	117		-		70-130	-		
2,2,4-Trimethylpentane	116		-		70-130	-		
Heptane	112		-		70-130	-		
cis-1,3-Dichloropropene	123		-		70-130	-		
4-Methyl-2-pentanone	115		-		70-130	-		
trans-1,3-Dichloropropene	111		-		70-130	-		
1,1,2-Trichloroethane	113		-		70-130	-		
Toluene	102		-		70-130	-		
2-Hexanone	111		-		70-130	-		
Dibromochloromethane	119		-		70-130	-		
1,2-Dibromoethane	106		-		70-130	-		

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: PEN1101

Project Number: PEN1101

Lab Number: L2052671

Report Date: 12/04/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 03 Batch: WG1441192-3								
Tetrachloroethene	102		-		70-130	-		
Chlorobenzene	103		-		70-130	-		
Ethylbenzene	110		-		70-130	-		
p/m-Xylene	113		-		70-130	-		
Bromoform	119		-		70-130	-		
Styrene	110		-		70-130	-		
1,1,2,2-Tetrachloroethane	111		-		70-130	-		
o-Xylene	115		-		70-130	-		
4-Ethyltoluene	103		-		70-130	-		
1,3,5-Trimethylbenzene	93		-		70-130	-		
1,2,4-Trimethylbenzene	109		-		70-130	-		
Benzyl chloride	113		-		70-130	-		
1,3-Dichlorobenzene	110		-		70-130	-		
1,4-Dichlorobenzene	108		-		70-130	-		
1,2-Dichlorobenzene	106		-		70-130	-		
1,2,4-Trichlorobenzene	106		-		70-130	-		
Hexachlorobutadiene	118		-		70-130	-		

Project Name: PEN1101

Project Number: PEN1101

Serial\_No:12042016:24  
Lab Number: L2052671

Report Date: 12/04/20

### Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controller Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2052671-01	IA001	01923	Flow 2	11/23/20	336482		-	-	-	Pass	36.0	37.9	5
L2052671-01	IA001	3406	2.7L Can	11/23/20	336482	L2049685-01	Pass	-29.4	-2.0	-	-	-	-
L2052671-02	IA002	01690	Flow 2	11/23/20	336482		-	-	-	Pass	36.0	38.8	7
L2052671-02	IA002	3202	2.7L Can	11/23/20	336482	L2049685-01	Pass	-29.7	-2.0	-	-	-	-
L2052671-03	IA003	01112	Flow 2	11/23/20	336482		-	-	-	Pass	36.0	38.7	7
L2052671-03	IA003	3034	2.7L Can	11/23/20	336482	L2049685-01	Pass	-29.6	-4.4	-	-	-	-
L2052671-04	IA004	0192	Flow 3	11/23/20	336482		-	-	-	Pass	36.0	36.7	2
L2052671-04	IA004	2241	2.7L Can	11/23/20	336482	L2049685-01	Pass	-29.7	-3.3	-	-	-	-
L2052671-05	IA005	01821	Flow 2	11/23/20	336482		-	-	-	Pass	36.0	39.8	10
L2052671-05	IA005	2038	2.7L Can	11/23/20	336482	L2049685-01	Pass	-29.4	-2.0	-	-	-	-
L2052671-06	OA001	0806	Flow 2	11/23/20	336482		-	-	-	Pass	36.0	40.7	12
L2052671-06	OA001	2868	2.7L Can	11/23/20	336482	L2049685-01	Pass	-29.7	-1.9	-	-	-	-
L2052671-07	SV001	01499	Flow 2	11/23/20	336482		-	-	-	Pass	36.0	40.2	11
L2052671-07	SV001	3174	2.7L Can	11/23/20	336482	L2049685-01	Pass	-29.5	-3.8	-	-	-	-
L2052671-08	SV002	01925	Flow 2	11/23/20	336482		-	-	-	Pass	36.0	41.8	15

Project Name: PEN1101

Project Number: PEN1101

Serial\_No:12042016:24  
Lab Number: L2052671

Report Date: 12/04/20

### Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controller Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2052671-08	SV002	2991	2.7L Can	11/23/20	336482	L2049685-01	Pass	-29.4	-1.3	-	-	-	-
L2052671-09	SV003	01007	Flow 2	11/23/20	336482		-	-	-	Pass	36.0	39.3	9
L2052671-09	SV003	126	2.7L Can	11/23/20	336482	L2049685-01	Pass	-29.5	-3.3	-	-	-	-



