Interim Remedial Measures Workplan

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, NY 10701
Site No. C360181

Prepared for:

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Aug 20, 2019

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1.0 Introduction

This Interim Remedial Measures Work Plan (IRM) has been developed for the Buena Vista Apartments site located at 85 Riverdale Avenue, Yonkers, New York (the Site). The Site is currently in the application process for enrollment in the NYSDEC Brownfield Cleanup Program (BCP). This IRM presents the project scope, planned activities and schedule.

2.0 Site Location & Background

2.1 Site Background

The Site is developed with three interconnected buildings that are composed of two 18-story sections, one 15-story section, and five 6-story sections of concrete and masonry construction with basements. In addition to the current structures, the subject property is improved with a freestanding, four-story parking garage, a fence enclosure, a former basketball court, an asphalt-paved driving lane, two central courtyards, breezeways, and associated landscaping. The ground floor of 85 Riverdale includes offices and commercial tenants including restaurants, a deli/meat market, retail and a pharmacy.

2.2 Site Geology and Hydrology

Based on information obtained from the United States Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS) Web Soil Survey online database, the subject property is mapped as Urban Land. It consists of various human-transported or anthropogenic deposits, commonly known as fill, which top off natural features. It consists of poorly-drained soils with high runoff tendencies, low permeability, and low available water capacity. This type of soil is generally associated with areas in which buildings and pavement cover more than 85 percent of the surface. Slopes generally range from 3 to 8 percent. The geology typically consists of shallow gravel soils underlying granite bedrock. According to topographic map interpretation, the direction of groundwater in the vicinity of the subject property is inferred to flow to the southeast. The nearest surface water body within the vicinity of the subject property is the Hudson River, which is located approximately 0.17 miles (895 feet) to the west of the Site. According to regional groundwater information obtained by the USGS, depth to the high water table is anticipated to be approximately 40 to 50 feet below ground surface (bgs). Onsite observations during field activities indicate that depth to groundwater is encountered between approximately 13 to 18 feet bgs.

2.3 Historic Environmental Reports

Several environmental assessment have previously been conducted at the property. These include:

- Phase I Environmental Site Assessment Report dated January 16, 2015 prepared by Partner Assessment Corporation
- Phase II Subsurface Investigation Report dated April 8, 2015 prepared by Partner Assessment Corporation
- Remedial Investigation Report/Remedial Action Workplan dated January 11, 2016 prepared by Partner Assessment Corporation
- Remedial Action Report dated March 2018 prepared by Hillmann Consulting, LLC

These Reports are summarized below; Hillmann's March 2018 RAR is included in Appendix A.

Phase I Environmental Site Assessment Report dated January 16, 2015 prepared by Partner Assessment Corporation:

Partner Assessment Corporation (Partner) prepared a Phase I Environmental Site Assessment (Phase I) for the Site dated January 16, 2015. The Phase I indicated the subject property was formerly developed with numerous residential and commercial structures in the north and an industrial/manufacturing facility from as early as 1886. The northern portion of the subject property remained improved with residential and commercial structures through the 1950s. The southern portion of the subject property remained improved with an industrial/manufacturing facility through the late 1910s, and was re-developed with an auto depot and two parking garages circa 1940. By the early 1950s, the southern portion of the subject property was re-developed with a wholesale grocery warehouse, a commercial/industrial facility, a gasoline service station, and a parking garage. Four gasoline underground storage tanks (USTs) of unknown capacity were also located along the eastern elevation of the unmarked parking garage. By the late 1950s, the four gasoline tanks located at the unmarked parking garage were no longer displayed in historic images. An official request for records was made to local and State regulatory agencies, with regard to the installation, use, and closure of storage tanks containing hazardous substances, hazardous materials activities; however, no records were on file with the NYSDEC or the City of Yonkers. By 1971, all existing structures located within the northern portion of the subject property, with the exception of a single fire station, were demolished. All existing structures located within the southern portion of the subject property, with the exception of the wholesale grocery warehouse, which was converted into a pen manufacturing facility, were also demolished. By 1973, all remaining structures on the subject property were removed. The subject property was re-developed in 1975 by the New York State Urban Development Corporation with the current structures (which currently contain residential units, two vacant commercial units, restaurants, a deli/meat market and a retail establishment where clothes dry cleaned off-site are picked up and delivered, but which formerly housed an on-site dry cleaning operation).

The following uses of the site were considered Recognized Environmental Conditions (RECs) and were identified as having potentially caused subsurface impacts: the former hat and carpet manufacturing facility, former gasoline tanks, and the then-current on-site dry cleaning facility.

Phase II Subsurface Investigation Report dated April 8, 2015 prepared by Partner Assessment Corporation:

Partner conducted a Phase II subsurface investigation consisting of a geophysical survey as well as soil and groundwater sampling in 2015 to investigate the RECs. The initial findings by Partner indicated the presence of volatile organic compounds (VOCs) and potentially polycyclic aromatic hydrocarbons (PAHs) above the NYSDEC Ambient Water Quality Standards possibly in connection with the dry cleaning facility, industrial/manufacturing operations, auto repair operations, and storage of gasoline, warranting further investigation.

Partner conducted subsequent additional investigation in 2015 to further evaluate the impact of VOCs and/or PAHs to groundwater, sub-slab soil gas, and indoor air as a consequence of a potential release or releases from the dry cleaning operations REC and the former gasoline USTs REC. The investigation indicated the presence of VOCs in groundwater exceeding the New York Ambient Water Quality Standards, in sub-slab soil gas exceeding the EPA calculated Vapor Intrusion Screening Levels (VISLs),

and in indoor air samples exceeding the VISLs for indoor air. On August 27, 2015 concentrations of VOCs in groundwater, soil gas, and indoor air samples were reported resulting in the NYSDEC Spill Hotline assigning Spill Number 1505681 to the case and Mr. Edward Moore as the case manager.

Remedial Investigation Report/Remedial Action Workplan dated January 11, 2016 prepared by Partner Assessment Corporation:

A Remedial Investigation Workplan (RIWP) was prepared by Partner to further investigate and horizontally and vertically delineate the identified groundwater, soil gas, and indoor air impacts associated with Spill Number 1505681. The RIWP was approved by NYSDEC by Mr. Edward Moore on September 3, 2015. The remedial investigation included a geophysical survey, sub-slab soil gas sampling, and groundwater sampling. The investigation indicated the presence of VOCs in groundwater which exceed the New York Ambient Water Quality Standards. Additionally, VOCs were identified in sub-slab soil gas samples, exceeding the EPA calculated VISLs for subs-slab soil gas. Based on the findings of the Remedial Investigation, it was suspected that the groundwater, sub-slab soil gas, and indoor air contamination was associated with the historic dry cleaning operation.

In 2016, a Remedial Action Workplan (RAWP) was prepared by Partner. Based upon the presence of chlorinated compounds in the groundwater, soil gas, and indoor air samples in the vicinity of the dry cleaning business, injections of Potassium Permanganate, a chemical oxidizer, was proposed to promote in-situ oxidation of the chemicals of concern. In addition, it was understood that this mixture will assist in promoting natural attenuation of remaining contaminants of concern within the source and down-gradient areas. The RIWP was approved by NYSDEC on April 7, 2016.

Remedial Action Report dated March 2018 prepared by Hillmann Consulting, LLC:

Remedial injections were performed by Hillmann in 2017 in accordance with the NYSDEC-approved Remedial Investigation Report/Remedial Action Work Plan.

Following the injections to confirm achievement of NYSDEC Groundwater Quality Standards via natural attenuation, two post-injection groundwater sampling events were conducted; August 31, 2017 and November 1, 2017. General downward trends of the contaminants of concern indicated natural attenuation. As such, four quarterly groundwater sampling events were proposed for 2018. This approach of quarterly groundwater sampling was approved by Mr. Edward Moore of the NYSDEC with a February 20, 2018 email correspondence. A Remedial Action Report (RAR) was prepared and submitted to the NYSDEC by Hillmann detailing the site remediation activities, results, and approved 2018 quarterly sampling for natural attenuation

The initial 2018 quarterly sampling (February 1, 2018) indicated the expected continued downward trend of contaminants; however, subsequent quarterly testing in June 2018 indicated a spike of contaminants showing that VOC concentrations have increased from the downward trends. Quarterly sampling continued through the third quarter of 2018 to confirm the initial spike of contaminants of concern was not an anomaly.

2.4 March 2019 Soil-Vapor & Indoor Air Sampling

Additional soil-vapor and indoor air investigative activities were encouraged prior to the end of the heating season (March 31) by the NYSDEC at the February 15, 2019 Brownfield Pre-Application meeting. A vapor intrusion investigation consisting of sub-slab soil vapor samples, indoor air samples

and an ambient outdoor samples was conducted on March 7, 2019. Sample locations were selected based on the area of highest groundwater contamination (MW-3), approximate groundwater flow direction and area of assumed discharge (historic dry cleaners). Six soil-vapor samples (SV-1 through SV-5 and SV-7) were collected from the basement as sub-slab samples. Sub-slab samples were collected by coring a 5/8ths-inch hole through the floor and installing a permeant vapor sampling point. Each vapor point was constructed of metal and sealed with a rubber sleeve and cement and finished with a 2-inch metal cover. Corresponding indoor air samples (IA-1 through IA-5 and IA-7) were collected from the same vicinity of each soil-vapor sample. Repeated attempts in the basement of the building along Riverdale Avenue encountered groundwater directly beneath the slab. Inspection of the sump in this building wing confirmed this depth to groundwater. The presence of groundwater prevented collection of soil-vapor samples in the basement of the building; however, several indoor air samples (IA-6 and IA-12 through IA-14) were collected from this building area. Three contingent indoor air samples (IA-8, IA-9, and IA-10) were also collected from accessible spaces on the ground floor (lowest occupied/habitable floor). Figure 2 shows the locations of the sub-slab and indoor air samples.

All samples were collected over a 24-hour period in laboratory provided containers and transported to a New York State ELAP certified laboratory under chain of custody protocol. Samples were analyzed for volatile organic compounds (VOCs) via EPA method TO-15.

Results of the sub-slab soil vapor and indoor air sampling when compared to the NYSDOH Decision Matrices indicated “mitigate” for trichloroethene, tetrachloroethene and methylene chloride in several sample sets. These compounds were also detected in exceedance of the NYSDOH Air Guideline Value in several indoor air samples collected onsite from the basement. Three contingent indoor air samples collected from accessible spaces on the ground floor (lowest occupied/habitable floor) indicated no VOCs were detected in exceedance of the NYSDOH Air Guideline Values or the EPA VISL Target Indoor Air Concentrations. The attached Table 1 shows the summary of soil-vapor results and Table 2 shows the summary of indoor air results. The NYSDOH Decision Matrices are included in Appendix C and the full analytical data report in Appendix D.

3.0 IRM Scope of Work

Based on the laboratory results, vapor intrusion is currently occurring in the south basement wing and a portion of the basement along Riverdale Avenue. Site observations confirmed two sumps onsite in the sampled areas which are suspected to be contributing to the elevated VOC levels in indoor air by providing preferred vapor pathways from the subsurface. The vapor intrusion in the basement along Riverdale Avenue is suspected to be occurring primarily from the open sump as the indoor air sample results from this area (IA-12, IA-13, IA-14) did not greatly exceed the Air Guideline Values. The sumps will be sealed as part of the vapor mitigation activities detailed below. The basement spans the entire floorplan of the buildings and is used for storage and mechanical, electrical, maintenance rooms. The basement is not used for continuous occupancy. Contingent indoor air samples on accessible areas of the first/ground floor (lowest occupied level) indicated VOCs not detected above the lab method detection level. Minimal vapor migration to the ground floor through the basement is expected.

Additional soil vapor and indoor air sampling provide additional characterization of the vapor conditions for the onsite building is described in the August 20, 2019 Remedial Investigation Workplan. The proposed SSDS will be turned off at least 3 weeks prior to any sub-slab soil vapor sampling being conducted. The Workplan also describes water sampling from the onsite basement sumps for chlorinated

volatile organic compounds (CVOCs). Refer to the Remedial Investigation Workplan for specific project details.

The purpose of the IRM is to mitigate vapor intrusion from soil vapor into the identified onsite building areas with a sub-slab depressurization system (SSDS). The SSDS will be installed in the eastern portion of the building as well as the southern portion where previous analysis (detailed above) have identified vapor intrusion. If additional soil vapor and/or indoor air sampling, described above and in the RIWP, indicates potential vapor intrusion in other areas of the building the SSDS design will be modified as required. The steps of the IRM activities are detailed below.

3.1 Pilot Test & Sump Gaskets

The two onsite sumps will have permanent gasketed/sealed cover systems installed to prevent migration of vapor through these openings. The new covers will have gasketed clear plastic inspection ports to allow visual inspection and access to the sump pumps without the need to remove the entire cover. One port will be removable for pump access and the other port for a light source to assist in inspections. The pit cover will be ¼-inch steel plate with mounting holes drilled to match the studs on the flange rings. The covers will be gasketed and bolted to assure a vapor tight seal and will have a 2 inch PVC pipe connection for the vapor extraction system.

One test pit (indicated as Pit 2 on Figure 3) will be constructed in the basement by coring a four inch diameter hole through the floor. The pit will be approximately 16 inches deep and six to eight inches in diameter below the bottom of the concrete slab. The pit will contain a gravel vapor pack and two inch diameter slotted vapor extraction pipe. The surface of the floor around the extraction pipe will be sealed with cement grout around a flush mounted, two inch pipe coupling.

A pilot test will be conducted to confirm the subsurface vapor flow and the planned SSDS specifications. The previously installed vapor monitoring points (VMPs) will be used to measure the radius of influence for the proposed system. A pilot test blower system and portable generator (if needed) will be used to conduct the testing. The testing will occur over a one day period during which air flow rates and vacuum influence will be tested at various vacuum levels. The system exhaust will be discharged through a carbon vessel. Vacuum influence will be measured at the VMPs and the results will be used to determine the required blower size. Any anomalies noted during the test will be evaluated for impact on a proposed full scale system.

3.2 SSDS Installation

The SSDS design is based upon using the two existing sump pits and three additional sub-slab extraction pits (Pit 2 used for the pilot test as well as Pits 1 and 3) for vapor control under the floor of the south wing adjacent to and under the former dry cleaner area. Based upon available information to date, the SSDS is anticipated to include the following major components:

- Airtech USA Model 3BA1600 Regenerative Blower
- PRM Moisture Separator with in-line filter, automatic condensate pump control and high level shutoff. ½ horsepower (HP) condensate pump.
- Control panel with a main electrical disconnect, motor starters, hand-off-auto switch (HOA) with green run light, and red fault indicator light with reset button.

A crew and equipment will be mobilized to the site to install the SSDS. Installation of the SSDS will include construction of two additional sub-slab extraction pits, installation of the SSDS system, and supply and installation of the interconnecting piping from the three extraction pits to the blower skid. The additional extraction pits will be construction as described above in Section 3.1. The surface of the floor around the extraction pipes will be sealed with cement grout around a flush mounted four-inch pipe coupling. No additional VMPs are anticipated at this time.

Each extraction pit will be connected to the SSDS blower skid using two-inch diameter Schedule 40 PVC piping. The piping runs will be surface mounted to existing walls and the ceiling. A NYS licensed electrician will connect the SSDS to the building's electrical system for its own power source. A three inch diameter pipe will run from the SSDS discharge connection along the exterior building wall to a point at least two feet above the roof line of the building. The pipe discharge will be at least two feet vertical and 10 feet horizontal from the nearest window or ventilation system intake. This pipe will be installed along the side of the building and ventilate above the roof.

Pressure field testing will be completed after installation of the SSDS is installed and running. Pressure field extension testing will take pressure measurements at multiple locations to verify the SSDS is working on designed and has influence over the building area sub-slab environment that is impacted by soil vapor contamination.

The anticipated SSDS layout is included as Figure 3. The final layout will be confirmed by the pilot test. Upon completion of the system installation, as-built drawings of the system describing the physical layout, process flow, and controls will be prepared and certified by a NYS licensed P.E.

3.3 Post-Installation Indoor Air Sampling

After installation of the SSDS, indoor air samples will be collected from the basement to confirm the SSDS is working as designed to mitigate vapor intrusion. The samples will be collected during the heating season to exhibit potential worst case scenario results. The indoor air samples will be collected four weeks after operational startup of the system. Six indoor air samples will be collected from the basement with six contingent samples collected from the ground/first floor. The contingent samples will be placed on hold pending analysis of the basement samples. All samples will be collected in laboratory provided canisters over a 24-hour period. Samples will be transported to an NYSDEC ELAP certified laboratory under chain of custody protocol and analyzed for VOCs by EPA method TO-15. Sample results will be compared to the NYSDOH Guideline Values. The contingent samples will be activated for analysis if the corresponding basement sample analytical results exceed the NYSDOH Guideline Value. Figure 4 shows the anticipated locations of the indoor air samples.

4.0 Reporting

Following receipt of the confirmatory sample results, an Interim Remedial Measures Report will be prepared. The Report will include P.E. certified as-builts of the SSDS, description and details of the system, analytical data tables for the confirmatory indoor air sampling and confirmation the IRM is mitigating vapor intrusion onsite as designed.

5.0 Schedule

Task	Timeline (after Workplan approval)
Approval of IRM Workplan by DEC	0
Pilot Test & Sump Gasket Install	4-6 weeks
Receipt of SSDS Equipment and Off-Site Prep/Construction	12-14 weeks
Installation of SSDS	14-18 weeks
Confirmatory Indoor Air Sampling	18 weeks
Receipt of Lab Data & IRM Report	22 weeks

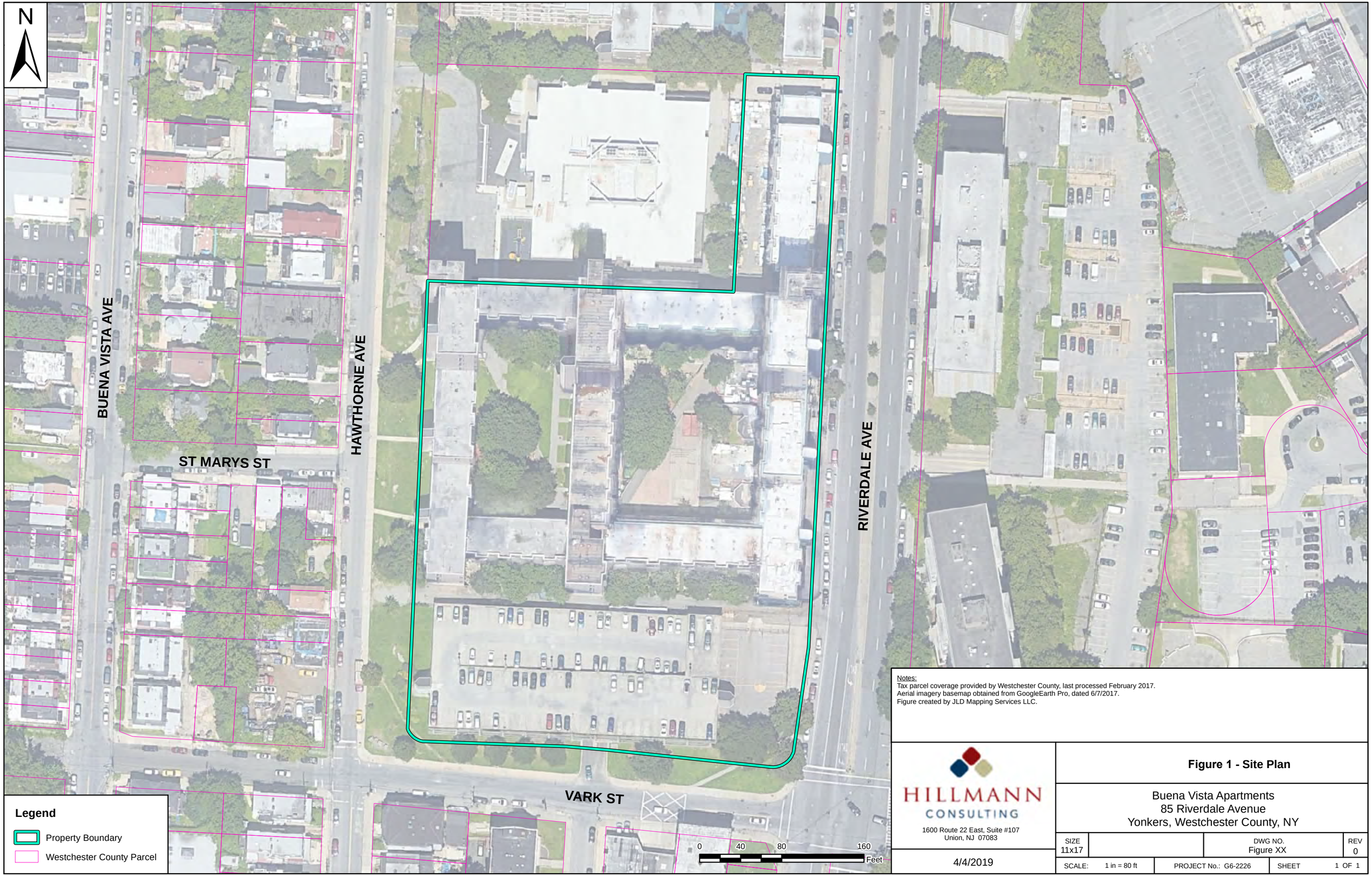
6.0 HASP

An OSHA compliant Health and Safety Plan that meets all OSHA HAZWOPER requirements will be implemented during the site work to protect worker safety. The Site Safety Coordinator will ensure full compliance of the HASP in accordance with applicable health and safety laws and regulations. All field personnel involved in investigation activities will participate in training required under OSHA HAZWOPER 29 CFR 1910.120, including 40-hour hazardous waste operator training and annual 8-hour refresher training. Emergency telephone numbers will be posted at the site location before any work begins. Information fact sheets and/or summary tables for each contaminant group are included in the HASP. The HASP is included in Appendix B.