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L2049685  
**Report Date:** 12/04/20

### Air Canister Certification Results

Lab ID: L2049685-01  
 Client ID: CAN 485 SHELF 18  
 Sample Location:

Date Collected: 11/10/20 16:00  
 Date Received: 11/11/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 11/16/20 18:47  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L2049685  
**Report Date:** 12/04/20

### Air Canister Certification Results

Lab ID: L2049685-01  
 Client ID: CAN 485 SHELF 18  
 Sample Location:

Date Collected: 11/10/20 16:00  
 Date Received: 11/11/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L2049685  
**Report Date:** 12/04/20

### Air Canister Certification Results

Lab ID: L2049685-01  
 Client ID: CAN 485 SHELF 18  
 Sample Location:

Date Collected: 11/10/20 16:00  
 Date Received: 11/11/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L2049685  
**Report Date:** 12/04/20

### Air Canister Certification Results

Lab ID: L2049685-01  
 Client ID: CAN 485 SHELF 18  
 Sample Location:

Date Collected: 11/10/20 16:00  
 Date Received: 11/11/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L2049685  
**Report Date:** 12/04/20

### Air Canister Certification Results

Lab ID: L2049685-01  
 Client ID: CAN 485 SHELF 18  
 Sample Location:

Date Collected: 11/10/20 16:00  
 Date Received: 11/11/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								

Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds				

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	87		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	89		60-140



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L2049685  
**Report Date:** 12/04/20

### Air Canister Certification Results

Lab ID: L2049685-01  
 Client ID: CAN 485 SHELF 18  
 Sample Location:

Date Collected: 11/10/20 16:00  
 Date Received: 11/11/20  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 11/16/20 18:47  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L2049685  
**Report Date:** 12/04/20

### Air Canister Certification Results

Lab ID: L2049685-01  
 Client ID: CAN 485 SHELF 18  
 Sample Location:

Date Collected: 11/10/20 16:00  
 Date Received: 11/11/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L2049685  
**Report Date:** 12/04/20

### Air Canister Certification Results

Lab ID: L2049685-01  
 Client ID: CAN 485 SHELF 18  
 Sample Location:

Date Collected: 11/10/20 16:00  
 Date Received: 11/11/20  
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	94		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	91		60-140



**Project Name:** PEN1101**Lab Number:** L2052671**Project Number:** PEN1101**Report Date:** 12/04/20**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

<b>Cooler</b>	<b>Custody Seal</b>
NA	Present/Intact

**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L2052671-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L2052671-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L2052671-03A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L2052671-04A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-SIM(30),TO15-LL(30)
L2052671-05A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L2052671-06A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-SIM(30),TO15-LL(30)
L2052671-07A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2052671-08A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2052671-09A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)

**Project Name:** PEN1101  
**Project Number:** PEN1101

**Lab Number:** L2052671  
**Report Date:** 12/04/20

## GLOSSARY

### Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)  Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report



Project Name: PEN1101

Lab Number: L2052671

Project Number: PEN1101

Report Date: 12/04/20

**Footnotes**

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

**Terms**

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Data Qualifiers**

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report



**Project Name:** PEN1101  
**Project Number:** PEN1101

**Lab Number:** L2052671  
**Report Date:** 12/04/20

**Data Qualifiers**

the identification is based on a mass spectral library search.

- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

**Project Name:** PEN1101  
**Project Number:** PEN1101

**Lab Number:** L2052671  
**Report Date:** 12/04/20

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

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The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

### Mansfield Facility

**SM 2540D:** TSS

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**EPA TO-12** Non-methane organics

**EPA 3C** Fixed gases

**Biological Tissue Matrix:** EPA 3050B

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The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

**EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.

**EPA 624.1:** Volatile Halocarbons & Aromatics,

**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.

**EPA 522.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

**EPA 245.1** Hg.

**SM2340B**

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For a complete listing of analytes and methods, please contact your Alpha Project Manager.