7.0 Certification

Chris Hirschmann, QEP

Matthew I. Kamin, P.E.



Notes:
Tax parcel coverage provided by Westchester County, last processed February 2017.
Aerial imagery basemap obtained from GoogleEarth Pro, dated 6/7/2017.
Figure created by JLD Mapping Services LLC.

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4/4/2019

Figure 1 - Site Plan

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure XX	0
SCALE: 1 in = 80 ft	PROJECT No.: G6-2226	SHEET	1 OF 1

N

Sample ID:		IA-4
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	11.2
Trichloroethene	2	**6.66**
Tetrachloroethene	30	**604**
Trichloroethene	Mitigate	SV-4 = 1,930 IA-4 = 0.955
Tetrachloroethene		SV-4 = 490,000 IA-4 = 605

Sample ID:		IA-6
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	**80.6**
Trichloroethene	2	0.532
Tetrachloroethene	30	28.8

Sample ID:		IA-5
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	8.79
Trichloroethene	2	0.167
Tetrachloroethene	30	0.454

Sample ID:		IA-14
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	2.44
Trichloroethene	2	ND
Tetrachloroethene	30	**43.6**

Sample ID:		IA-7
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	18.8
Trichloroethene	2	2.06
Tetrachloroethene	30	**161**
Tetrachloroethene	Mitigate	SV-7 = 652 IA-7 = 161

Sample ID:		IA-3
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	6.6
Trichloroethene	2	**3.61**
Tetrachloroethene	30	**283**

Sample ID:		IA-13
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	7.23
Trichloroethene	2	0.129
Tetrachloroethene	30	**33.6**

Sample ID:		IA-12
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	13.7
Trichloroethene	2	0.129
Tetrachloroethene	30	**30.7**

Sample ID:		IA-2
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	6.7
Trichloroethene	2	**3.57**
Tetrachloroethene	30	**277**
Trichloroethene	Mitigate	SV-2 = 98.3 IA-2 = 3.57

RIVERDALE AVE

HAWTHORNE AVE

Sample ID:		IA-9
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	ND
Trichloroethene	2	ND
Tetrachloroethene	30	ND

Sample ID:		IA-8
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	ND
Trichloroethene	2	ND
Tetrachloroethene	30	ND

Sample ID:		IA-10
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	3.32
Trichloroethene	2	ND
Tetrachloroethene	30	2.17

Sample ID:		IA-1
Sample Date:		3/7/2019
	NYSDOH	
Methylene chloride	60	9.07
Trichloroethene	2	0.167
Tetrachloroethene	30	ND

IA-14
IA-9**
IA-13
IA-8**
IA-12
IA-10**
IA-5
SV-5
IA-3
SV-3
IA-2
SV-2
IA-4
SV-4
IA-7
SV-7
IA-1
SV-1
IA-6
SUMP
SUMP
MW-1
MW-2
MW-3
MW-5

0 25 50 100 Feet

Legend

- Indoor Air Sample
- Soil Vapor Sample
- Monitoring Well

Notes:
All locations are approximate; ** = Samples collected on ground floor.
All concentrations displayed in micrograms per cubic meter (ug/m3); ND = Not Detected; exceedance of NYDOH (New York State Department of Health Air Guideline Value or Decision Matrix Guideline) standard highlighted yellow.
Basement layout diagram provided by Lawless & Mangione Architects and Engineers LP, drawing no. R-003.00, last revised 9/30/2015.
Figure created by JLD Mapping Services LLC.

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3/26/2019

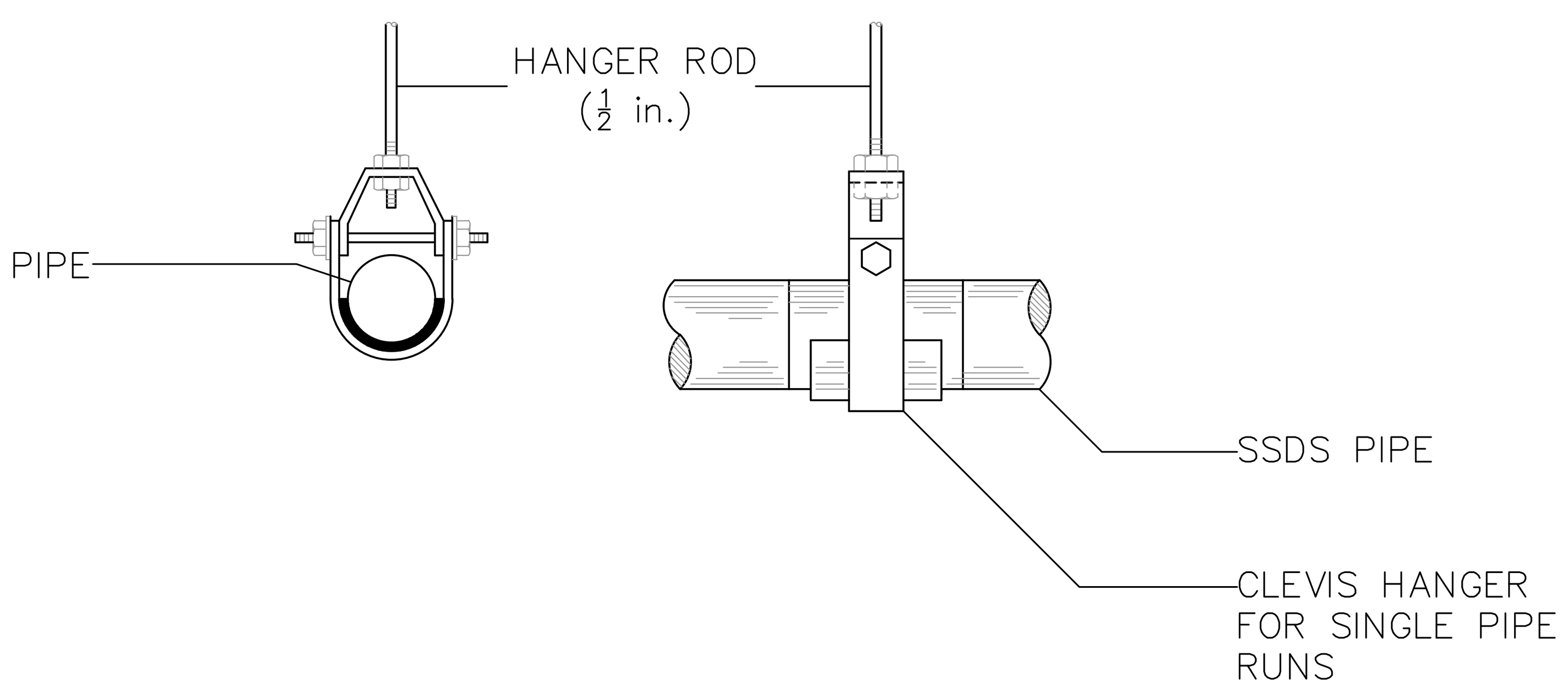
Figure 2 Soil Vapor and Indoor Air Sampling Results

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure XX	2
SCALE: 1 in = 50 ft	PROJECT No.: G6-2226	SHEET	1 OF 1

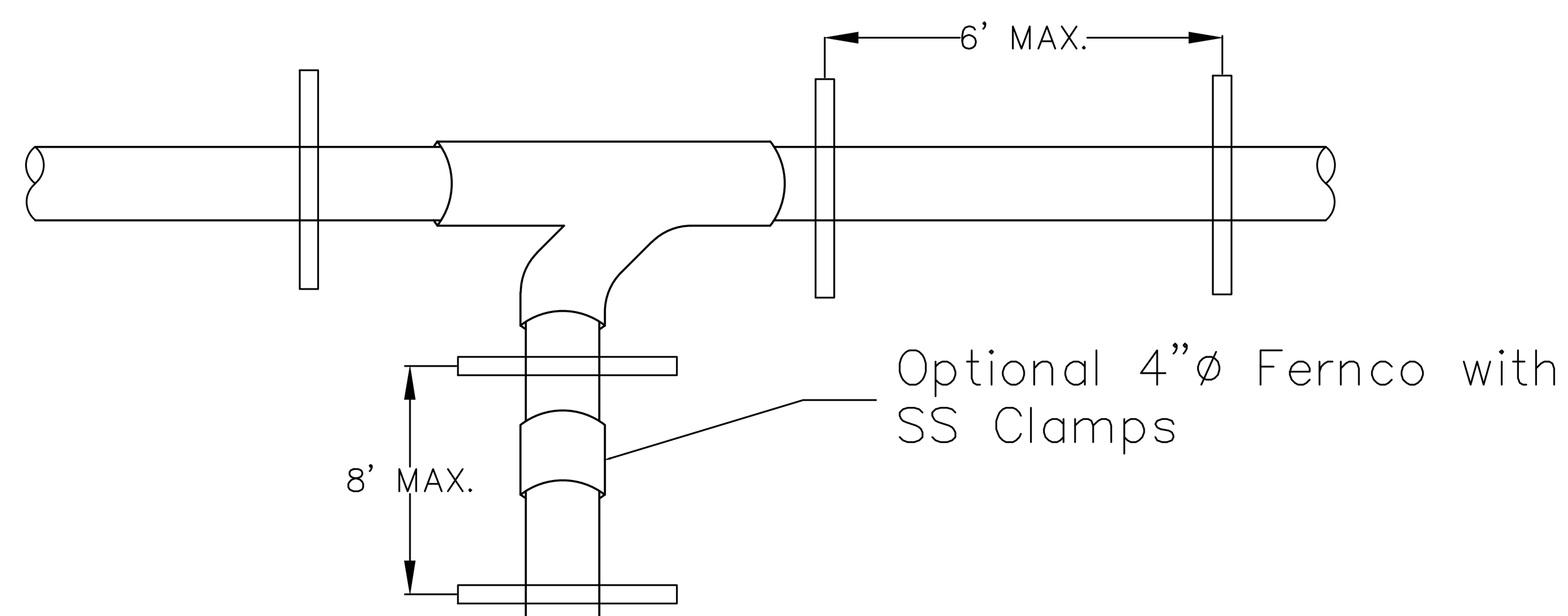
TYPICAL PIPE HANGER DETAIL

* NOTE: NOT TO SCALE



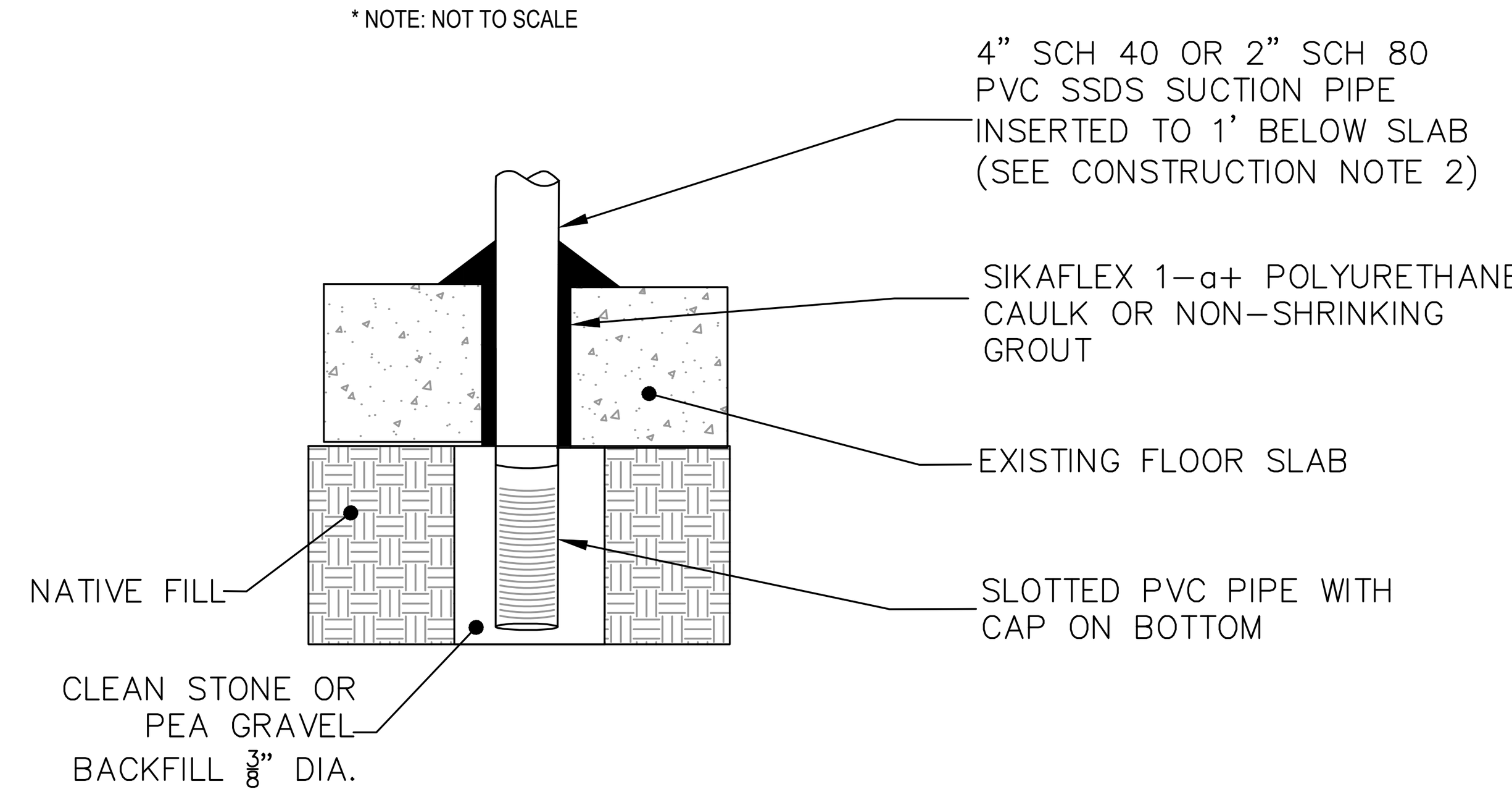
WALL MOUNTING DETAIL

* NOTE: NOT TO SCALE



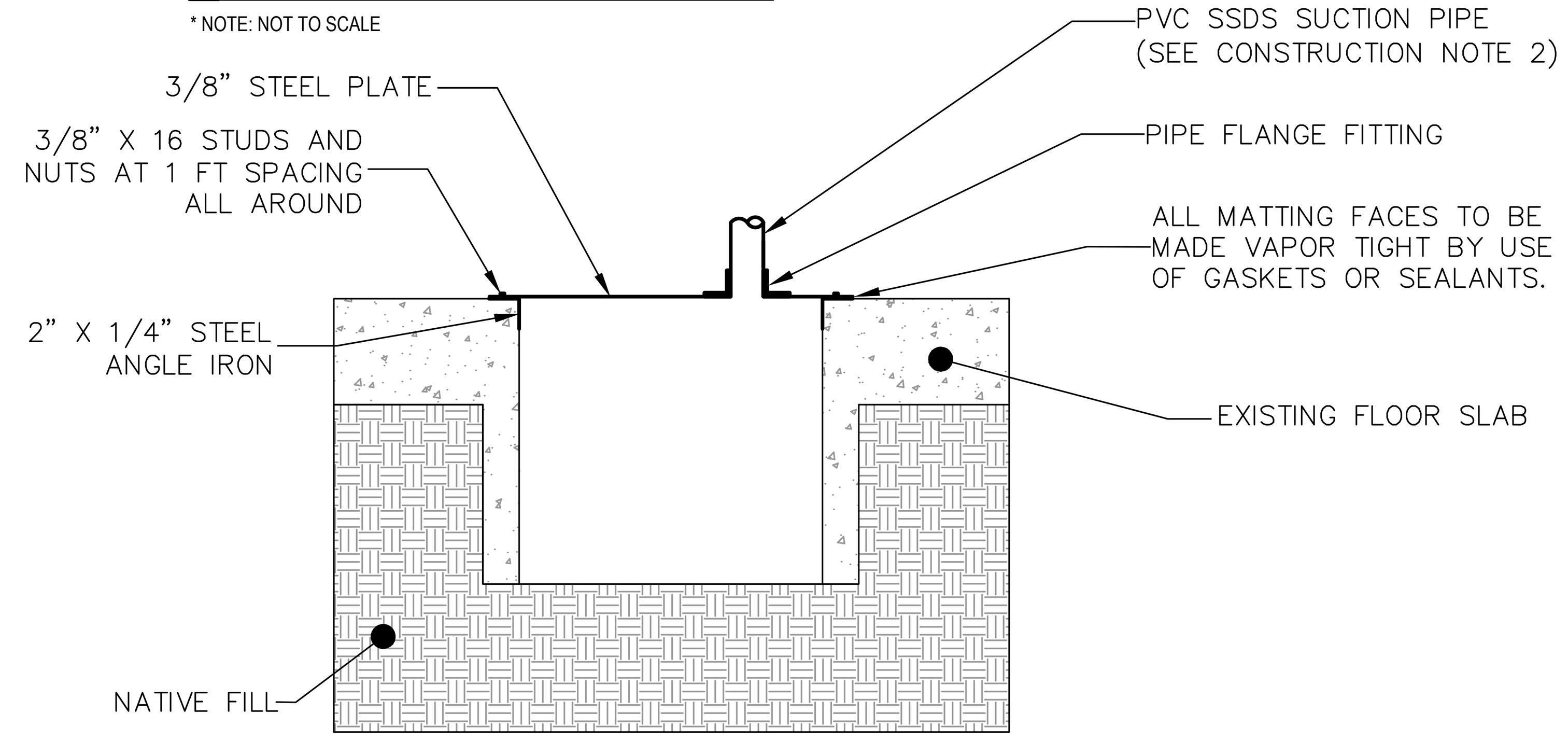
EXTRACTION POINT DETAIL

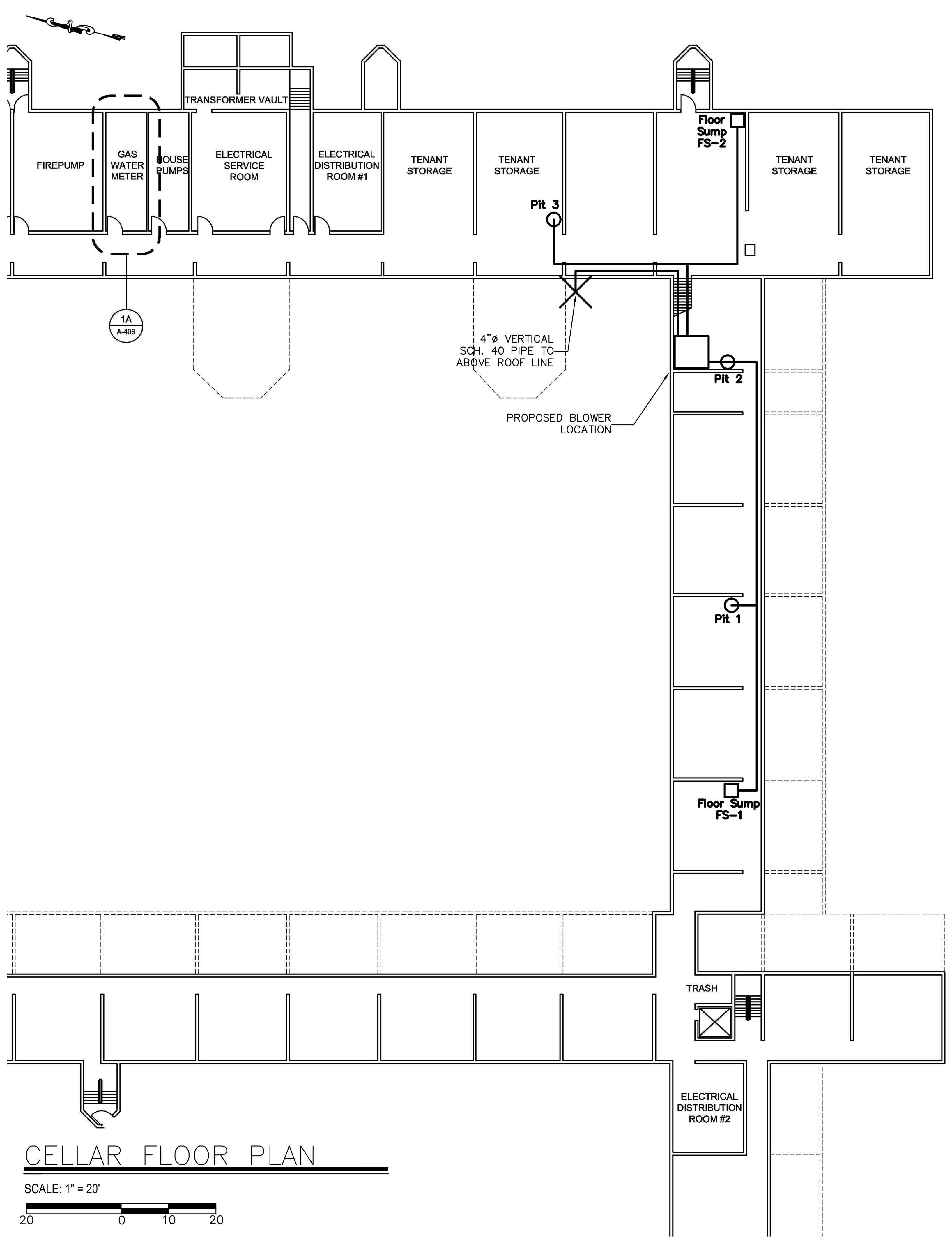
* NOTE: NOT TO SCALE



FLOOR SUMP DETAIL

* NOTE: NOT TO SCALE





CELLAR FLOOR PLAN

SCALE: 1" = 20'

20 0 10 20

LEGEND

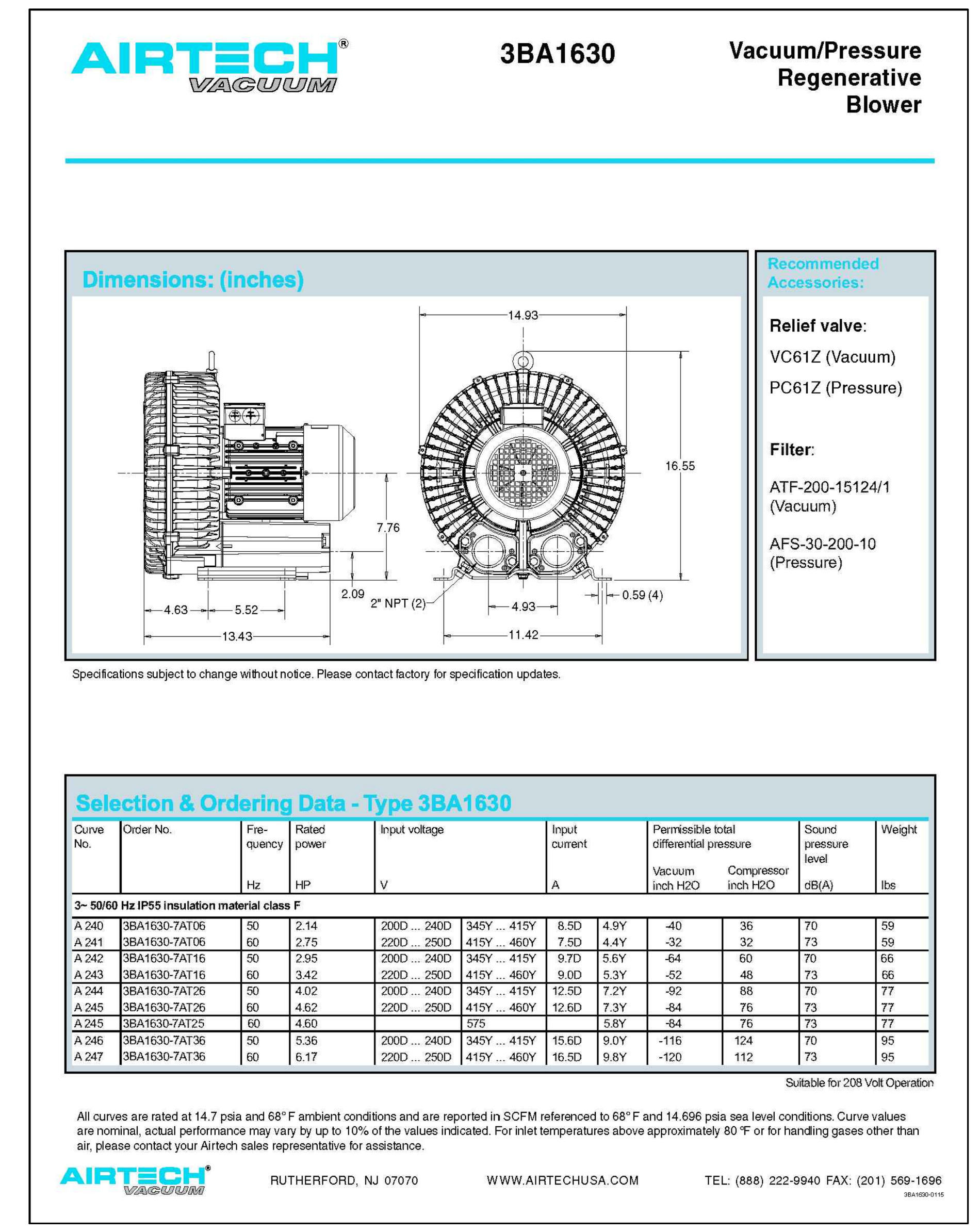
EP-1 ○ Proposed SSDS Extraction Point

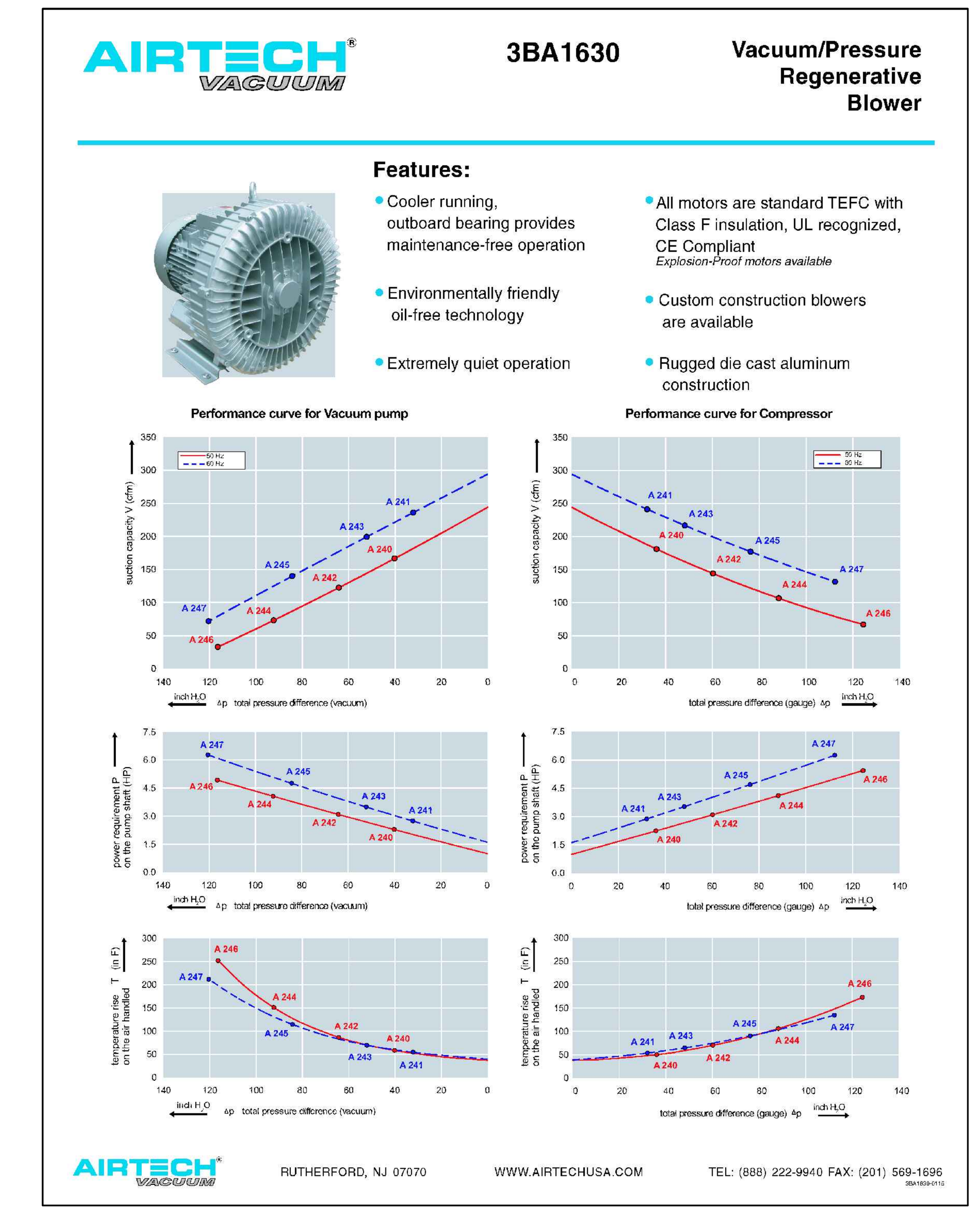
——— Proposed SSDS Piping Location

✕ Proposed SSDS Piping Vertical Run

Notes:

1. Site features obtained from "Basement Plan", prepared by Lawless & Manione Architects & Engineers LLP, dated 7/06/15.
2. Interior locations for the SSD pits are proposed based upon a site visit with limited dimensional detail – this drawing is not to scale. SSD pits are shown in locations with reasonable access for pit installation and piping that are most likely to provide maximum sub-slab influence for vapor control.
3. RESNY does not guarantee the accuracy of locations for subsurface utilities or structural components of the building. The contractor shall verify the location and elevation of all underground features before the start of work.





Construction Notes:

1. Three new Vapor Extraction Suction Points shall be constructed with a minimum void space equivalent to 2 gallons or 0.25 cft. See detail, this page.
2. Existing floor sump pits 1 and 2 are to be covered and sealed vapor tight. The vapor tight covers shall have clear plastic inspection ports to observe the sump condition without removing the cover and a removable, re-sealable cover to allow pump service without the need to remove to full cover. See Operational Note #1 below and proposed pit cover design this page.
3. SSDS pits may be constructed by drilling a 6" diameter hole in the existing floor and hand digging below the floor with a shop vacuum to a nominal depth of 18 inches below the slab. The riser pipe is then inserted up to 1" below the bottom of the floor slab and grouted in place. Slotted Sch 40 PVC (0.040ò slot), cut to length, capped, and glued onto the riser pipe is used to prevent the pipe from sliding further into the SSD pit and to prevent surrounding soils from entering the SSDS. The void space around the slotted pipe is to be backfilled with clean stone or pea gravel, nominally 3/8" dia.
4. Horizontal runs of piping must have a positive slope toward a vapor extraction pit location with no dips or bellies anywhere along the pipe run. Condensate from soil moisture must be allowed to drain back to the soil. Tees connecting the risers into the 4" piping header must point down to allow condensate drainage.
5. Floor cracks and joints must be sealed with caulk or appropriate sealants to prevent short circuiting of building air into the SSDS. RES recommends Sikaflex a1+ sealant.
6. PVC pipe and fittings shall be 2" Schedule 40 or 4" Schedule 40, meeting ASTM D2665, F891, or F1488 standard.
7. All PVC pipe connections must be primered and glued.
8. Schedule 80 piping is recommended where pipes will be subject to traffic or incidental contact once the system is placed into service.
9. The location where the piping exits the floor shall be sealed with Sikaflex 1a+ polyurethane sealant (no exceptions) or permanently grouted with a non-shrink grout.
10. All piping shall be supported off the building using brackets and hangars appropriate for the weight of the pipe and the building structure.
11. The Vapor Extraction Blower shall be mounted in a secure location in the basement. The blower may be mounted in any position (horizontally or vertically) as best suited for the location. Power for this unit shall be supplied from a main distribution panel. The electrical supply to the blower shall be a dedicated service for this unit only. There shall be no switches or disconnects installed to interrupt this service except as required by applicable codes at the blower for servicing the unit. The circuit breaker and service disconnect for this unit shall be labeled, "ALWAYS ON-SOIL VENT FAN"
12. All piping within 3 feet of the blower inlet and outlet shall be steel. Reducer fittings shall be placed as close as possible to the blower connections and all piping shall be supported as needed to eliminate any stresses on the blower housing. Galvanized piping is recommended for connections into and out of the blower for heat dissipation (PVC is not permitted). Steel braided flex hoses may be used, but are not required if the contractor uses appropriate supports and/or piping configurations for these connections. A 1/4" condensate drain tap is recommended at the lowest point on the discharge side of the blower.
13. The exterior atmospheric exhaust point shall be located at least 10 feet above grade level or 2 feet above the building roof line and no less than 2 feet vertical and no less than 10 feet horizontal from any operable door or window or from any mechanical equipment air intake. The pipe exhaust shall have a rain cap or discharge downward and be screened to prevent precipitation, insects, rodents, or birds from entering the pipe.
14. All above grade piping shall be labeled in block letters no smaller than .5 inches – Soil gas vent system. Labels shall be installed at intervals every 20 ft length and within each room or accessible service area.

Operational Notes:

1. Any sub-slab pits, sumps or other floor penetrations requiring any maintenance and that connect to the soil air must be sealed with nonpermanent caulk or gasket. Lids for any floor sumps must be mechanically fastened and sealed in a manner to permit removal and replacement for any maintenance of the sump pump. The lid must have an inspection port for visual access to permit observations of the sump pump, thus allowing routine verification of the sump pump operation without loss of the vapor seal.
2. Gauge connections shall be installed in the galvanized piping at the inlet and outlet of the blower. 1/4" NPT connections are recommended to be installed for future testing & service of the blower. If desired, gauges ranged to 150 inch water column may be installed.
3. A warning device (light or buzzer) or vacuum indicator shall be connected to the system and mounted in a location suitable for easy viewing by building occupants or maintenance personnel. RES recommends a vacuum gauge such as MagnehelicÈ Model 2150 (range 0 – 150 in wc) or equal installed in any convenient location ahead of the blower.
4. A 1/2" NPT threaded connection shall be provided in a location on the discharge side of the blower that will provide at least 10 pipe diameters upstream and 5 pipe diameters downstream of smooth, straight pipe (no fittings, couplings, etc). This connection shall be plugged with a ½ò NPT pipe plug for future use in obtaining air flow measurements. RES recommends drilling and tapping this connection into the wall of the pipe.

Recommended Blower:

RES recommends an Airtech Model 3BA1630 A247 blower. We have assumed the building will have 3 phase power at 208 or 230 volts available for this unit. RES also recommends a magnetic motor starter with indicator pilot light for motor control. If no pilot light is provided, the SSDS requires a vacuum gauge or other visible indicator to show that the system is operating.

General Notes:

1. This SSDS is not intended for soil vapor remediation or as a remediation system, This design is based upon NYSDOH and USEPA guidance for recommended mitigation measures to address indoor air quality issues.
2. Not all required parts are shown on these drawings. It is the contractor's responsibility to provide all necessary parts & materials for a fully functional system that meets applicable building and safety codes.
3. RES has assumed this blower to be sufficient based upon the building floor area. Without the benefit of a pilot test or soil permeability data for air flow, we cannot calculate an estimated pressure below the floor slab.
4. All work must be performed by properly licensed NYS contractors knowledgeable in mechanical piping and electrical work.
5. All construction and installation work shall be reviewed and approved by the engineer.

NY Professional Engineer No. 82819
RESNY LLC Cert. No. 0007521

RESNY
Remediation Equipment and
Services of New York, LLC

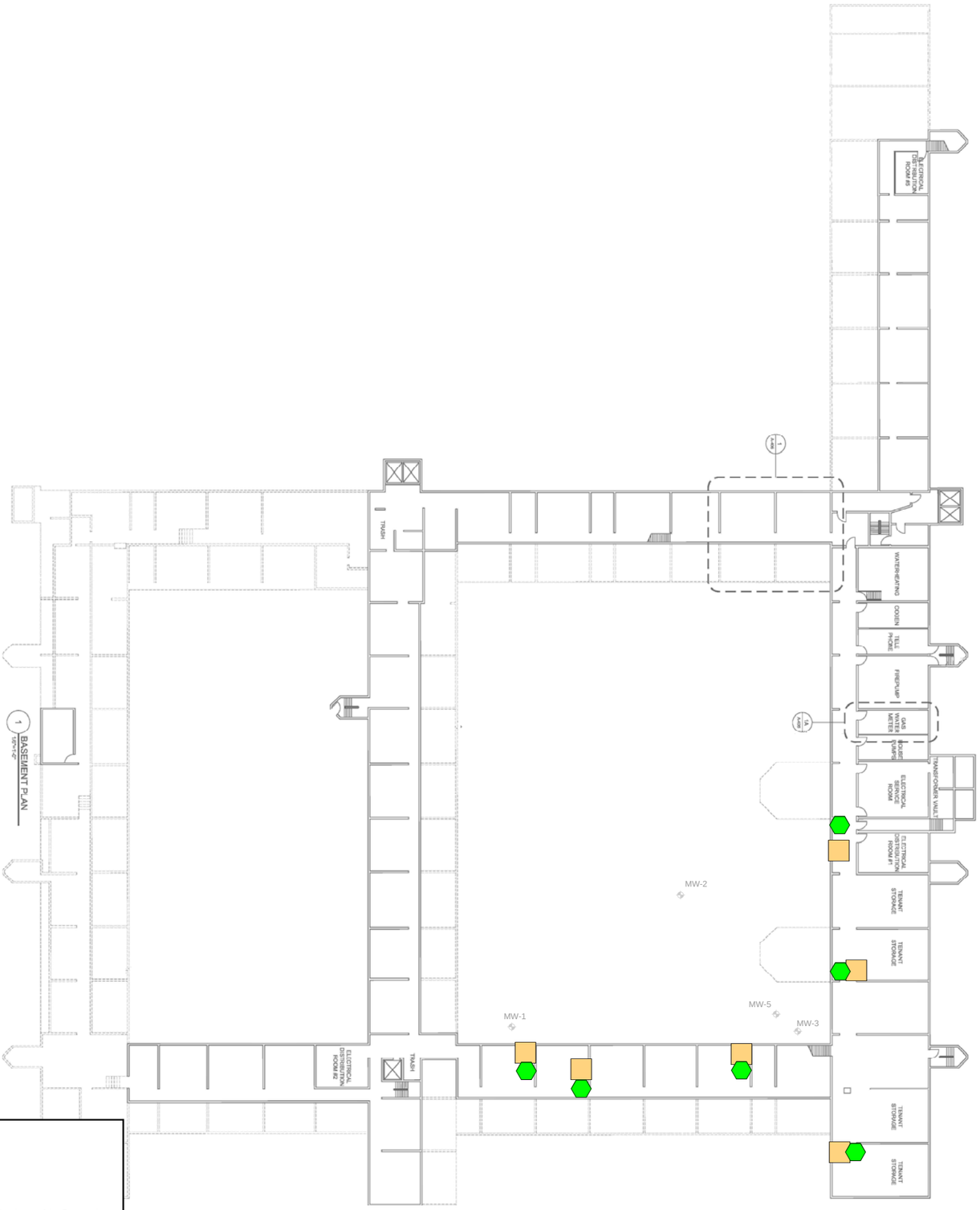
SUB-SLAB DEPRESSURIZATION SYSTEM for
85 Riverdale Ave
Yonkers, NY

Drawn By:	BTA	Checked By:	MLM	Approved By:	HMH
Scale	AS SHOWN	Dwg No:	SE YONKERS	Date:	4-03-19

N

HAWTHORNE AVE

RIVERDALE AVE



Legend

- Proposed Basement Indoor Air Sample
- Proposed Contingent Ground/1st Floor Indoor Air Sample
- Monitoring Well

Notes:
All locations are approximate.
Basement layout diagram provided by Lawless & Mangione Architects and Engineers LP, drawing no. R-003.00, last revised 9/30/2015.
Figure created by JLD Mapping Services LLC.