# AIR ANALYSIS

CHAIN OF CUSTODY

PAGE \_\_\_\_ OF \_\_\_\_

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: RUGC  
 Address: 650 Johnson Ave Bohemia, NY 11716  
 Phone: (631) 564-6353  
 Fax:  
 Email: Jcooley@rugrucker.com

### Project Information

Project Name: PEN101  
 Project Location: 1 Shore Rd., Glenhead  
 Project #: PEN101  
 Project Manager: J. Cooley  
 ALPHA Quote #:

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)

Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

Date Rec'd in Lab: 11/25/20

**Report Information - Data Deliverables**  
 FAX  
 ADEx  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria Indicated)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables:  
 Report to: (if different than Project Manager)

ALPHA Job #: 2052671

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List:

## All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION				Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
		End Date	Start Time	End Time	Initial Vacuum											
52671-01	IA001	11/24/20	12:53	13:50	-29.4	-4.09	AA	MM	2.7	340601023	X					
-02	IA002	11/24/20	13:23	14:34	-29.7	-15.88	AA	MM	2.7	332201620	X					
-03	IA003	11/24/20	13:13	14:07	-29.6	-6.15	AA	MM	2.7	303401112	X					
-04	IA004	11/24/20	14:05	15:05	-29.7	-5.18	AA	MM	2.7	22410192	X					
-05	IA005	11/24/20	14:31	15:29	-29.4	-4.13	AA	MM	2.7	233801521	X					
-06	CA001	11/24/20	14:26	15:25	-29.7	-3.67	AA	MM	2.7	25630226	X					
-07	SU001	11/24/20	12:53	13:50	-29.5	-6.20	SU	MM	2.7	317401499	X					
-08	SU002	11/24/20	13:10	14:06	-29.4	-3.34	SU	MM	2.7	299101925	X					
-09	SU003	11/24/20	13:38	14:34	-29.5	-5.50	SU	MM	2.7	12601007	X					

### \*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time
<u>Matthew Merrill</u>	<u>11/24/20</u>	<u>RBIR AAL</u>	<u>11/24/20 1821</u>
<u>RBIR AAL</u>	<u>11/24/20 2030</u>	<u>11/25</u>	<u>2200</u>
<u>11/25</u>	<u>0200</u>	<u>11/25/20</u>	<u>0200</u>

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.



**APPENDIX C**

**Safety Data Sheet**



## SECTION 1: IDENTIFICATION

**Manufacturer**

Choice Adhesives

**Address**

 666 Redna Terrace, Suite 600  
Cincinnati, OH 45215

 2500 Carroll Avenue  
Lynchburg, VA 24501

**Information Telephone Number**

513-772-1234

434-847-5671

**Emergency Contact Number:**

800-424-9300 (CHEMTREC)

**Recommended Use**

Adhesive

## SECTION 2: HAZARD(S) IDENTIFICATION

**Classifications**

 Skin Irritation: Category 2  
 Eye Damage: Category 2A  
 Carcinogenicity: Category 2  
 STOT Single Exposure: Category 3

**Pictograms**

**GHS Signal Word**

WARNING!

**Hazard Statements**

 Causes skin irritation.  
 Causes serious eye irritation.  
 Suspected of causing cancer.  
 May cause drowsiness or dizziness.

**Precautionary Statements**

 Do not handle until all safety precautions have been read and understood.  
 IF exposed or concerned: Get medical attention.  
 Avoid breathing vapors. Use in a well-ventilated area.  
 IF INHALED: Call a doctor if you feel unwell. Remove person to fresh air and keep comfortable for breathing  
 IF ON SKIN: Take off contaminated clothing and wash before reuse. Wash skin with plenty of water. If skin irritation occurs: Get medical attention.

**Potential Health Effects**

Principal Routes of Exposure

Inhalation, skin absorption, eye contact

Acute Effects

**Eye:** Contact with eyes may cause irritation. Direct contact with liquid or vapors may cause stinging, tearing, redness, swelling and eye damage.

**Skin:** May cause skin irritation and/or dermatitis. Prolonged or repeated contact or exposure to vapors may cause redness, burning, and drying and cracking of skin.

**Inhalation:** Breathing high concentrations of vapors may cause irritation of the nose and throat or signs of nervous system depression (e.g., headache, nausea, drowsiness, dizziness, vomiting, loss of coordination and fatigue)

**Ingestion:** Ingestion may cause irritation of the digestive tract, nausea, vomiting, and signs of nervous system depression

**Chronic Effects**

Avoid repeated exposure. May cause blood damage. Repeated contact may cause allergic reactions in very susceptible persons.