HILLMANN CONSULTING
1600 Route 22 East, Suite #107
Union, NJ 07083

4/3/2019

Figure 4 - Confirmatory Indoor Air Samples

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure 3	1
SCALE: 1 in = 50 ft	PROJECT No.: G6-2226	SHEET	1 OF 1

TABLE 1 - SUMMARY OF SUB-SLAB SOIL VAPOR RESULTS - MARCH 7, 2019 85 RIVERDALE AVE YONKERS, NEW YORK

	USEPA VISL Target Sub-Slab Concentration	SV-1 L1909015-02 3/7/2019 SOIL_VAPOR				SV-2 L1909015-04 3/7/2019 SOIL_VAPOR				SV-3 L1909015-06 3/7/2019 SOIL_VAPOR				SV-4 L1909015-08 3/7/2019 SOIL_VAPOR				SV-5 L1909015-10 3/7/2019 SOIL_VAPOR				SV-7 L1909015-13 3/7/2019 SOIL_VAPOR			
ANALYTE	(ug/m3)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS IN AIR																									
1,1,1-Trichloroethane	170,000	ND		1.09	-	10.1		1.09	-	3.87		1.09	-	1930		1700	-	ND		1.36	-	9.55		1.82	-
1,1,2,2-Tetrachloroethane	1.6	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		2140	-	ND		1.72	-	ND		2.29	-
1,1,2-Trichloroethane	5.9	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1700	-	ND		1.36	-	ND		1.82	-
1,1-Dichloroethane	59	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		1260	-	ND		1.01	-	ND		1.35	-
1,1-Dichloroethene	7,000	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		1240	-	ND		0.991	-	ND		1.32	-
1,2,4-Trichlorobenzene	70	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		2320	-	ND		1.86	-	ND		2.47	-
1,2,4-Trimethylbenzene	2,100	7.52		0.983	-	7.82		0.983	-	10.5		0.983	-	ND		1530	-	4.09		1.23	-	9.44		1.64	-
1,2-Dibromoethane	0.16	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		2400	-	ND		1.92	-	ND		2.56	-
1,2-Dichlorobenzene	7,000	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1880	-	ND		1.5	-	ND		2	-
1,2-Dichloroethane	3.6	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		1260	-	ND		1.01	-	ND		1.35	-
1,2-Dichloropropane	25	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		1440	-	ND		1.16	-	ND		1.54	-
1,3,5-Trimethylbenzene	2,100	1.68		0.983	-	2.05		0.983	-	2.23		0.983	-	ND		1530	-	ND		1.23	-	1.82		1.64	-
1,3-Butadiene	NA	1.6		0.442	-	0.538		0.442	-	ND		0.442	-	ND		690	-	ND		0.553	-	ND		0.737	-
1,3-Dichlorobenzene	NA	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1880	-	ND		1.5	-	ND		2	-
1,4-Dichlorobenzene	8.5	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1880	-	ND		1.5	-	ND		2	-
1,4-Dioxane	19	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		1120	-	ND		0.901	-	ND		1.2	-
2,2,4-Trimethylpentane	NA	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		1460	-	ND		1.17	-	ND		1.56	-
2-Butanone	NA	3.1		1.47	-	3.13		1.47	-	5.22		1.47	-	ND		2300	-	2.09		1.84	-	2.83		2.46	-
2-Hexanone	1,000	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		1280	-	ND		1.02	-	ND		1.36	-
3-Chloropropene	NA	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		977	-	ND		0.783	-	ND		1.04	-
4-Ethyltoluene	NA	1.53		0.983	-	2.02		0.983	-	2.72		0.983	-	ND		1530	-	ND		1.23	-	1.96		1.64	-
4-Methyl-2-pentanone	NA	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		3200	-	ND		2.56	-	ND		3.42	-
Acetone	100,000	37.1		2.38	-	37.8		2.38	-	257		2.38	-	ND		3710	-	39.4		2.97	-	26.4		3.97	-
Benzene	120	5.11		0.639	-	19		0.639	-	2.16		0.639	-	ND		997	-	1.32		0.799	-	4.66		1.06	-
Benzyl chloride	1.9	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1620	-	ND		1.29	-	ND		1.72	-
Bromodichloromethane	2.5	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		2090	-	ND		1.67	-	ND		2.23	-
Bromoform	85	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		3230	-	ND		2.58	-	ND		3.44	-
Bromomethane	170	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		1210	-	ND		0.971	-	ND		1.29	-
Carbon disulfide	24,000	159		0.623	-	201		0.623	-	238		0.623	-	ND		972	-	315		0.779	-	192		1.04	-
Carbon tetrachloride	16	ND		1.26	-	47.9		1.26	-	35.3		1.26	-	ND		1960	-	2.55		1.57	-	9.31		2.09	-
Chlorobenzene	1,700	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		1440	-	ND		1.15	-	ND		1.53	-
Chloroethane	3,100	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		823	-	ND		0.66	-	ND		0.879	-
Chloroform	4.1	ND		0.977	-	18		0.977	-	11.6		0.977	-	ND		1520	-	ND		1.22	-	ND		1.63	-
Chloromethane	3,100	ND		0.413	-	ND		0.413	-	ND		0.413	-	ND		644	-	ND		0.516	-	ND		0.688	-
cis-1,2-Dichloroethene	3.6	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		1240	-	ND		0.991	-	ND		1.32	-
cis-1,3-Dichloropropene	250	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		1420	-	ND		1.13	-	ND		1.51	-
Cyclohexane	210,000	ND		0.688	-	9.22		0.688	-	ND		0.688	-	ND		1070	-	ND		0.861	-	1.33		1.15	-
Dibromochloromethane	NA	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		2660	-	ND		2.13	-	ND		2.84	-
Dichlorodifluoromethane	3,500	2.09		0.989	-	12.4		0.989	-	17.5		0.989	-	ND		1540	-	6.77		1.24	-	3		1.65	-
Ethanol	NA	18.7		9.42	-	78.6		9.42	-	243		9.42	-	ND		14700	-	72.2		11.8	-	78.8		15.7	-
Ethyl Acetate	2,400	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		2810	-	ND		2.25	-	ND		3.01	-
Ethylbenzene	37	1.57		0.869	-	1.78		0.869	-	2.01		0.869	-	ND		1360	-	ND		1.09	-	ND		1.45	-
Freon-113	NA	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		2390	-	ND		1.92	-	ND		2.55	-
Freon-114	NA	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		2180	-	ND		1.75	-	15.4		2.33	-
Heptane	NA	1.69		0.82	-	5.9		0.82	-	2.12		0.82	-	ND		1280	-	1.13		1.02	-	ND		1.36	-
Hexachlorobutadiene	4.3	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		3330	-	ND		2.67	-	ND		3.55	-
Isopropanol	7,000	3.61		1.23	-	8.55		1.23	-	29.7		1.23	-	ND		1920	-	8.78		1.54	-	8.53		2.05	-
Methyl tert butyl ether	360	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		1120	-	ND		0.901	-	ND		1.2	-
Methylene chloride	3,400	ND		1.74	-	ND		1.74	-	2.36		1.74	-	ND		2710	-	ND		2.17	-	ND		2.9	-
n-Hexane	NA	2.42		0.705	-	34.6		0.705	-	2.68		0.705	-	ND		1100	-	ND		0.881	-	2.6		1.17	-
o-Xylene	NA	1.56		0.869	-	1.71		0.869	-	2.05		0.869	-	ND		1360	-	ND		1.09	-	ND		1.45	-
p/m-Xylene	NA	5.69		1.74	-	6.08		1.74	-	6.91		1.74	-	ND		2710	-	3.51		2.17	-	4.65		2.9	-
Styrene	35,000	2.03		0.852	-	2.51		0.852	-	2.71		0.852	-	ND		1330	-	1.41		1.06	-	2.21		1.42	-
Tertiary butyl Alcohol	NA	ND		1.52	-	2.74		1.52	-	4.4		1.52	-	ND		2370	-	2.52		1.89	-	ND		2.53	-
Tetrachloroethene	360	4.24		1.36	-	18		1.36	-	18.9		1.36	-	490000		2120	-	7.39		1.7	-	652		2.26	-
Tetrahydrofuran	70,000	ND		1.47	-	ND		1.47	-	ND		1.47	-	ND		2300	-	ND		1.84	-	ND		2.46	-
Toluene	170,000	8.67		0.754	-	12.7		0.754	-	11.1		0.754	-	ND		1180	-	7.99		0.942	-	8.67		1.25	-
trans-1,2-Dichloroethene	NA	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		1240	-	ND		0.991	-	ND		1.32	-
trans-1,3-Dichloropropene	NA	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		1420	-	ND		1.13	-	ND		1.51	-
Trichloroethene	16	1.88		1.07	-	98.3		1.07	-	3.1		1.07	-	15500		1680	-	1.44		1.34	-	ND		1.79	-
Trichlorofluoromethane	NA	6.24		1.12	-	177		1.12	-	228		1.12	-	ND		1750	-	106		1.4	-	35.2		1.87	-
Vinyl bromide	2.9	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		1360	-	ND		1.09	-	ND		1.46	-
Vinyl chloride	5.6	ND		0.511	-	ND		0.511	-	ND		0.511	-	ND		798	-	ND		0.639	-	ND		0.851	-

All results in ug/m3

Yellow highlight indicates result exceedance of UEPA RISL Target Sub-Slab Concentration

NA = No applicable standard

ND = not detected above method detection limit

TABLE 2 - SUMMARY OF INDOOR AIR RESULTS (Part 1) -
MARCH 7, 2019 85 RIVERDALE AVE
YONKERS, NEW YORK

TARGET COMPOUNDS	EPA VISL Target Indoor Air Concentration	NYSDOH Air Guideline Values	IA-1 L1909015-01 3/7/2019				IA-2 L1909015-03 3/7/2019				IA-3 L1909015-05 3/7/2019				IA-4 L1909015-07 3/7/2019				IA-5 L1909015-09 3/7/2019				IA-6 L1909015-11 3/7/2019			
			Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS IN AIR																										
1,1,2,2-Tetrachloroethane	0.38	NA	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-
1,1,2-Trichloroethane	NA	NA	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-
1,1-Dichloroethane	1.8	NA	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-
1,2,4-Trichlorobenzene	2.1	NA	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-
1,2,4-Trimethylbenzene	630	NA	ND		0.983	-	2.4		0.983	-	2.19		0.983	-	ND		0.983	-	ND		0.983	-	1.92		0.983	-
1,2-Dibromoethane	0.00047	NA	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-
1,2-Dichlorobenzene	210	NA	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-
1,2-Dichloroethane	0.11	NA	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-
1,2-Dichloropropane	NA	NA	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-
1,3,5-Trimethylbenzene	63	NA	ND		0.983	-	ND		0.983	-	ND		0.983	-	ND		0.983	-	ND		0.983	-	ND		0.983	-
1,3-Butadiene	0.94	NA	ND		0.442	-	ND		0.442	-	ND		0.442	-	ND		0.442	-	ND		0.442	-	ND		0.442	-
1,3-Dichlorobenzene	NA	NA	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-
1,4-Dichlorobenzene	NA	NA	ND		1.2	-	4.88		1.2	-	5.16		1.2	-	10.6		1.2	-	ND		1.2	-	ND		1.2	-
1,4-Dioxane	0.56	NA	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-
2,2,4-Trimethylpentane	NA	NA	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-
2-Butanone	NA	NA	ND		1.47	-	ND		1.47	-	ND		1.47	-	ND		1.47	-	ND		1.47	-	2.45		1.47	-
2-Hexanone	NA	NA	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-
3-Chloropropene	NA	NA	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-
4-Ethyltoluene	NA	NA	ND		0.983	-	ND		0.983	-	ND		0.983	-	ND		0.983	-	ND		0.983	-	ND		0.983	-
4-Methyl-2-pentanone	NA	NA	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-
Acetone	32,000	NA	4.96		2.38	-	24.7		2.38	-	24.7		2.38	-	48.5		2.38	-	5.53		2.38	-	27.3		2.38	-
Benzene	12	NA	0.671		0.639	-	0.92		0.639	-	0.917		0.639	-	1.09		0.639	-	ND		0.639	-	0.741		0.639	-
Benzyl chloride	NA	NA	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-
Bromodichloromethane	0.076	NA	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		1.34	-
Bromoform	2.6	NA	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-
Bromomethane	5.2	NA	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-
Carbon disulfide	730	NA	ND		0.623	-	ND		0.623	-	ND		0.623	-	ND		0.623	-	ND		0.623	-	ND		0.623	-
Chlorobenzene	52	NA	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-
Chloroethane	NA	NA	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-
Chloroform	0.12	NA	ND		0.977	-	1.14		0.977	-	1.07		0.977	-	1.73		0.977	-	ND		0.977	-	1.46		0.977	-
Chloromethane	94	NA	1.05		0.413	-	1.2		0.413	-	1.18		0.413	-	1.25		0.413	-	1.13		0.413	-	1.15		0.413	-
cis-1,3-Dichloropropene	NA	NA	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-
Cyclohexane	1,000	NA	ND		0.688	-	ND		0.688	-	ND		0.688	-	ND		0.688	-	ND		0.688	-	ND		0.688	-
Dibromochloromethane	NA	NA	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-
Dichl+A10:BL67orodifluoromethane	NA	NA	1.74		0.989	-	1.61		0.989	-	1.56		0.989	-	1.71		0.989	-	1.77		0.989	-	1.77		0.989	-
Ethanol	NA	NA	26.8		9.42	-	142		9.42	-	146		9.42	-	245		9.42	-	28.1		9.42	-	65.9		9.42	-
Ethyl Acetate	73	NA	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		1.8	-
Ethylbenzene	1.1	NA	ND		0.869	-	ND		0.869	-	ND		0.869	-	ND		0.869	-	ND		0.869	-	1.29		0.869	-
Freon-113	NA	NA	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-
Freon-114	NA	NA	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-
Heptane	NA	NA	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-
Hexachlorobutadiene	NA	NA	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-
Isopropanol	210	NA	ND		1.23	-	10.8		1.23	-	10.8		1.23	-	12.4		1.23	-	1.41		1.23	-	3.07		1.23	-
Methyl tert butyl ether	NA	NA	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-
Methylene chloride	100	60	9.07		1.74	-	6.7		1.74	-	6.6		1.74	-	11.2		1.74	-	8.79		1.74	-	80.6		1.74	-
n-Hexane	NA	NA	ND		0.705	-	ND		0.705	-	ND		0.705	-	ND		0.705	-	ND		0.705	-	1.39		0.705	-
o-Xylene	100	NA	ND		0.869	-	ND		0.869	-	ND		0.869	-	ND		0.869	-	ND		0.869	-	1.08		0.869	-
p/m-Xylene	100	NA	ND		1.74	-	ND		1.74	-	ND		1.74	-	ND		1.74	-	ND		1.74	-	3.57		1.74	-
Styrene	1,000	NA	ND		0.852	-	ND		0.852	-	ND		0.852	-	ND		0.852	-	ND		0.852	-	ND		0.852	-
Tertiary butyl Alcohol	NA	NA	ND		1.52	-	ND		1.52	-	ND		1.52	-	ND		1.52	-	ND		1.52	-	ND		1.52	-
Tetrahydrofuran	2,100	NA	ND		1.47	-	ND		1.47	-	ND		1.47	-	ND		1.47	-	ND		1.47	-	ND		1.47	-
Toluene	5,200	NA	ND		0.754	-	1.94		0.754	-	1.86		0.754	-	3.67		0.754	-	ND		0.754	-	23.7		0.754	-
trans-1,2-Dichloroethene	NA	NA	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-
trans-1,3-Dichloropropene	NA	NA	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-
Trichlorofluoromethane	NA	NA	1.37		1.12	-	2.41		1.12	-	2.5		1.12	-	1.96		1.12	-	1.43		1.12	-	1.34		1.12	-
Vinyl bromide	0.088	NA	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-
VOLATILE ORGANICS IN AIR BY SIM		NA																								
Vinyl chloride	0.17	NA	ND		0.051	-	ND		0.051	-	ND		0.051	-	ND		0.051	-	ND		0.051	-	ND		0.051	-
1,1-Dichloroethene	210	NA	ND		0.079	-	ND		0.079	-	ND		0.079	-	ND		0.079	-	ND		0.079	-	ND		0.079	-
cis-1,2-Dichloroethene	NA	NA	ND		0.079	-	1.27		0.079	-	1.27		0.079	-	2.3		0.079	-	ND		0.079	-	0.107		0.079	-
1,1,1-Trichloroethane	5,200	NA	ND		0.109	-	0.415		0.109	-	0.426		0.109	-	0.955		0.109	-	ND		0.109	-	ND		0.109	-
Carbon tetrachloride	0.47	NA	0.421		0.126	-	0.541		0.126	-	0.572		0.126	-	0.484		0.126	-	0.421		0.126	-	0.421		0.126	-
Trichloroethene	0.48	2	0.167		0.107	-	3.57		0.107	-	3.61		0.107	-	6.66		0.107	-	0.167		0.107	-	0.532		0.107	-
Tetrachloroethene	11	30	ND		0.136	-	277		0.136	-	283		0.136	-	604	E	0.452	-	0.454		0.136	-	28.8		0.136	-
1,2-Dichloroethene (total)	11	NA	ND		0.079	-	1.27		0.079	-	1.27		0.079	-	2.3		0.079	-	ND		0.079	-	0.107		0.079	-

All results in ug/m3
Orange highlight indicates result detected in exceedance of EPA VISL Target Conc
Yellow highlight indicates result detected in exceedance of NYSDOH Air Guideline Value
NA = No applicable standard

TABLE 2 - SUMMARY OF INDOOR AIR RESULTS (Part 2) -
MARCH 7, 2019 85 RIVERDALE AVE
YONKERS, NEW YORK

TARGET COMPOUNDS	EPA VISL Target Indoor Air Concentration	NYSDOH Air Guideline Values	IA-7 L1909015-12 3/7/2019				AA-11 L1909015-17 3/7/2019				IA-12 L1909015-18 3/7/2019				IA-13 L1909015-19 3/7/2019				IA-14 L1909015-20 3/7/2019			
			Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS IN AIR																						
1,1,2,2-Tetrachloroethane	0.38	NA	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-
1,1,2-Trichloroethane	NA	NA	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-
1,1-Dichloroethane	1.8	NA	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-
1,2,4-Trichlorobenzene	2.1	NA	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-
1,2,4-Trimethylbenzene	630	NA	ND		0.983	-	ND		0.983	-	ND		0.983	-	ND		0.983	-	ND		0.983	-
1,2-Dibromoethane	0.00047	NA	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-
1,2-Dichlorobenzene	210	NA	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-
1,2-Dichloroethane	0.11	NA	ND		0.809	-	ND		0.809	-	0.988		0.809	-	ND		0.809	-	ND		0.809	-
1,2-Dichloropropane	NA	NA	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-
1,3,5-Trimethylbenzene	63	NA	ND		0.983	-	ND		0.983	-	ND		0.983	-	ND		0.983	-	ND		0.983	-
1,3-Butadiene	0.94	NA	ND		0.442	-	ND		0.442	-	ND		0.442	-	ND		0.442	-	ND		0.442	-
1,3-Dichlorobenzene	NA	NA	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-
1,4-Dichlorobenzene	NA	NA	2.29		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-
1,4-Dioxane	0.56	NA	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-
2,2,4-Trimethylpentane	NA	NA	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-
2-Butanone	NA	NA	1.53		1.47	-	ND		1.47	-	ND		1.47	-	1.62		1.47	-	ND		1.47	-
2-Hexanone	NA	NA	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-
3-Chloropropene	NA	NA	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-
4-Ethyltoluene	NA	NA	ND		0.983	-	ND		0.983	-	ND		0.983	-	ND		0.983	-	ND		0.983	-
4-Methyl-2-pentanone	NA	NA	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-
Acetone	32,000	NA	23.2		2.38	-	2.78		2.38	-	8.79		2.38	-	7.98		2.38	-	4.89		2.38	-
Benzene	12	NA	0.757		0.639	-	0.818		0.639	-	0.693		0.639	-	0.741		0.639	-	0.732		0.639	-
Benzyl chloride	NA	NA	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-
Bromodichloromethane	0.076	NA	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		1.34	-
Bromoform	2.6	NA	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-
Bromomethane	5.2	NA	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-
Carbon disulfide	730	NA	ND		0.623	-	ND		0.623	-	ND		0.623	-	ND		0.623	-	ND		0.623	-
Chlorobenzene	52	NA	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-
Chloroethane	NA	NA	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-
Chloroform	0.12	NA	1.61		0.977	-	ND		0.977	-	1.17		0.977	-	1.11		0.977	-	ND		0.977	-
Chloromethane	94	NA	1.1		0.413	-	1.02		0.413	-	1.06		0.413	-	1.05		0.413	-	1.04		0.413	-
cis-1,3-Dichloropropene	NA	NA	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-
Cyclohexane	1,000	NA	ND		0.688	-	ND		0.688	-	ND		0.688	-	ND		0.688	-	ND		0.688	-
Dibromochloromethane	NA	NA	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-
Dichlorodifluoromethane	NA	NA	1.78		0.989	-	1.53		0.989	-	1.79		0.989	-	1.62		0.989	-	1.82		0.989	-
Ethanol	NA	NA	133		9.42	-	17.3		9.42	-	53.9		9.42	-	55		9.42	-	52.9		9.42	-
Ethyl Acetate	73	NA	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		1.8	-
Ethylbenzene	1.1	NA	ND		0.869	-	ND		0.869	-	ND		0.869	-	ND		0.869	-	ND		0.869	-
Freon-113	NA	NA	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-
Freon-114	NA	NA	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-
Heptane	NA	NA	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-
Hexachlorobutadiene	NA	NA	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-
Isopropanol	210	NA	5.06		1.23	-	ND		1.23	-	2.51		1.23	-	2.85		1.23	-	2.97		1.23	-
Methyl tert butyl ether	NA	NA	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-
Methylene chloride	100	60	18.8		1.74	-	2.97		1.74	-	13.7		1.74	-	7.23		1.74	-	2.44		1.74	-
n-Hexane	NA	NA	ND		0.705	-	ND		0.705	-	0.779		0.705	-	0.825		0.705	-	ND		0.705	-
o-Xylene	100	NA	ND		0.869	-	ND		0.869	-	ND		0.869	-	ND		0.869	-	ND		0.869	-
p/m-Xylene	100	NA	ND		1.74	-	ND		1.74	-	ND		1.74	-	ND		1.74	-	ND		1.74	-
Styrene	1,000	NA	ND		0.852	-	ND		0.852	-	ND		0.852	-	ND		0.852	-	ND		0.852	-
Tertiary butyl Alcohol	NA	NA	ND		1.52	-	ND		1.52	-	ND		1.52	-	ND		1.52	-	ND		1.52	-
Tetrahydrofuran	2,100	NA	ND		1.47	-	ND		1.47	-	ND		1.47	-	ND		1.47	-	ND		1.47	-
Toluene	5,200	NA	5.77		0.754	-	ND		0.754	-	4.03		0.754	-	2.63		0.754	-	1.26		0.754	-
trans-1,2-Dichloroethene	NA	NA	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-
trans-1,3-Dichloropropene	NA	NA	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-
Trichlorofluoromethane	NA	NA	1.53		1.12	-	1.2		1.12	-	1.28		1.12	-	1.41		1.12	-	1.33		1.12	-
Vinyl bromide	0.088	NA	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-
VOLATILE ORGANICS IN AIR BY SIM		NA																				
Vinyl chloride	0.17	NA	ND		0.051	-	ND		0.051	-	ND		0.051	-	ND		0.051	-	ND		0.051	-
1,1-Dichloroethene	210	NA	ND		0.079	-	ND		0.079	-	ND		0.079	-	ND		0.079	-	ND		0.079	-
cis-1,2-Dichloroethene	NA	NA	0.599		0.079	-	0.21		0.079	-	0.103		0.079	-	0.119		0.079	-	ND		0.079	-
1,1,1-Trichloroethane	5,200	NA	0.24		0.109	-	0.284		0.109	-	ND		0.109	-	ND		0.109	-	ND		0.109	-
Carbon tetrachloride	0.47	NA	0.453		0.126	-	0.799		0.126	-	0.415		0.126	-	0.434		0.126	-	0.421		0.126	-
Trichloroethene	0.48	2	2.06		0.107	-	0.451		0.107	-	0.129		0.107	-	0.129		0.107	-	ND		0.107	-
Tetrachloroethene	11	30	161		0.136	-	10.8		0.136	-	30.7		0.136	-	33.6		0.136	-	43.6		0.136	-
1,2-Dichloroethene (total)	11	NA	0.599		0.079	-	0.21		0.079	-	0.103		0.079	-	0.119		0.079	-	ND		0.079	-

All results in ug/m3
Orange highlight indicates result detected in exceedance of EPA VISL Target Conc
Yellow highlight indicates result detected in exceedance of NYSDOH Air Guideline Value
NA = No applicable standard

TABLE 3 - SUMMARY OF INDOOR AIR RESULTS (Contingent Samples) -
MARCH 7, 2019 85 RIVERDALE AVE
YONKERS, NEW YORK

	EPA VISL Target Indoor Air Concentration	NYSDOH Air Guideline Values	IA-8 L1909015-14 3/7/2019				IA-9 L1909015-15 3/7/2019				IA-10 L1909015-16 3/7/2019			
ANALYTE		(ug/m3)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS IN AIR														
1,1,2,2-Tetrachloroethane	0.38	NA	ND		1.37	-	ND		1.37	-	ND		1.37	-
1,1,2-Trichloroethane	NA	NA	ND		1.09	-	ND		1.09	-	ND		1.09	-
1,1-Dichloroethane	1.8	NA	ND		0.809	-	ND		0.809	-	ND		0.809	-
1,2,4-Trichlorobenzene	2.1	NA	ND		1.48	-	ND		1.48	-	ND		1.48	-
1,2,4-Trimethylbenzene	630	NA	1.11		0.983	-	ND		0.983	-	4.86		0.983	-
1,2-Dibromoethane	0.00047	NA	ND		1.54	-	ND		1.54	-	ND		1.54	-
1,2-Dichlorobenzene	210	NA	ND		1.2	-	ND		1.2	-	ND		1.2	-
1,2-Dichloroethane	0.11	NA	ND		0.809	-	ND		0.809	-	ND		0.809	-
1,2-Dichloropropane	NA	NA	ND		0.924	-	ND		0.924	-	ND		0.924	-
1,3,5-Trimethylbenzene	63	NA	ND		0.983	-	ND		0.983	-	1.3		0.983	-
1,3-Butadiene	0.94	NA	ND		0.442	-	ND		0.442	-	ND		0.442	-
1,3-Dichlorobenzene	NA	NA	ND		1.2	-	ND		1.2	-	ND		1.2	-
1,4-Dichlorobenzene	NA	NA	ND		1.2	-	ND		1.2	-	ND		1.2	-
1,4-Dioxane	0.56	NA	ND		0.721	-	ND		0.721	-	ND		0.721	-
2,2,4-Trimethylpentane	NA	NA	1.12		0.934	-	ND		0.934	-	ND		0.934	-
2-Butanone	NA	NA	47.5		1.47	-	2.07		1.47	-	ND		1.47	-
2-Hexanone	NA	NA	ND		0.82	-	ND		0.82	-	ND		0.82	-
3-Chloropropene	NA	NA	ND		0.626	-	ND		0.626	-	ND		0.626	-
4-Ethyltoluene	NA	NA	ND		0.983	-	ND		0.983	-	1.1		0.983	-
4-Methyl-2-pentanone	NA	NA	ND		2.05	-	ND		2.05	-	ND		2.05	-
Acetone	32,000	NA	29		2.38	-	7.03		2.38	-	7.32		2.38	-
Benzene	12	NA	1.45		0.639	-	0.776		0.639	-	0.661		0.639	-
Benzyl chloride	NA	NA	ND		1.04	-	ND		1.04	-	ND		1.04	-
Bromodichloromethane	0.076	NA	ND		1.34	-	ND		1.34	-	ND		1.34	-
Bromoform	2.6	NA	ND		2.07	-	ND		2.07	-	ND		2.07	-
Bromomethane	5.2	NA	ND		0.777	-	ND		0.777	-	ND		0.777	-
Carbon disulfide	730	NA	ND		0.623	-	ND		0.623	-	ND		0.623	-
Chlorobenzene	52	NA	ND		0.921	-	ND		0.921	-	ND		0.921	-
Chloroethane	NA	NA	ND		0.528	-	ND		0.528	-	ND		0.528	-
Chloroform	0.12	NA	ND		0.977	-	ND		0.977	-	ND		0.977	-
Chloromethane	94	NA	1.1		0.413	-	1.02		0.413	-	1.03		0.413	-
cis-1,3-Dichloropropene	NA	NA	ND		0.908	-	ND		0.908	-	ND		0.908	-
Cyclohexane	1,000	NA	32		0.688	-	1.16		0.688	-	ND		0.688	-
Dibromochloromethane	NA	NA	ND		1.7	-	ND		1.7	-	ND		1.7	-
Dichlorodifluoromethane	NA	NA	2.17		0.989	-	2.25		0.989	-	2.31		0.989	-
Ethanol	NA	NA	65.2		9.42	-	17.9		9.42	-	92.7		9.42	-
Ethyl Acetate	73	NA	ND		3.6	-	ND		3.6	-	ND		3.6	-
Ethylbenzene	1.1	NA	0.938		0.869	-	ND		0.869	-	ND		0.869	-
Freon-113	NA	NA	ND		1.53	-	ND		1.53	-	ND		1.53	-
Freon-114	NA	NA	ND		1.4	-	ND		1.4	-	ND		1.4	-
Heptane	NA	NA	9.1		0.82	-	ND		0.82	-	ND		0.82	-
Hexachlorobutadiene	NA	NA	ND		2.13	-	ND		2.13	-	ND		2.13	-
Isopropanol	210	NA	2.41		1.23	-	ND		1.23	-	3.52		1.23	-
Methyl tert butyl ether	NA	NA	ND		0.721	-	ND		0.721	-	ND		0.721	-
Methylene chloride	100	60	ND		1.74	-	ND		1.74	-	3.32		1.74	-
n-Hexane	NA	NA	25.2		0.705	-	1.33		0.705	-	ND		0.705	-
o-Xylene	100	NA	1.31		0.869	-	ND		0.869	-	ND		0.869	-
p/m-Xylene	100	NA	3.52		1.74	-	ND		1.74	-	ND		1.74	-
Styrene	1,000	NA	ND		0.852	-	ND		0.852	-	ND		0.852	-
Tertiary butyl Alcohol	NA	NA	ND		1.52	-	ND		1.52	-	ND		1.52	-
Tetrahydrofuran	2,100	NA	ND		1.47	-	ND		1.47	-	ND		1.47	-
Toluene	5,200	NA	3.92		0.754	-	1.07		0.754	-	0.995		0.754	-
trans-1,2-Dichloroethene	NA	NA	ND		0.793	-	ND		0.793	-	ND		0.793	-
trans-1,3-Dichloropropene	NA	NA	ND		0.908	-	ND		0.908	-	ND		0.908	-
Trichlorofluoromethane	NA	NA	ND		1.12	-	ND		1.12	-	ND		1.12	-
Vinyl bromide	0.88	NA	ND		0.874	-	ND		0.874	-	ND		0.874	-
VOLATILE ORGANICS IN AIR BY SIM														
Vinyl chloride	0.17	NA	ND		0.051	-	ND		0.051	-	ND		0.051	-
1,1-Dichloroethene	210	NA	ND		0.079	-	ND		0.079	-	ND		0.079	-
cis-1,2-Dichloroethene	NA	NA	ND		0.079	-	ND		0.079	-	ND		0.079	-
1,1,1-Trichloroethane	5,200	NA	ND		0.109	-	ND		0.109	-	ND		0.109	-
Carbon tetrachloride	0.47	NA	0.396		0.126	-	0.396		0.126	-	0.428		0.126	-
Trichloroethene	0.48	2	ND		0.107	-	ND		0.107	-	ND		0.107	-
Tetrachloroethene	11	30	ND		0.136	-	ND		0.136	-	2.17		0.136	-
1,2-Dichloroethene (total)	11	NA	ND		0.079	-	ND		0.079	-	ND		0.079	-

All results in ug/m3
Orange highlight indicates result detected in exceedance of EPA VISL Target Conc
Yellow highlight indicates result detected in exceedance of NYSDOH Air Guideline Value
NA = No applicable standard

Appendix A

March 2018 RAR

Buena Vista Apartments
Yonkers, New York

Remedial Action Report

NYSDEC Spill Number: 1505681

Prepared for:

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, New York 10701

Prepared by:

Hillmann Consulting, LLC
1600 Route 22 East
Union, New Jersey 07083

MARCH 2018

CERTIFICATIONS

I, Matthew I. Kamin, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Design was implemented and that all activities were completed in substantial conformance with the Department-approved Remedial Action Work Plan.

I certify that the data submitted to the Department with this Report demonstrates that the remediation requirements set forth in the Remedial Action Work Plan and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established for the remedy.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Matthew I. Kamin, of Hillmann Consulting, LLC, am certifying as Owner's Designated Site Representative for the site.

NYS Professional Engineer #	Date	Signature
038387-1	3/19/18	

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REMEDIAL ACTION REPORT

1.0 BACKGROUND AND SITE DESCRIPTION

Buena Vista Apartments has investigated and remediated a 3.8-acre property located at 85 Riverdale Avenue, 95 Riverdale Avenue and 70 Hawthorne Avenue in Yonkers, New York.

The site is located in the County of Westchester, New York and is identified as Block 505 and Lot 150. The site is situated on an approximately 3.8-acre area bounded by a mixed residential and commercial structure to the north, Vark Street to the south, Riverdale Avenue to the east, and Hawthorne Avenue to the west (see Figure 1). The subject property consists of three connected buildings including an 18-story section, a 15 story section and a 6 story section. A basement is present throughout the building. The building use consists of commercial use on the first floor and residential use on the upper floors with the basement used for storage.

1.1 SUMMARY OF REMEDIAL INVESTIGATION WORK

PSG Engineering and Landscape Architecture D.P.C. (PSG) conducted site investigation activities in 2015.

An initial Phase II Subsurface Investigation was conducted on April 8, 2015. The Phase II consisted of four borings advanced on the site to investigate previously identified AOCs (historic site use, historic gasoline USTs, active dry cleaner). One soil sample was collected from each boring for laboratory analysis. Temporary well points were installed in each boring to facilitate collection of groundwater samples and laboratory analysis. Soil sample results indicated all compounds analyzed for were detected below the NYSDEC Unrestricted Use Soil Cleanup Objective (UUSCO) or Restricted-Residential Soil Cleanup Objective (RRSCO). Groundwater results indicated that cis-1,2-dichloroethene (27 µg/L), trichloroethene (TCE) (25 µg/L), tetrachloroethene (PCE) (14 µg/L) and trans-1,2,-dichloroethene were detected in exceedance of the NYSDEC Ambient Water Quality Standards in in two groundwater samples.

Based on the above referenced laboratory results, a subsequent Preliminary Site Characterization was performed by PSG on June 17, 2015 to further evaluate the compounds detected by the Phase II. Four monitoring wells (MW-1 through MW-4) were installed on the property to delineate groundwater contamination originating in the vicinity

of the dry cleaners. MWs were installed at depths between 14.5 feet below ground surface (bgs) and 24 feet bgs. Groundwater was encountered at depth of approximately 12 to 16 feet bgs.

Six sub-slab soil gas samples (SG-1 through SG-6) were collected from beneath the basement at locations directly beneath the dry cleaners as well as locations north and south of the cleaners. Indoor air samples IA-1 through IA-3 were collected from similar locations within the basement.

Groundwater sample results from the installed MWs indicated isopropylbenzene (23 µg/L) and sec-butylbenezene (7 µg/L) in MW-1 and cis-1,2,dichloroethene (190 µg/L), PCE (9,200 µg/L) and TCE (940 µg/L) in MW-3 were detected in exceedance of the NYSDEC Ambient Water Quality Standards.

Laboratory results detected the presence of several VOC compounds in the sub-slab soil gas including chloroform (max: 251 µg/m3), PCE (max: 27,900 µg/m3), TCE (max: 6.230 µg/m3) and 1,2,4-trimethylbenzene (8.85 µg/m3).

Based on the above referenced exceedances, the NYSDEC was notified and spill number 1505681 was assigned. Mr. Edward Moore was assigned as the NYSDEC case manager. A Remedial Investigation Workplan (RIW) for delineation of onsite contamination was submitted by PSG to the NYSDEC and approved by Mr. Moore on August 31, 2015.

Remedial investigation activities were conducted by PSG on October 7 through 12, 2015. One additional monitoring well (MW-5) was advanced to a depth of 33 ft bgs in the vicinity of MW-3 at the rear exterior of the dry cleaners. After installation of MW-5 and a settlement period, one groundwater sample was collected from all MWs located onsite (MW-1 through MW-5).

Three sub-slab soil gas samples (S-7 through S-10) were installed in the basement of the onsite building directly beneath and adjacent to the dry cleaners.

Groundwater analytical results indicated several VOC concentrations exceeding the NYSDEC Ambient Water Quality Standard in MW-3; cis-1-2-dichloroethene (160 µg/L), PCE (120 µg/L), trans-1,2-dichloroethene (8.1 µg/L), TCE (230 µg/L) and vinyl chloride (3.3 µg/L) and MW-4; 1,2-dichloroethene (6.2 µg/L) and MW-5; cis-1,2-dichloroethene (33 µg/L), PCE (12 µg/L) and TCE (43 µg/L).

Soil gas analytical results indicated detections of VOCs including chloroform (max: 42.2 µg/L), PCE (max: 53.7 µg/m3) and TCE (max: 92.4 µg/m3) in the soil gas samples.

Copies of the above referenced environmental reports are included in Appendix A.

1.2 SUMMARY OF FINDINGS OF REMEDIAL INVESTIGATION

1. Depth to groundwater ranges from 12 to 16 feet bgs. Groundwater flow is to the south/southeast direction.
2. The analytical results of groundwater samples collected during the investigation indicate exceedances of the NYSDEC Ambient Water Quality Standards for several VOC compounds including PCE, TCE, cis-1,2-dichloroethene and vinyl chloride in several groundwater samples collected onsite.
3. The analytical results of the sub-slab soil gas samples collected during the investigation activities indicated detections of VOCs including chloroform, PCE and TCE in the sub-slab soil gas.

Additional investigation data is available in the RIR included in Appendix A.

2.0 SUMMARY OF SITE REMEDY

2.1 REMEDIAL ACTION OBJECTIVES

Based on the results of the Remedial Investigation, the following Remedial Action Objectives (RAOs) were identified for this site.

Groundwater RAOs

RAOs for Public Health Protection

- Prevent contact with, or inhalation of, VOCs emanating from contaminated groundwater.

RAOs for Environmental Protection

- Remove the contaminants in groundwater.

2.2 DESCRIPTION OF SELECTED REMEDY

The site was remediated in accordance with the remedy selected by the NYSDEC in the Remedial Investigation Report/Remedial Action Work Plan prepared by PSG Engineering and Landscape Architecture, D.P.C. dated January 11, 2016.

The remedial approach proposed in the RAWP was injection of Potassium Permanganate in the identified groundwater contamination plume area. The injection of Potassium Permanganate, a chemical oxidizer, will promote in-situ oxidation of the chemicals of concern. In addition, this mixture will assist in promoting natural attenuation of remaining contaminants of concern within the source and down-gradient areas.

3.0 DESCRIPTION OF REMEDIAL ACTION

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved Remedial Investigation Report/Remedial Action Work Plan for the site dated January 11, 2016.

All remedial work performed under this Remedial Action was in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.

3.1 BASELINE SAMPLING

As per the RAWP, initial groundwater, sub-slab soil vapor and indoor air samples were collected on April 18, 2016 for purposes of establishing initial baseline laboratory results.

Six sub-slab soil gas samples (SG-1 – SG-6) were collected from the basement beneath and adjacent to the dry cleaner. The selected sample locations were advanced in a pattern similar to the prior sampling locations conducted by PSG on January 8, 2015. The sub-slab soil gas samples were collected utilizing a powered rotary concrete drill to create a 0.25 inch hole in the basement floor, through and beneath the concrete slab. The concrete slab thickness ranged from 4 to 8 inches. Once a hole was cored, a stainless steel probe was inserted to a depth directly below the concrete slab, covered with a shroud, and sealed using wax. After hardening of the wax, a helium test was performed at each location to verify the integrity of the soil gas seal. Field monitoring of the helium tracer gas did not indicate any infiltration of the probe seals at any of the installed sampling locations prior to or after the sampling. Sample locations are shown on Figure 3.

All soil gas samples were collected as grab samples with a 2-hour regulator in laboratory approved & cleaned six-liter Summa® Canisters. Samples transported to a New York ELAP certified laboratory under chain of custody protocol and analyzed using the USEPA Method TO-15. On April 26, 2016 sample SG-2 was resampled due to poor sample capture during the initial sampling on April 18.

Two indoor air samples and one ambient air sample were collected utilizing six-liter laboratory approved & cleaned Summa® Canisters. Indoor air sample IA-1 was collected in the basement beneath the Guillet Cleaners space and sample IA-2 was collected within the Guillet Cleaners space on the 1st floor. An outdoor air sample, Ambient, was collected in the courtyard. Sample locations are shown on Figure 3. All air samples were collected for 24 hours and transported to a New York ELAP certified laboratory under chain of custody protocol and analyzed using the USEPA Method TO-15.

One groundwater sample was collected from each of the five monitoring wells (MWs) at the property. Locations of the MWs are shown on Figure 4. Groundwater was purged from all wells via low flow sampling techniques except for MW-5. Due to the well construction of MW-5 (1-inch diameter well), a dedicated pencil bailer was used to urge three times the groundwater volume prior to sampling. Groundwater depths ranged from 11 to 14.75 feet below ground surface (bgs) during purging except for MW-4, where groundwater ranged from 11.75 to 19 feet bgs during purging.

After sample collection, all aqueous samples were placed in laboratory approved containers and kept cool during transport to a New York certified laboratory under chain of custody protocol. All samples were analyzed for the Total Compound List (TCL) of Volatile Organic Compounds (TCL VOCs) via EPA method 8260B and TCL Semi-Volatiles Organic Compounds (TCL SVOCs) via EPA 8270D.

The analytical results of the indoor air, ambient and soil gas samples indicated detections of VOCs in each of the samples. A summary of the soil gas analytical results is shown on Table 1. A summary of the indoor air and ambient samples are shown on Table 2. The full laboratory analytical results for soil gas, indoor air and ambient samples are included in Appendix B.

The indoor air results were compared to the applicable NYSDOH Ambient Air Guideline Values. Tetrachloroethene (PCE) was detected at concentrations in exceedance of the Ambient Air Guideline Value in samples IA-1 and IA-2. The concentration of PCE detected in the 1st floor sample IA-2 (3,030 ug/m3) is suspected to be attributable to dry cleaning chemicals stored in the vicinity of the sample location and not indicative of sub-surface contamination/vapor intrusion. The detected concentration of PCE in the basement sample IA-1 was 35 ug/m3, which is significantly lower than the concentration detected in IA-2 above on the first floor.

The results of the indoor air samples were also compared to the National Institute for National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limits (RELs) and Occupational Health and Safety Administration (OSHA) PELs. All compounds analyzed for were detected below the applicable RELs and PELs.