**Aggravated Medical Conditions**

Pre-existing eye, skin or respiratory disorders may be aggravated by exposure to this product.

### SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Designation	CAS No.	% by Weight
Methylene chloride	75-09-2	70 - 90%

Any remaining ingredients (to comprise 100% of the product) should be considered a proprietary blend of non-hazardous substances, or materials below threshold reporting limits.

### SECTION 4: FIRST AID MEASURES

**General Advice** Show this safety data sheet to the doctor in attendance

**Eyes** Flush with plenty of cool water for at least 15 minutes, holding eyelids apart for thorough irrigation. If irritation persists, get immediate medical attention.

**Skin** Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash affected areas thoroughly with mild soap. If skin irritation persists, get immediate medical attention.

**Inhalation** Move to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen and get immediate medical attention.

**Ingestion** Do not induce vomiting seek immediate medical attention. If vomiting occurs, keep head lower than hips to prevent aspiration.

**Notes to Physician** Treat symptomatically.

### SECTION 5: FIRE FIGHTING MEASURES

**Extinguishing Media** Carbon dioxide, dry chemicals, foam. Water may be helpful in keeping adjacent containers cool; avoid spreading the liquid with water used for cooling. Water-based sprinkler systems may help contain larger fires.

**Special Protective Equipment and firefighting procedures** Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**Specific hazards arising from the** Closed containers may rupture if exposed to fire or extreme heat. May produce (S5911G-5)



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**chemical** toxic fumes if burning.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal Precautions

Use personal protective equipment. Remove all sources of ignition.

### Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.

### Methods for Clean-up

Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

### Other Information

None known.

## SECTION 7: HANDLING & STORAGE

### Handling

Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Wear appropriate personal protective equipment. Take precautionary measures against static discharges. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from open flames, hot surfaces and sources of ignition.

### Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from extremes of heat or cold. Keep in properly labeled containers.

## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Note: Any items listed in the above with workplace control parameters which are not listed in section 3 are below threshold reporting values.

REL - Recommended Exposure Limits  
TLV - Threshold Limit Value

### Exposure Limits

Components with workplace control parameters:

Hazardous Components	OSHA PEL	ACGIH TLV
Methylene chloride	25	50

### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

### Personal Protective Equipment

#### Eyes/Face

Safety goggles or glasses, or full face shield.

#### Skin

Protective gloves and impervious clothing. Consult the glove/clothing manufacturer for proper selection of materials.

#### Respiratory

In operations where exposure limits are exceeded, use a NIOSH-approved respirator that has been selected by a technically qualified person for the specific work conditions.

#### Hygiene Practices

Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling. When using, do not eat,

drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Green liquid.	<b>Upper Flammability/Explosive Limit</b>	N/A
<b>Oxidizing Properties</b>	No Data Available	<b>Lower Flammability/Explosive Limit</b>	N/A
<b>Odor</b>	Characteristic odor.	<b>Vapor Pressure mm Hg</b>	Not available
<b>Odor Threshold</b>	No Data Available	<b>Vapor Density</b>	Heavier than air
<b>pH Value</b>	No Data Available	<b>Bulk Density (lb/gal)</b>	10.03
<b>Melting Point / Freezing Point</b>	No Data Available	<b>VOC Content (g/L)</b>	0
<b>Boiling Point</b>	104.0 °F [40.0 °C]	<b>VOC Less Water &amp; Exempts (g/L)</b>	0
<b>Non-Volatile (wt%)</b>	26.17	<b>Specific Gravity (g/l)</b>	1.204
<b>Flash Point</b>	Not applicable	<b>Auto-Ignition Temperature</b>	No Data Available
<b>Explosive Properties</b>	No Data Available	<b>Decomposition Temperature</b>	No Data Available
<b>Evaporation Rate</b>	Faster than nBuAc	<b>Partition Coefficient</b>	No Data Available
<b>Flammability (solids)</b>	No Data Available	<b>Viscosity</b>	No Data Available
<b>Solubility in Water</b>	Insoluble		