The NYSDOH soil vapor / indoor air decision matrices that were applicable at the time of the sampling were utilized for comparison of indoor air to sub-slab soil gas results. The NYSDOH decision matrices indicated “mitigate” for the detected concentrations of (PCE) and “monitor” for the detected concentrations of trichloroethene (TCE).

The groundwater sample results were compared to the applicable NYSDEC Groundwater Quality Standards (GWQS). Several VOCs were detected in MW-3 and MW-5 at concentrations in exceedance of their applicable NYSDEC Groundwater Ambient Water Quality Standard values. Compounds detected in exceedance included 1,1,-dichloroethane, cis-1,2-dichloroethene, TCE and PCE.

A summary of the groundwater analytical results is shown in Table 3. The full laboratory analytical results are included in Appendix B.

3.2 REMEDIAL INJECTION ACTIVITIES

The initial round of injection remedial activities were performed on March 17 and 20-23, 2017 in the basement below the floor slab to address contaminated media in this area. Eight sub-slab injection wells were installed with portable, tripod mounted direct push equipment through the basement floor slab to facilitate injection activities. The temporary injection wells were advanced to depths of approximately five feet bgs, with groundwater measured at approximately three feet below the basement slab. Locations of the injection wells are shown on Figure 5. Potassium permanganate was mixed with water onsite in the basement and delivered via gravity feet into the eight injection wells. During this injection event, a combined total of 560.50 pounds of the potassium permanganate mixture was delivered into the eight injection wells. Field observations indicated permanganate within each of the injection wells, confirming that the injection mixture reached the target intervals. After the injection activities were complete the temporary injection wells were removed and the concrete slab was patched and repaired.

To fully target the contamination plume (identified by the RI in MW-3 & MW-5 in the rear of the dry cleaners), **i**njection activities on the exterior of the property were performed on July 25-28 2017. Three temporary injection points were installed using direct push technology to varying depths between 15 and 25 feet bgs to ensure that the injection compounds will target the compounds of concern at varying intervals. Locations of the injection points are shown on Figure 5. Potassium permanganate was mixed onsite with water inside a trailer on the exterior of the property and delivered into the temporary injection wells. During this injection event, a combined total of 1,553.90 pounds of potassium permanganate mixture was delivered into the injection points. The mixture was pumped into the injection points at a pressure of approximately 1 to 2 pounds per square inch. Periodic site inspections were conducted during the injection for observations of injection mixture 'daylighting;' no daylighting was observed during the injection process. Permanganate was observed within MW-3 and MW-5 when all onsite monitoring wells were gauged during and after each day of injection, confirming that the injection mixture reached the target intervals. After the injection activities were complete the temporary injection points were removed, the borings were filled and the concrete/asphalt was patched and repaired.

3.3 POST-INJECTION GROUNDWATER SAMPLING

Three post-remediation rounds of groundwater sampling were collected and analyzed from the monitoring wells onsite. Groundwater samples were collected at one month post-injection (August 31, 2017), three months post-injection (November 1, 2017) and six months post-injection (February 1, 2018).

Prior to each sampling event all wells were gauged and purged using dedicated equipment. One groundwater sample was collected from each well and placed in laboratory provided containers. The containers were kept cool during transport, under chain of custody protocol, to a New York ELAP certified laboratory. Groundwater samples were analyzed at the time of sampling for field parameters (DO, ORP, pH, temperature) and laboratory analysis for TCL VOC via EPA method 8260B and sulfates. . Evidence of permanganate (pink tinged water) was observed in MW-3 and MW-5 during the August and November 2017 sampling events, and in MW-5 during the February 2018 sampling event. Groundwater contour maps for each sampling event are included as Figures 6A-6D.

The result of the post remedial laboratory analysis indicated that several VOC compounds of concern (i.e. vinyl chloride) were reduced below applicable GW Standards in MW-3, including PCE (18,800 ug/L in 2016; reduced to ND above MDL). Cis-1,2-dichloroethene and TCE remain above the applicable GW Standards. However, both compounds were significantly reduced from pre-injections levels: cis-1,2-dichloroethene (425 ug/L in 2016; reduced to 34.7 in 2018) and TCE (2,840 ug/L in 2016; reduced to 49.1 ug/L in 2016).

The post remedial laboratory results from MW-5 demonstrate that VOC compounds of concern (TCE, PCE, cis-1,2-dichloroethene, vinyl chloride) have been reduced below the applicable GW Standard.

The acetone detected throughout the sampling events is attributed to commonly found laboratory artifact.

Table 3 shows the summary results of all detected compounds for the post-injection groundwater sampling. The full laboratory analytical reports are included in Appendix B.

4.0 CONCLUSIONS & RECOMMENDATIONS

Based on the information presented in this RAR, the remedial injection activities have been successful in significantly reducing the VOC contaminants of concern within the groundwater contamination plume onsite. The remaining compounds in exceedance of

the NYSDEC Ambient Water Quality Standards are limited to the vicinity of MW-3 and are not detected in any of the delineation wells (upgradient, cross-gradient or downgradient). Based on the analytical data for the three post-injection groundwater samples collected to date, the compounds of concern in groundwater are expected to continue to attenuate both naturally and assisted with the remaining potassium permanganate mixture. To confirm achievement of Groundwater Quality Standards via natural attenuation, four quarterly groundwater sampling events are proposed (March 2018, June 2018, September 2018 and December 2018). This approach of quarterly groundwater sampling was approved by Mr. Edward Moore with a February 20, 2018 email correspondence. At the conclusion of the four quarterly groundwater sampling events a Report will be issued to NYSDEC documenting the laboratory analytical sample data and findings of the four sampling events.

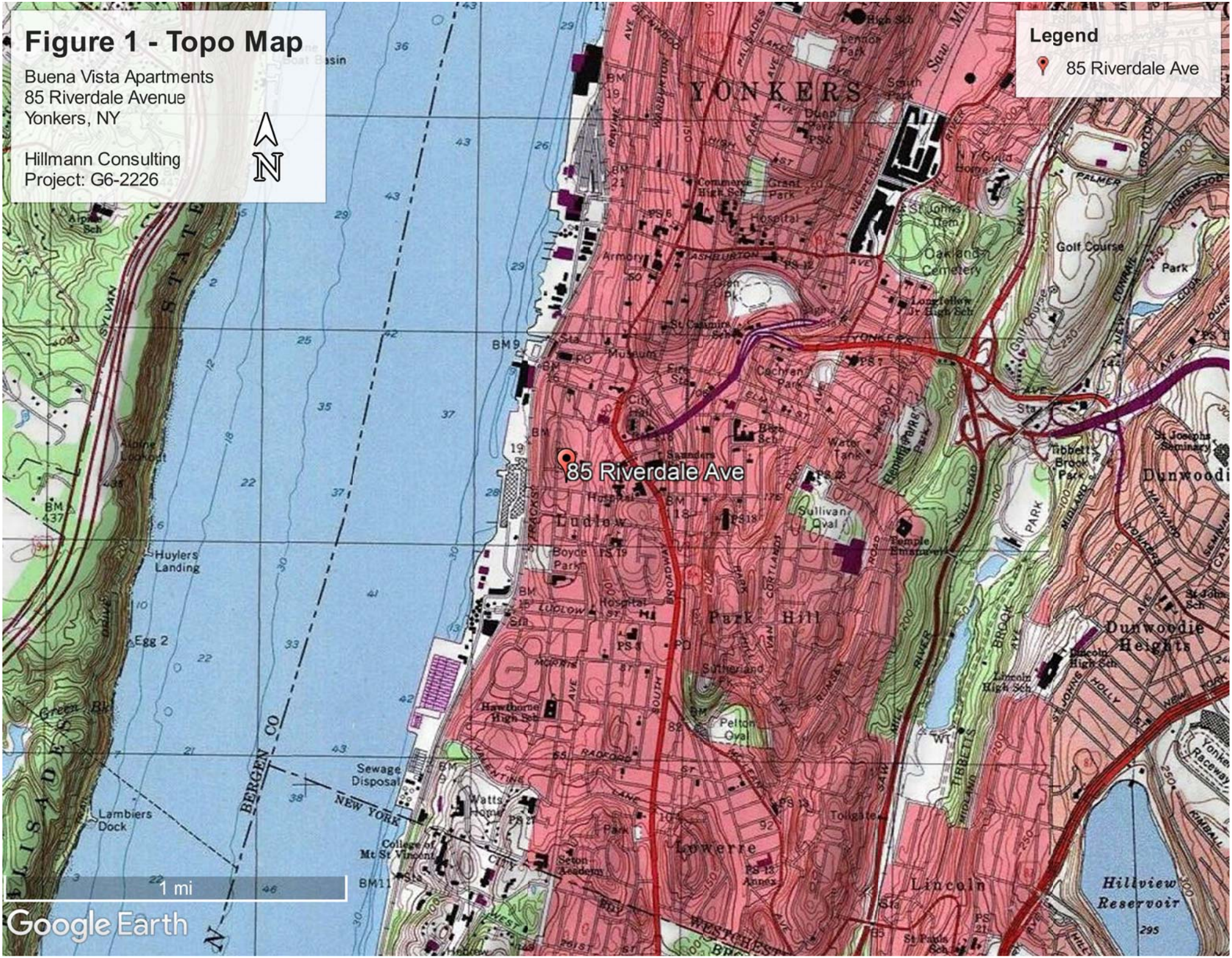
Figure 1 - Topo Map
Buena Vista Apartments
85 Riverdale Avenue
Yonkers, NY
Hillmann Consulting
Project: G6-2226
N
Legend
85 Riverdale Ave
85 Riverdale Ave
YONKERS
Park Hill
Ludlow
Lowerre
Lincoln
Dunwoodie Heights
Hillview Reservoir
Oakland Cemetery
Golf Course
Sullivan Oval
Pelton Oval
Huylers Landing
Lambiers Dock
Sewage Disposal
Egg 2
1 mi
Google Earth

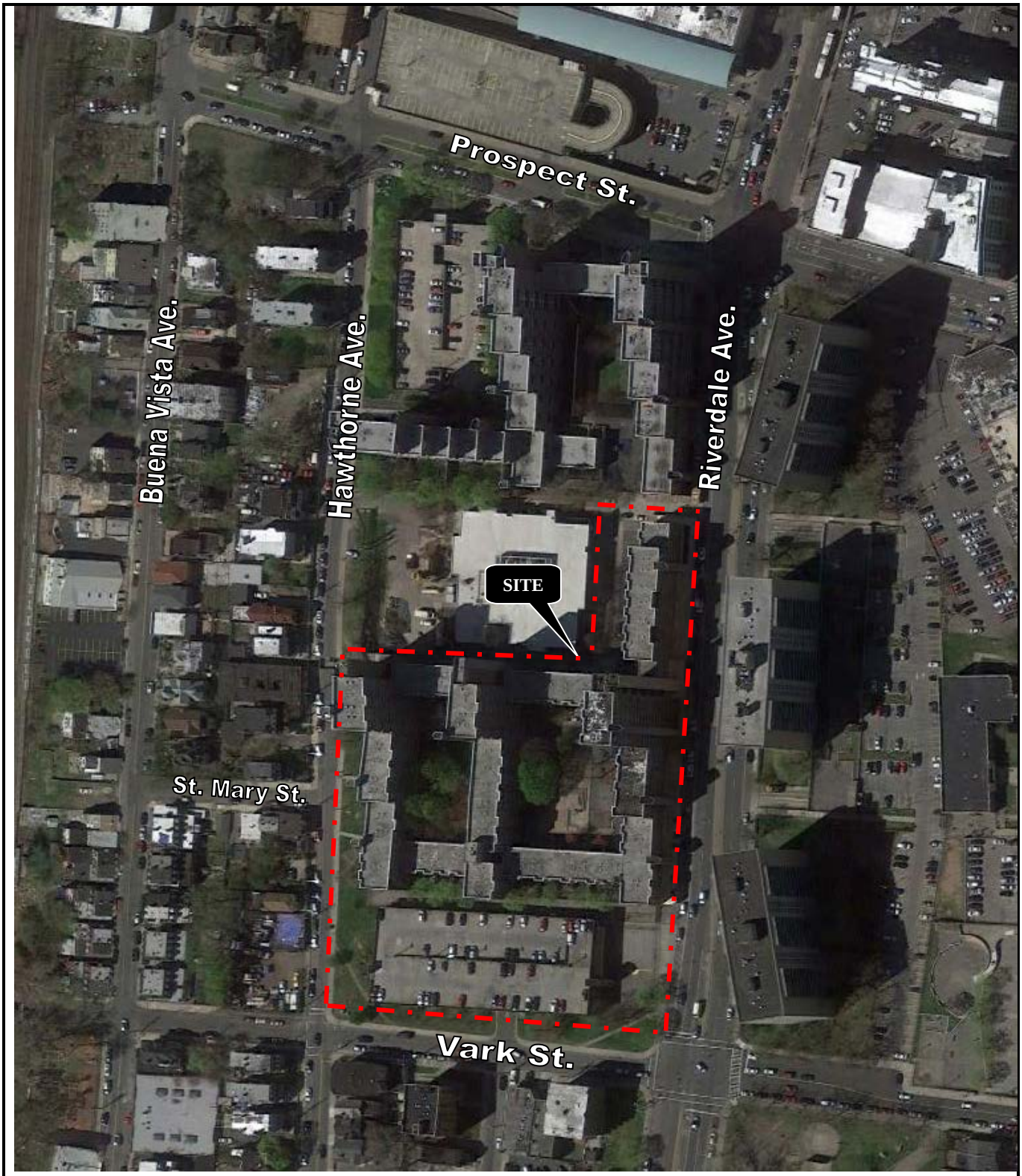

Figure 2:
SITE DIAGRAM

N

HILLMANN
CONSULTING

Project Location:	85 Riverdale Avenue Yonkers, NJ
Project No.:	G6-2226

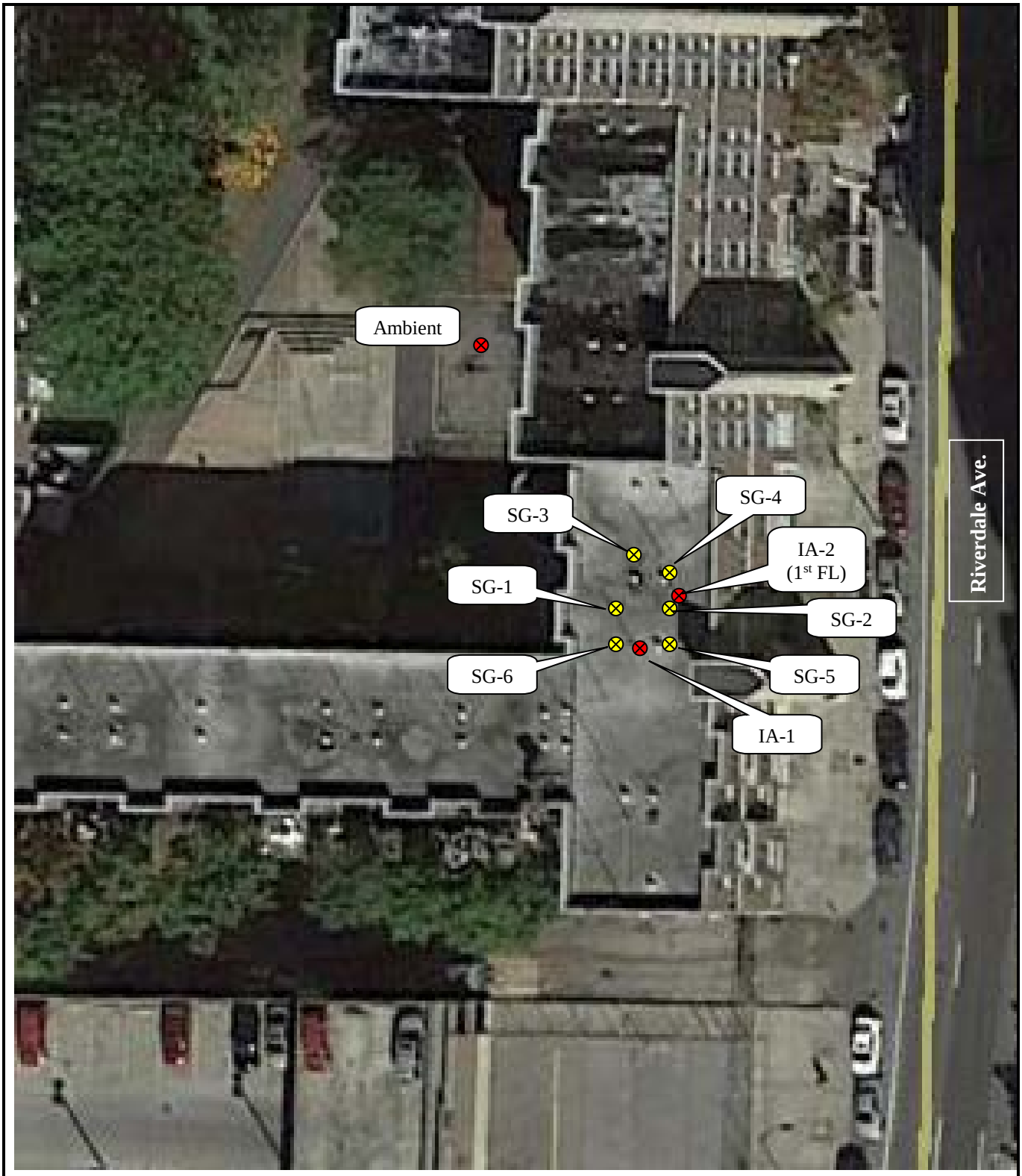

Figure 3: SSSV & IA SAMPLE LOCATIONS

N

HILLMANN CONSULTING

Project Location:	85 Riverdale Avenue Yonkers, NY
Project No.:	G6-2226

Figure 4: MONITORING WELL LOCATIONS

N

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Project Location:	85 Riverdale Avenue Yonkers, NY
Project No.:	G6-2226

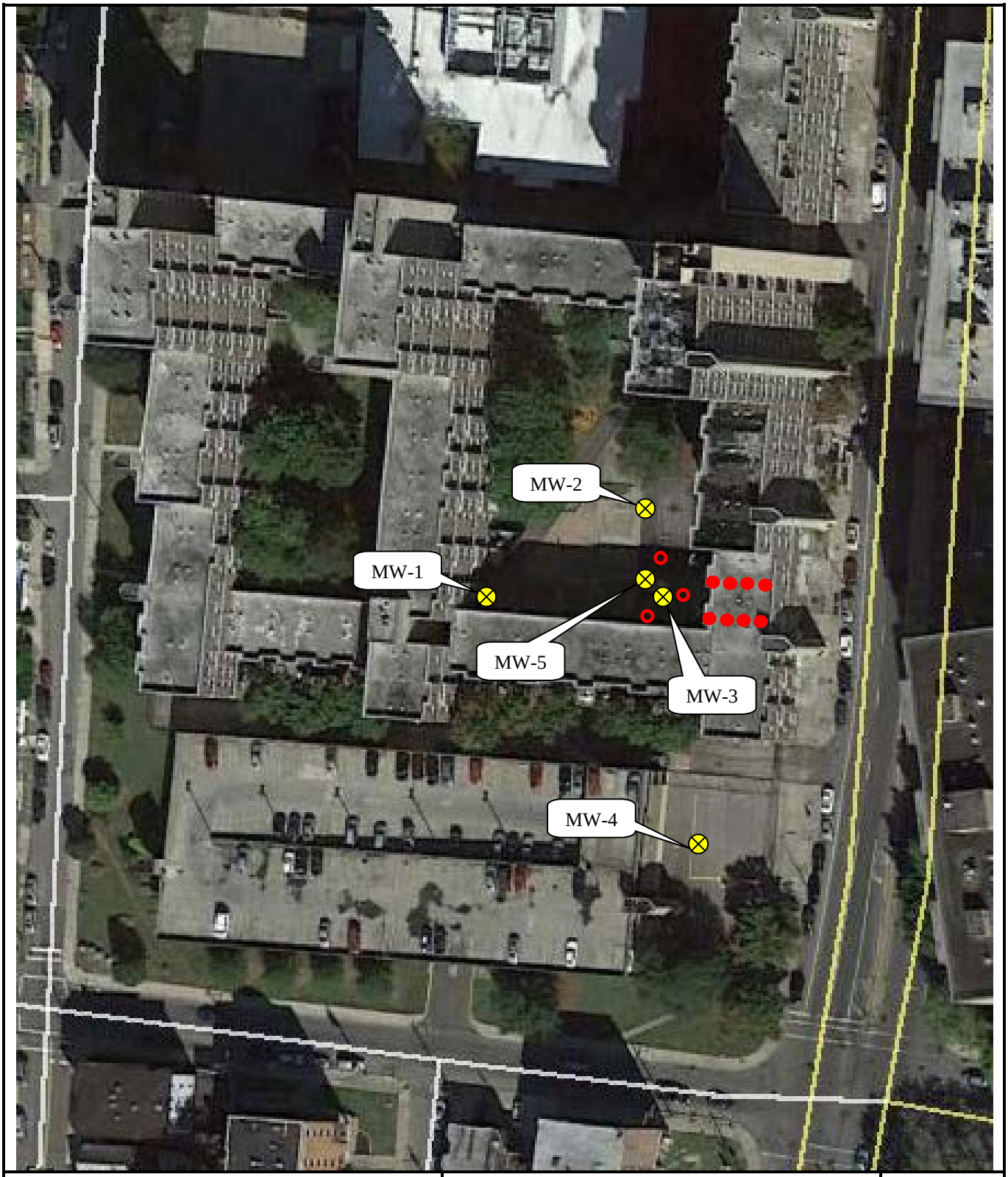

Figure 5: INJECTION POINT LOCATIONS

Injection Point
Injection Point

N

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Project Location:	85 Riverdale Avenue Yonkers, NY
Project No.:	G6-2226

Figure 6A GROUNDWATER FLOW MAP - 04/08/2017

N

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Project Location:	85 Riverdale Avenue Yonkers, NY
Project No.:	G6-2226

Figure 6B GROUNDWATER FLOW MAP - 08/31/2017

N

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Project Location:	85 Riverdale Avenue Yonkers, NY
Project No.:	G6-2226

Figure 6C GROUNDWATER FLOW MAP - 11/01/2017

N

HILLMANN CONSULTING

Project Location:	85 Riverdale Avenue Yonkers, NY
Project No.:	G6-2226

Figure 6D GROUNDWATER FLOW MAP - 02/01/2018

N

HILLMANN CONSULTING

Project Location:	85 Riverdale Avenue Yonkers, NY
Project No.:	G6-2226

TABLE 1 - SUMMARY OF SUB-SLAB SOIL GAS RESULTS
BUENA VISTA APARTMENTS
85 RIVERDALE AVENUE
YONKERS, NEW YORK

Date Sampled: 04/18/2016

Sample ID:	SUB SLAB-1	SUB-SLAB 2	SUB SLAB-3	SUB SLAB-4	SUB SLAB-5	SUB SLAB-6
GC/MS Volatiles (TO-15) - ug/m3						
Acetone	17	58.4	15	15	ND	401
Benzene	1.1	0.89	ND	1.9	8.9	3.2
Bromodichloromethane	ND	ND	ND	ND	4.5	ND
Carbon disulfide	ND	ND	ND	ND	ND	2.1
Chloroethane	ND	ND	ND	ND	ND	5
Chloroform	2.8	5.4	ND	0.63 J	22	15
Chloromethane	1.4	1.7	3.3	1.3	1.3	2.1
Cyclohexane	0.48 J	ND	ND	3	25	0.69 J
1,1-Dichloroethane	ND	ND	ND	ND	ND	3
1,4-Dioxane	ND	ND	ND	ND	ND	21
Dichlorodifluoromethane	3	2.6	3.1	3	2.7	3.2
trans-1,2-Dichloroethylene	ND	ND	ND	ND	ND	4
cis-1,2-Dichloroethylene	1.3	ND	ND	0.52 J	1.3	226
p-Dichlorobenzene	1.9	0.66	ND	1.6	2.2	1.3
Ethanol	335 E	268 E	62.7	347 E	269 E	769
Ethylbenzene	0.78 J	0.83 J	ND	0.69 J	1.3	2.7
Ethyl Acetate	6.8	16	ND	8.3	12	ND
4-Ethyltoluene	0.54 J	ND	ND	ND	0.54 J	1.6
Heptane	0.61 J	0.74 J	ND	1.6	11	6.6
Hexane	1.2	1.4	ND	5.3	37.4	ND
2-Hexanone	ND	ND	ND	ND	ND	1.5
Isopropyl Alcohol	21	27.8	ND	23	34.7	67.6
Methylene chloride	5.9	15	1.9	1.6	7.6	11
Methyl ethyl ketone	1.7	3.2	ND	1.5	1.9	18
Methyl Isobutyl Ketone	ND	0.57 J	ND	ND	ND	2.2
Styrene	ND	ND	ND	ND	ND	2.5
1,2,4-Trimethylbenzene	1.7	1.1	ND	1.2	1.7	4.7
1,3,5-Trimethylbenzene	0.54 J	ND	ND	ND	0.59 J	1.6
2,2,4-Trimethylpentane	0.89 J	0.93	ND	ND	5.1	ND
Tertiary Butyl Alcohol	ND	0.52	ND	ND	ND	11
Tetrachloroethylene	88.2	256	0.18 J	20	61	642
Toluene	4.5	5.3	ND	3.7	7.9	8.7
Trichloroethylene	0.45	0.19 J	0.12 J	2.7	0.64	396
Trichlorofluoromethane	1.9	2.1	1.3	1.8	1.6	2
m,p-Xylene	3	3	ND	2.6	5.2	9.6
o-Xylene	1	1	ND	0.83 J	1.5	3.4
Xylenes (total)	4	4	ND	3.4	6.5	13

Results in Yellow Highlight displays exceedance above regulatory standard

J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

ND: Compound analyzed and Not Detected

TABLE 2 - SUMMARY OF INDOOR AIR RESULTS
BUENA VISTA APARTMENTS
85 RIVERDALE AVENUE
YONKERS, NEW YORK

Date Sampled: 04/18-19/2016

Sample ID:	Units	NYSDOH Ambient Air Guideline Value	NIOSH REL	OSHA PEL	INDOOR AIR-1	INDOOR AIR-2	AMBIENT AIR GRAB
GC/MS Volatiles (TO-15) - ug/m3							
Acetone	ug/m3	NA	590,000	2,400,000	22	30.4	24
1,3-Butadiene	ug/m3	NA	LFC	2,200	ND	ND	ND
Benzene	ug/m3	NA	320	3,200	1.1	1.2	0.7
Chloroform	ug/m3	NA	9800	240,000	1.3	0.59 J	ND
Chloromethane	ug/m3	NA	LFC	210,000	1.6	1.7	1.5
Dichlorodifluoromethane	ug/m3	NA	4,900,000	4,900,000	2.6	2.3	2.4
Ethanol	ug/m3	NA	19,000,000	19,000,000	298 E	364	38.8
Ethylbenzene	ug/m3	NA	430,000	430,000	0.56 J	1.4	ND
Ethyl Acetate	ug/m3	NA	NE	NE	19	32	23
Heptane	ug/m3	NA	NA	NA	0.86	4	0.66 J
Hexane	ug/m3	NA	NA	NA	1.2	1.5	1
Isopropyl Alcohol	ug/m3	NA	980,000	980,000	45.7	41	17
Methylene chloride	ug/m3	60	LFC	87,000	2.1	1.1	1.4
Methyl ethyl ketone	ug/m3	NA	590,000	590,000	1.9	28	1.5
Methyl Isobutyl Ketone	ug/m3	NA	NA	NA	ND	2.3	ND
1,2,4-Trimethylbenzene	ug/m3	NA	120,000	120,000	0.84 J	0.54 J	ND
2,2,4-Trimethylpentane	ug/m3	NA	NE	NE	0.84 J	0.70 J	0.47 J
Tertiary Butyl Alcohol	ug/m3	NA	300,000	300,000	ND	0.55 J	ND
Tetrachloroethylene	ug/m3	30	LFC	680,000	35	3030	6.2
Toluene	ug/m3	NA	380,000	750,000	3.4	45.2	1.8
Trichloroethylene	ug/m3	2	130,000	540,000	ND	0.38	ND
Trichlorofluoromethane	ug/m3	NA	5,600,000	5,600,000	2.1	2.2	1.4
m,p-Xylene	ug/m3	NA	430,000	430,000	1.8	5.2	0.83 J
o-Xylene	ug/m3	NA	430,000	430,000	0.61 J	1	ND
Xylenes (total)	ug/m3	NA	NA	NA	2.4	6.2	0.83 J

J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

NE = No Limit Established

LFC = Lowest Feasible Concentration

NA = Not Applicable

ND: Compound analyzed and Not Detected

TABLE 3 - SUMMARY OF POST-INJECTION GROUNDWATER ANALYTICAL RESULTS
BUENA VISTA APARTMENTS
85 RIVERDALE AVENUE
YONKERS, NEW YORK

			MW-1				MW-2				MW-3				MW-4				MW-5			
Target Compounds	**NY TOGS Class GA GW Standards (NYSDEC 6/2004)**	**Units**	*Sample Date: 04/18/2016*	*Sample Date: 08/31/2017*	*Sample Date: 11/1/2017*	*Sample Date: 2/1/2018*	*Sample Date: 04/18/2016*	*Sample Date: 08/31/2017*	*Sample Date: 11/1/17*	*Sample Date: 2/1/2018*	*Sample Date: 04/18/2016*	*Sample Date: 08/31/2017*	*Sample Date: 11/1/17*	*Sample Date: 2/1/2018*	*Sample Date: 04/18/2016*	*Sample Date: 08/31/2017*	*Sample Date: 11/1/17*	*Sample Date: 2/1/2018*	*Sample Date: 04/18/2016*	*Sample Date; 8/31/2017*	*Sample Date: 11/1/2017*	*Sample Date: 2/1/2018*
GC/MS Volatiles (SW846 8260C)																						
2-Butanone (MEK)	**50**	ug/l	ND	33.5	ND	ND	ND	ND	ND	ND	ND	58.6	ND	ND	ND	ND	ND	ND	ND	18.5	12.4	ND
Acetone	**50**	ug/l	ND	**145**	ND	ND	ND	ND	ND	ND	ND	**368**	**81.6**	ND	ND	ND	1.37	ND	ND	**59.3**	**498**	**115**
4-Methyl-2-pentanone (MIBK)	-	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.61	ND	ND	ND	ND	ND	ND	ND	0.955 J	ND	ND
Benzene	**1**	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.57	0.706	ND	0.478
Bromoform	**50**	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.7	ND	ND	ND	ND	ND	ND	ND	**54.4**	9.07	2.24
Carbon disulfide	**60**	ug/l	ND	ND	ND	ND	0.50 J	ND	ND	ND	ND	0.481 J	ND	ND	ND	ND	ND	ND	0.47 J	ND	1.37	ND
Chloroethane	**5**	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND	ND	0.527
Chloroform	**7**	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	**7.75**	ND	ND	ND	ND	ND	ND	ND	ND	5.95	3.69
Cyclohexane	-	ug/l	ND	164	111	ND	ND	11.1	1.3	ND	17.5 J	8.97	ND	ND	ND	ND	ND	ND	38.5	19.8	ND	ND
Dibromochloromethane	**50**	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.756 J	ND	ND	ND	ND	ND	ND	ND	0.529 J	ND	ND
1,1-Dichloroethane	**5**	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	**6.3 J**	0.795	ND	ND	ND	ND	ND	ND	0.65 J	2.49	1.41	0.811
cis-1,2-Dichloroethene	**5**	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	**425**	ND	ND	**34.7**	ND	ND	ND	0.656	**319**	ND	ND	ND
trans-1,2-Dichloroethene	**5**	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	**33.9**	ND	**54.5**	1.41	ND	ND	ND	ND	**22.3**	ND	ND	ND
Isopropylbenzene	**5**	ug/l	**5.1**	2.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.23 J	ND	ND	ND
Methyl Acetate	-	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	-	ug/l	ND	24.1	16.7	ND	ND	2.91	0.933	ND	13.5 J	2.1	ND	ND	ND	ND	ND	ND	5.2	2.69	ND	ND
Tetrachloroethene	**5**	ug/l	ND	ND	0.583	ND	ND	ND	ND	ND	**18800**	ND	**1760**	ND	ND	ND	ND	1.36	**29.4**	ND	ND	ND
Trichloroethene	**5**	ug/l	ND	ND	0.819	ND	ND	ND	ND	ND	**2840**	ND	**1500**	**49.1**	0.39 J	ND	0.536	0.512	**189**	ND	ND	ND
Toulene	**5**	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.719	2.53	ND	**ND**	ND	ND	ND
Total Xylenes	-	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.07	4.96	ND	**ND**	ND	ND	ND
Vinyl chloride	**2**	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	**18.7 J**	ND	**16.9**	0.85	ND	ND	ND	ND	**52.1**	ND	0.957	ND
GC/MS Volatile TIC																						
Total TIC, Volatile	-	ug/l	775 J	1020 J	975	12270	446.8 J	30 J	ND	ND	0	214 J	3830	117	0	0	10.2 J	ND	305.2 J	86.7 J	545	53.5
General Chemistry																						
Sulfate	**250,000**	ug/L	122	318	**388000**	**423000**	138	51	129000	**430000**	478	1800	**743000**	**615000**	883	111	88000	**13300**	56.8	127	**337000**	**398000**

Results in Yellow Highlight displays exceedance above regulatory standard
J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
ND: Compound analyzed and Not Detected

Appendix B

HASP

HILLMANN CONSULTING, LLC
1600 Route 22 East
Union, New Jersey 07083
(908) 688-7800 • (908) 688-2636 – Fax

SITE-SPECIFIC HEALTH AND SAFETY PLAN

Address: Buena Vista Apartments
85 Riverdale Avenue
Yonkers, NY 10701

Project Number: G6- 2420

Plan Revisions

Number	Date	Initials
1		
2		

Bami Peters — 03-27-2019
Plan Preparer — Date

Chris Hirschmann — 03-27-2019
Site Supervisor — Date

Chris Hirschmann — 03-27-2019
Site Health & Safety Officer — Date

Chris Hirschmann — 03-27-2018
Health & Safety, Director — Date

Table of Contents

FORMS

Introduction

This Site-Specific Health and Safety Plan (HASP) has been prepared by Hillmann Consulting, LLC (Hillmann) to summarize the health and safety hazards at the subject site, located at 85 Riverdale Avenue Yonkers, NY 10701, New York and the requirements and procedures to protect its employees from them. This plan meets or exceeds the requirements of Occupational Safety and Health Administration (OSHA), 29 CFR 1910.120, for a site-specific health and safety plan.

This plan was designed to reduce the potential for occupational illness or injury resulting from working at this site. The purpose of the HASP is to inform Hillmann's employees and subcontractors of the health and safety risks present at this site, and the proper methods of protecting themselves from those risks. Each worker must be fully aware of the risks associated with the work to be accomplished, and be dedicated to completing that work safely.

Existing and potential hazards at this site have been identified. As new information becomes available, this HASP will be revised. Standard practices and procedures of industrial hygiene, occupational health, safety, and environmental protection are prescribed in this plan, which was prepared and reviewed by experienced professionals.

Hillmann employees who work on this site must read the HASP and sign the form included in this plan, to indicate that they understand the plan's contents, and agree to comply with its provisions. Anyone who cannot, or will not comply with this HASP will be excluded from on-site activities. Violations of this HASP or any applicable federal, state, or local health and safety regulations should be reported immediately to the Site Health and Safety Supervisor (SHSO), or to Hillmann's Director, Health & Safety (DHS).

This HASP will be readily available on site so workers can reference it when necessary.

Site Information

Location: 85 Riverdale Avenue Yonkers, NY 10701

Directions to site from Hillmann office: See attached map with directions

Historical/Current Site Information: The site is currently a commercial property

Location/Class: [ ] Industrial [X] Commercial [X] Urban/Residential
[ ] Suburban [ ] Rural

Site Regulatory Status: [ ] CERCKA/SARA [ ] US EPA [ ] NJDEP
[ ] NPL [ ] RCRA [ ] NYCOER
[X] NYSDEC [ ] Not Regulated [ ] Due Diligence

Operations or Tasks to be Performed, and Approximate Duration of Each:

1- Installation of Sub-Slab Depressurization System (SSDS)

Surrounding Population/Structures:

Commercial properties

Site and Surrounding Topography:

Generally Flat Terrain

Known or Suspected Pathways of Contaminant Dispersion:

Groundwater, soil-vapor, ineoor air

Emergency Shower, Eyewash and First Aid Equipment Located at:

Eyewash and emergency shower will not be available.

First aid provided by emergency services (911).

Personnel On-Site trained in First Aid:

1. Ryan K. Powell
2. Chris Hirschmann
3. Bami Peters
4.
5.
6.
7.
8.

Emergency Medical Care

Hospital #1

Hospital Name: St. Johns Riverside Hospital

Telephone # (914) 964-4444

Address: 967 North Broadway, Yonkers, NY 10703

Contact: N/A Telephone # 911

Type of Service ( ) Physical Trauma Only

( ) Physical Trauma and Chemical Exposure

(X) Available 24 Hours

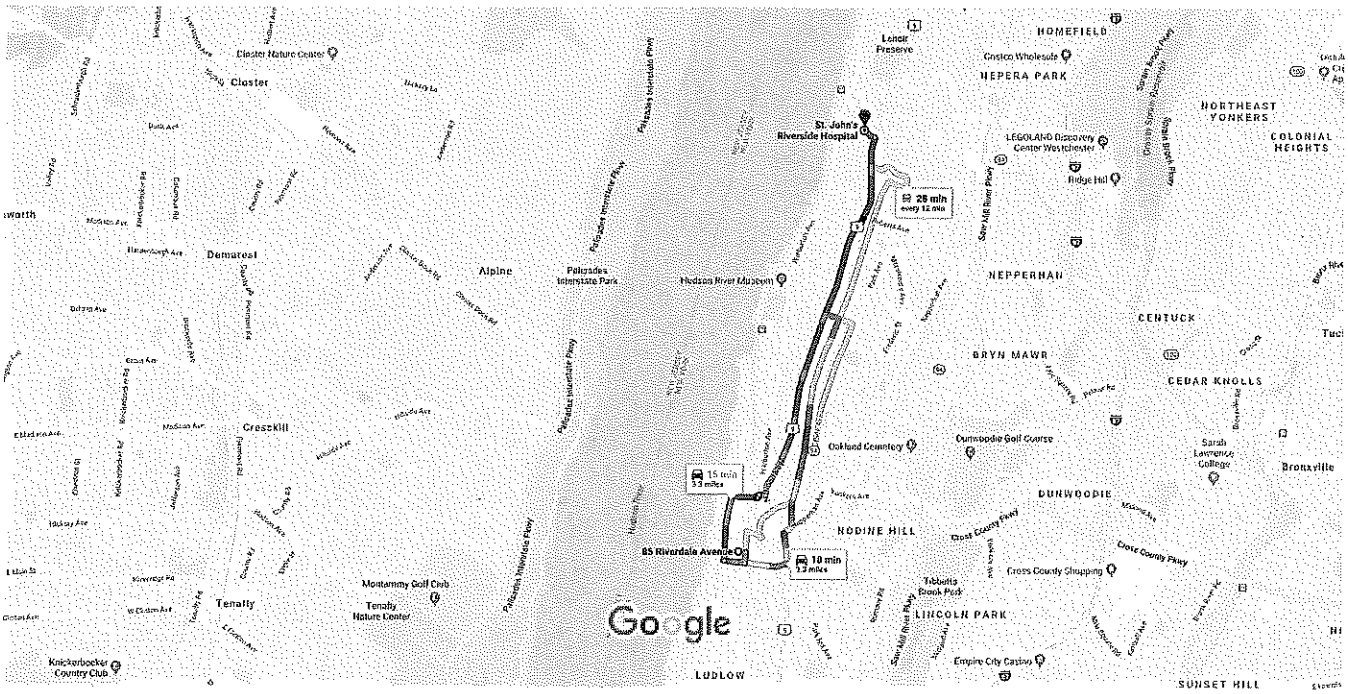
Hospital Route:

See attached map

Hospital route information has been provided to satisfy OSHA requirements (29 CFR 1910.120). **However, where 911-emergency service and/or transport is available, Hillmann personnel are strictly prohibited from transporting accident victims in either company or personal vehicles.