## SECTION 10: STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions. Hazardous polymerization does not occur.
<b>Possibility of Hazardous Reactions</b>	None under normal conditions of use.
<b>Conditions to Avoid</b>	Keep away from open flames, hot surfaces, static electricity and sources of ignition. Avoid extremes of heat or cold.
<b>Materials to Avoid</b>	Incompatible with strong acids and bases, alkali metals, halogens, and strong oxidizing agents.
<b>Hazardous Decomposition</b>	Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide, carbon dioxide, smoke, and other unidentified organic compounds may be formed during combustion.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Numerical Measures of Toxicity for Individual Components

### Likely Routes of Exposure



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Inhalation, skin absorption, eye contact.

<b>Acute Toxicity</b>	Oral: No data; Skin: No data; Inhalation: No data	<b>Sensitization</b>	Respiratory: No data; Skin: No data
<b>Irritation</b>	Skin: Category 2	<b>Mutagenicity</b>	No data
<b>Reproductive Toxicity</b>	No data	<b>Aspiration Hazards</b>	No data
<b>Specific Target Organ Toxicity - Single Exposure</b>			Category 3
<b>Specific Target Organ Toxicity - Repeated Exposure</b>			No data
<b>Chronic Toxicity / Carcinogenicity</b>			

The information below indicates whether each agency has listed any ingredient as a carcinogen. If no ingredients are listed below, then there are no known classifications.

Component	IARC	NTP	OSHA
Methylene chloride	Listed	Listed	Listed

## SECTION 12: ECOLOGICAL INFORMATION

The information and data for components are listed individually for areas of ecological consideration below.

<b>Aquatic Toxicity</b>	Acute and prolonged toxicity to fish: Acute toxicity to aquatic invertebrates: Environmental fate and pathways:	No Data Available No Data Available No Data Available	
<b>Persistence and Degradability</b>	No Data Available	<b>Mobility in Soil</b>	No Data Available
<b>Bioaccumulative Potential</b>	No Data Available	<b>Other Adverse Effects</b>	No Data Available

## SECTION 13: DISPOSAL CONSIDERATION

<b>Waste Disposal Method</b>	Dispose of in accordance with all applicable local, state, and federal regulations. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.
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## SECTION 14: TRANSPORT INFORMATION

The shipping classification in this section is meant as a guide to overall classification of the product. However, transportation classifications may be subject to change with changes in package size. Consult shipper requirements under 49 CFR, IATA and IMDG to assure regulatory compliance.



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REGULATION	DESCRIPTION
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**DOT**

Proper Shipping Name	Unregulated
Technical Name	Not available
Hazard Class	
UN Number	
Packing Group	
Placards	

ICAO / IATA No Data Available

IMDG / IMO No Data Available

**SECTION 15: REGULATORY INFORMATION**

**US TSCA** Yes All components are listed or exempt.

**Canada DSL** Yes All components are listed or exempt.

**OSHA Regulatory Status** Not hazardous

**SARA 313** Section 313 OF Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). If listed below, this product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Designation	CAS Number	Weight %
Methylene chloride	75-09-2	70 90%

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPS) (see 40 CFR 61)**

Chemical Designation	CAS Number	Weight %
Methylene chloride	75-09-2	70 90%

**State Regulations**

**California Prop. 65**



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This product contains one or more chemicals known to the state of California to cause cancer and/or reproductive harm. Unless chemical names are listed below, these chemicals are present only in trace amounts. [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**Chemical Name**

**CAS Number**

Methylene chloride  
Naphthalene

75-09-2  
90-20-3

**SECTION 16: OTHER INFORMATION**

**NFPA is a Health, Flammability and Reactivity rating: 210B**

4 SEVERE HAZARD, 3 SERIOUS HAZARD, 2 MODERATE HAZARD, 1 SLIGHT HAZARD, 0 MINIMAL HAZARD, \* Chronic Hazard

Date Printed 07/10/2020 SDS Review Date 09/21/2018

**DISCLAIMER**

The above Information is based on the present state of our knowledge of the product at the time of publication. It is given in good faith. No warranty is implied with respect to the quality or the specification of the product and the user must satisfy his self that the product is entirely suitable for his purposes.

\*\*\*\*\* **END OF SAFETY DATA SHEET** \*\*\*\*\*