Transporting the injured in non-emergency vehicles increases the potential for motor vehicle accidents during transit to the hospital and further injury to the victim. Also, the victims' condition can worsen during transit. As a result, transportation in non-emergency vehicles can delay or even prevent treatment by trained emergency personnel during a critical time. Employees must remain at the site of the accident, administer appropriate first aid, and await the arrival of **trained emergency and/or rescue personnel.**

Google Maps 85 Riverdale Ave, Yonkers, NY 10701 to St. John's Riverside Hospital — Drive 3.3 miles, 15 min



Map data ©2019 Google 2000 ft

85 Riverdale Ave

Yonkers, NY 10701

Take Buena Vista Ave to Warburton Ave

5 min (0.8 mi)

1. Head south on Riverdale Ave toward Vark St

377 ft

2. Turn right at the 1st cross street onto Vark St

0.1 mi

3. Turn right onto Buena Vista Ave

0.4 mi

4. Turn right onto Larkin Plaza/Nepperhan St

0.2 mi

Follow N Broadway

9 min (2.5 mi)

5. Turn left onto Warburton Ave

131 ft

6. Turn right onto Manor House Square

203 ft

7. Turn left onto N Broadway

2.4 mi

8. Turn left

Destination will be on the right

37 s (341 ft)

St. John's Riverside Hospital

967 N Broadway, Yonkers, NY 10701

Emergency Medical Care

Hospital #2

Hospital Name: Saint Joseph's Medical Center Emergency Department Telephone # (914) 378-7000

Address: 127 S Broadway, Yonkers, NY 10701

Contact: N/A Telephone # 911

Type of Service ( ) Physical Trauma Only

(X) Physical Trauma and Chemical Exposure

(X) Available 24 Hours

Hospital Route:

See attached map

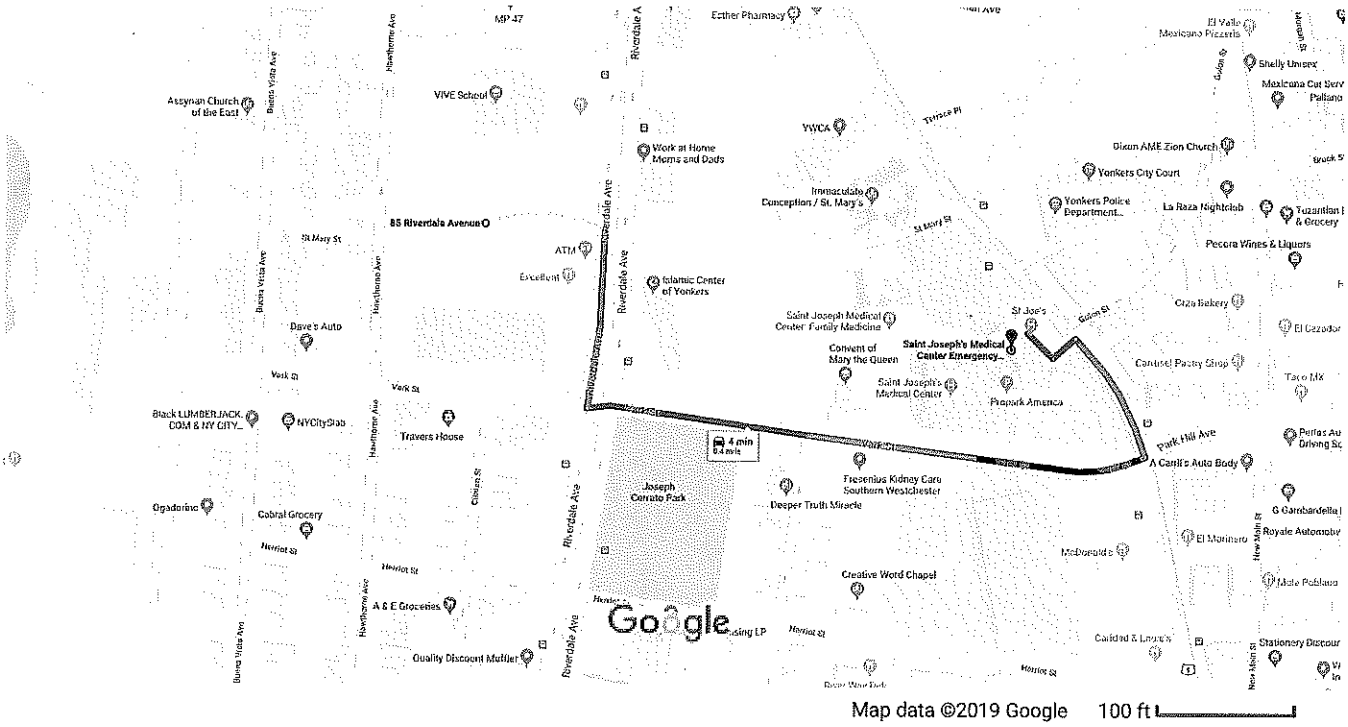
Hospital route information has been provided to satisfy OSHA requirements (29 CFR 1910.120). **However, where 911-emergency service and/or transport is available, Hillmann personnel are strictly prohibited from transporting accident victims in either company or personal vehicles.

Transporting the injured in non-emergency vehicles increases the potential for motor vehicle accidents during transit to the hospital and further injury to the victim. Also, the victims' condition can worsen during transit. As a result, transportation in non-emergency vehicles can delay or even prevent treatment by trained emergency personnel during a critical time. Employees must remain at the site of the accident, administer appropriate first aid, and await the arrival of **trained emergency and/or rescue personnel.**

Google Maps

85 Riverdale Avenue, Yonkers, NY to Saint Joseph's Medical Center Emergency Department

Drive 0.4 mile, 4 min



85 Riverdale Ave

Yonkers, NY 10701

1. Head south on Riverdale Ave toward Vark St

377 ft

2. Turn left at the 1st cross street onto Vark St

0.2 mi

3. Turn left onto S Broadway

292 ft

4. Turn left

62 ft

5. Turn right

Destination will be on the left

75 ft

Saint Joseph's Medical Center Emergency Department

127 S Broadway, Yonkers, NY 10701

These directions are for planning purposes only.
You may find that construction projects, traffic,

Emergency Contacts

Agency	**Name**	**Phone**
Fire Department	Yonkers FD Engine 303/Battalion 1	911
Police Department	Yonkers Police Department	911/ (914) 377-7232
Site Contact	Bami Peters	(908) 477-0580
First Aid/EMS	NA	911
Federal Agency Representative	NA	NA
State Agency Representative	NA	NA
Local Agency Representative	NA	NA
NYSDEC – Region 2	Long Island City, NY	1-718-482-4900
Pesticide Poisoning	NA	NA
Poison Control	U.S.A.	(800) 222-1222
CHEM TREC	Washington, DC	(800) 424-9300
Utility	**Company Name**	**Phone**
Water Supply	City of Yonkers	914-377-6210
Sewer	City of Yonkers	914-377-6210
Power	Yonkers Electric	914-377-6210
Gas	City of Yonkers	914-377-6210
NY One Call	NY	811

Hillmann Consulting, LLC Emergency Contact List
Cell Phone Numbers

Chris Hirschmann	(908) 377-8909
Bami Peters	(908) 477-0580
Ryan K. Powell	(908) 323-4051

Key Project Personnel

The following describes the project position assignments, associated responsibilities, and reporting relationships.

Position	Job Description	Interactions
Director	Responsible for technical and administrative performance of the project. Supports Site Supervisor and is available to him at all times. Will visit the site periodically, or as necessary. Reports progress of project on a regular basis. Assigns key personnel, and identifies, requests, secures, and monitors use of resources for project. Approves program expenditures and invoices.	Reports directly to President. Works closely with Site Supervisor.
Site Supervisor	Acts as point of contact for client and client's representative(s). Supervises all on-site personnel and subcontractors. Coordinates daily site-specific work efforts, and ensures all activities are in strict compliance with site-specific health and safety plan. Has authority to suspend all work that possesses any health and safety risk. Briefs subordinate technical personnel on task requirements. Identifies and resolves technical problems. Provides periodic review of project progress.	Reports directly to Project Manager.
Site Health & Safety Officer (SHSO)	Assures compliance with HASP. Instructs site personnel in health and safety procedures through daily pre-work meetings. Performs any monitoring activities as required. Has authority to discontinue site operations if safety violations exist.	Reports directly to Project Manager. Works closely with Director, Health & Safety, and Site Supervisor.
Director, Health & Safety (DHS)	Develops, implements, and enforces the on-site safety program. Oversees all health and safety aspects of project, conducts periodic audits to ensure compliance. Available at all times to discuss project progress and health and safety related issues.	Reports directly to President. Works closely with Project Manager, Site Supervisor, and SHSO.

Hillmann is the entity responsible for managing health and safety at this site. Key project personnel are as follows:

Director:	Chris Hirschmann Name	908-688-7800 / 908-377-8909 Telephone / Cellular Number
Site Supervisor:	Bami Peters Name	908-688-7800 / 908-477-0580 Telephone / Cellular Number
SHSO:	Chris Hirschmann Name	908-688-7800 / 908-377-8909 Telephone / Cellular Number
DHS:	Chris Hirschmann Name	908-688-7800 / 908-377-8909 Telephone / Cellular Number

Medical Surveillance and Training Dates for Authorized Personnel

Employee	Medical Exam	OSHA 8-Hr.	Site Supervisor Training	Respirator Fit Test
Bami Peters	08/2018	10/2018		10/2018
Chris Hirschmann	02/2019	10/2018	06/2010	07/2018
Ryan Powell	02/2019	05/2018		10/2018

Task Identification

Tasks covered under this plan:

Task #	Description
1	SSDS Installation

Off-site tasks planned? No

Describe:

Chemical Hazards

Task No.(s)	Chemical Name (or class)	PEL	TLV	Other Pertinent Limits (specify)	Primary Hazard			SDS Attached
					Ingestion	Dermal	Inhalation	Y/N
1	**Volatiles:**			90 ppm				
	TCE	100 ppm	50 ppm	(action level			X	Y
	PCE	100 ppm	10 ppm	based on			X	Y
	Methylene Chloride	25 ppm	50 ppm	composition volatility)			X	Y

PEL – OSHA Permissible Exposure Limit: the maximum allowable 8-hour time weighted average (TWA) exposure concentration.
TLV – ACGIH Threshold Limit Value: the recommended 8-hour TWA exposure concentration.
STEL – ACGIH or OSHA Short-term Exposure Limit: the maximum allowable 15-minute TWA exposure concentration.
Ceiling – OSHA and Cal-OSHA Ceiling Limit: the maximum exposure concentration above, which an employee shall not be exposed during any period without respiratory protection.
IDLH – Immediately Dangerous to Life and Health: the concentration at which one could be exposed for 30 minutes without experiencing escape-impairing or irreversible health effects.
** – Exposure limits not available

Physical and Biological Hazards

Hazard	Yes	No	Task No.(s)	Hazard	Yes	No	Task No.(s)
Electrical (overhead lines)	X		1	Uneven Terrain	X		1
Electrical (underground lines)	X		1	Unstable Surfaces	X		1
Gas Lines	X		1	Elevated Surfaces		X	
Water Lines	X		1	Lightning	X		1
Drilling Equipment	X		1	Rain	X		1
Excavation Equipment		X		Snow	X		1
Power Tools	X		1	Liquefied/Pressurized Gases		X	
Heat Exposure	X			Lifting Equipment	X		1
Cold Exposure	X		1	Vermin	X		1
Oxygen Deficiency		X		Insects	X		1
Confined Spaces		X		Disease-causing organisms	X		1
Noise	X		1	Others, e.g., marine sampling (specify)		X	
Ionizing Radiation		X					
Non-Ionizing Radiation		X					
Fire		X					
Explosive Atmospheres		X					
Shoring		X					
Scaffolding		X					
Holes/Ditches	X		1				
Steep Grades	X		1				
Slippery Surfaces	X		1				

Risk Analysis

Task #	Substance	Concentration (if known)	Risk*
1	VOCs	Unknown	0-1

*Risk
0 – No Risk
1 – Slight Risk
2 – Moderate Risk
3 – Dangerous Conditions/Caution
4 – High Risk
5 – Extremely Dangerous

General Safety Rules

1. If an employee must work alone, he/she must call his/her supervisor twice a day. If the supervisor is unavailable, that supervisor's supervisor must be contacted.
2. Workers must wear all personal protective equipment required for the tasks to be performed.
3. Horseplay, scuffling, or practical jokes are forbidden on the job.
4. Compressed air must not be used to blow dirt from clothing, or played with or blown at another person. In addition, compressed air tools should be checked periodically for hose leaks, faulty valves and tank pressurization issues as a precursor for potential injury.
5. Drinking of alcoholic beverages or the use drugs on the job is prohibited. Their use will cause immediate dismissal.
6. All areas must be continually cleaned to maintain good housekeeping. Trash is to be piled neatly and removed promptly. All tools and work areas are to be kept in clean and safe condition. Hard floor surfaces should be kept as dry as possible and free to debris in walking zones to prevent potential slips, trips and falls. If an area of flooring will be slippery for an extended period of time, efforts should be taken provide caution signs or high visibility cones/barricades to warn and prevent entrance into the zone.
7. Competent workers must do welding and cutting. Anyone who is required to work in "hot" zones must wear or be provided with proper eye protection and warning that welding will be taking place.
8. A. Ladders are to be of proper design and tied off while in use. Do not go up or down a ladder without the free use of both hands. Use a rope to lift or lower materials or tools. Always face a ladder when climbing or descending. Ladders with structural defects should be discontinued from use and placed aside with a label to warn others not to use until serviced or replaced. Defects include, but are not limited to, bent or broken ladder rung/step, bent or cracked frame rails defected foot holds etc.

   B. Extreme caution must be used with operating with ladders to avoid overhead hazards such as unstable roofing materials or over-head utility lines. Before setting up your ladder, always asses for over-head power lines and avoid operating within those areas. If you have any doubts, don't do it.
9. Every work site must have a qualified first aid person and a complete first aid kit. All first aid materials are to remain clean, unused and non-expired. The first aid materials should remain with a competent first aid responder or in an inconspicuous area for all to use if needed. Eye wash stations or portable bottles should be readily on hand to field personnel in the event of an eye irritant or splashing occurrence. Eye protection should be used to further prevent eye injuries.
10. **ALL** accidents must be investigated and reported. Use the Accident Investigation Form in the back section of this plan.
11. Injuries sustained while on duty must be reported to supervisor immediately, or as soon as possible after injury is sustained.
12. Explosives must be handled and transported by licensed people only. Any doubts of explosive materials should be handled with extreme caution and the project manager notified for further instruction.
13. All tools and electrical equipment must be in proper working order. If a tool is broken/near broken or a piece of electrical equipment has frayed/exposed wiring, sparks generated or missing screws or parts, make sure to disengage use of tool. Faulty tools should be labeled with a "Do NOT use" label and placed in a safe location until it can be serviced or replaced.
14. Clothing appropriate to the duties performed shall be work by all workers. Large pockets, loose jewelry, cuffed trousers and loose or torn clothing are dangerous and should not be worn around machinery, or when climbing ladders, or working on structures.

Employee Training Program

All personnel performing work in areas on this site covered by this HASP must have completed the appropriate training requirements specified in 29 CFR 1910.120(e). Each individual must have completed an 8-hour refresher-training course and/or initial 40-hour training course within the last year prior to performing any intrusive work on this site covered by this HASP. Also, on-site managers must have completed the specified 8-hour supervisor's training course. Records that demonstrate that all persons subject to the training requirements have actually met them will be maintained on site. The Project Manager is responsible for verifying compliance of the project team with these rules.

Prior to commencement of on-site activities, a site safety meeting will be held to review the specific information and requirements of this HASP. HASP sign-off sheets will be collected at this meeting.

Site Specific Training will include:

- Explanation of the overall site HASP.
- Health and safety personnel and organization.
- Brief site history.
- Special attention to signs and symptoms of overexposure to known and suspected site contaminants.
- Health effects of site contaminants.
- Air monitoring description.
- Physical hazards associated with the project.
- Selection, use and limitations of available safety.
- Personal hygiene and decontamination.
- Respirator facepiece fit testing.
- PPE use and maintenance.
- Site rules and regulations.
- Work zone establishment and markings.
- Site communication.
- Emergency preparedness procedures.
- Equipment decontamination.
- Medical monitoring procedures.
- Contingency plan.

Prior to work, each Hillmann employee will attend the contractor's health and safety orientation, if applicable. In addition, Hillmann's employees will review health and safety items specific to the tasks to be performed that were not covered in the contractor's orientation.

Site Health and Safety Meetings

In addition, the SHSO will meet daily with all Hillmann employees prior to beginning work on site. The agenda of the meeting will include a review of important elements of this plan, any special safety items, and a discussion of the emergency response procedures. Also, everyone will agree on a schedule for periodic meetings, (for example, before beginning work each day), to review the effectiveness of this plan and make changes as necessary. If significant changes at the site occur, special meetings will be scheduled. (If Hillmann is a subcontractor, all Hillmann employees on site will participate in the contractor's daily safety meetings.)

Training Records

The SHSO will complete a report of the daily safety meetings, using the form in the back section of this plan, and all attending the meeting will sign the Daily Safety Meeting Log.

The training status of contractor and subcontractor employees has been verified, and their training criteria meet the requirements specified in 29 CFR 1910.120(e). A copy of all training certificates will be kept at the job site for each person working at the site.

Personal Protective Equipment (PPE) Requirements

Task No.(s)	Level of Protection (A – D)*	Level of Upgrade	PPE Suit	PPE Gloves	PPE Feet	PPE Head	PPE Eye	PPE Ear	PPE Respirator	Additional PPE for Upgrade
1	D	When necessary	Std	N	Steel	When needed	Glasses	Plugs	NA	None

SUIT

Std = Standard Work Clothes
Tyvek = Uncoated Tyvek Disposal Coverall
PE Tyvek = Polyethylene-coated Tyvek
Saranex = Saranex-laminated Tyvek
PVC Suite = PVC Raingear

GLOVES

Work = Work Gloves (canvas, leather)
Neo = Neoprene Gloves
PVC = PVC Gloves
N = Nitrile Gloves
V = Vinyl Gloves
L = Latex Gloves

FEET

Steel = Steel-toe shoes or boots
Steel+ = Steel-toe PVC boots
Booties = PVC booties

HEAD

HH = Hardhat

EYE

Glasses = Safety glasses
Goggles = Goggles
Shield = Face shield

EAR

Plugs = Earplugs
Muff = Ear muffs

RESPIRATOR

APR = Air purifying respirator
Full APR = Full face APR
Half APR = Half face APR
SAR = Airline supplied air respirator
SCBA = Self contained breathing apparatus
Escape = Escape SCBA
OV = Organic Vapor Cartridge
AG = Acid Gas Cartridge
OV/AG = Organic Vapor/Acid Gas Cartridge
AM = Ammonia Cartridge
Dust/Mist = Dust/Mist pre-filter and cover for cartridge
HEPA = High efficiency particulate air filter cartridge

- For unspecified volatile organics (based on 1-minute breathing zone measurement using PID or OVA):
-

Up to 1 ppm above background	Level D
1 – 5 ppm above background	Level C
5 – 500 ppm above background	Level B
500 ppm above background	Level A

Suggested Levels of Protection

Level "D" Protection

1. Coveralls
2. Gloves
3. Boots/shoes – steel toe
4. Boots (outer) chemical resistant (disposable)
5. Safety glasses or chemical splash goggles
6. Hard hat (safety shield)
7. High visibility vest

Level "C" Protection

1. Full-face, air-purifying, canister-equipped respirator (NIOSH/MSHA approved)
2. Chemical resistant clothing (coveralls; hooded, two-piece, chemical splash suit; chemical resistant hood & apron; disposable, chemical-resistant coveralls)
3. Coveralls
4. Gloves (outer) chemical-resistant
5. Gloves (inner) chemical-resistant
6. Boots (outer) chemical-resistant
7. Boots (inner) chemical-resistant
8. Hard hat (face shield)
9. Escape mask
10. Two-way radio

Level "B" Protection

1. Pressure/Demand SCBA (MSHA-NIOSH approved)
2. Chemical resistant clothing (overalls and long-sleeved jacket; coveralls; hooded, one- or two-piece chemical splash suite; disposable, chemical-resistant coveralls)
3. Coveralls
4. Gloves (outer) chemical-resistant
5. Gloves (inner) chemical-resistant
6. Boots (outer) chemical-resistant
7. Boots (inner) chemical-resistant
8. Hard hat (face shield)
9. Two-way radio

Level "A" Protection

1. Pressure/Demand SCBA (MSHA-NIOSH approved)
2. Fully encapsulating, chemical-resistant suit
3. Coveralls
4. Gloves (outer) chemical-resistant
5. Gloves (inner) chemical-resistant
6. Boots, chemical-resistant, steel toe (depending on suit construction, work over or under suit boot)
7. Hard hat (under suit)
8. Two-way radio

Medical Surveillance

Requirements

All Hillmann employees covered by this HASP, who engage in on site activities governed by 29 CFR 1910.120 for 30 or more days per year, must meet the medical surveillance requirements specified in 1910.120(f). Therefore, such personnel must have completed occupational medical baseline or surveillance examination, performed by a licensed physician, within the last 24 months. The medical examination includes the following components:

- Personal Medical Questionnaire
- Occupational Exposure History
- Physical Examination
- Vision Testing
- Spirometry
- Audiometry
- Blood Chemistry Panel (e.g., SMAC-20)
- Complete Blood Count with Differential
- Urinalysis
- Chest X-Ray (every two years at a minimum)
- Electrocardiogram (at physician's discretion)

Examinations are required upon hiring, termination, and exposure to substances at or above the PEL.

Results of the examinations are communicated directly from the physician to the employee. Medical records for Hillmann's employees are kept by the physician:

Washington Occupational Health
1120 19th Street, Suite 410
Washington, DC 20036
800-777-9642 – office
800-865-6525 – fax

Monitoring Requirements

Monitoring is to be conducted by the SHSO, or his/her designee. The results will be interpreted by the SHSO and the DHS. Copies of monitoring results and calibration logs will be filed with the HASP.

Monitoring is designed to assess exposure to employees during site activities, and to determine if PPE is required and adequate to assure protection. Because investigation and remediation activities at hazardous waste sites are of an inconsistent nature, it is not possible to assign a monitoring protocol that excludes, or is not directly dependent upon, professional judgment in determining when monitoring is required to assess exposure. Thus, the following generic protocol must be followed at a minimum, and should be modified to be more conservative (e.g., require more monitoring) if deemed necessary by the SHSO or DHS. Under no conditions will the required frequency be decreased.

At a minimum, air monitoring will be conducted before and during each task or activities for which air monitoring has been designated. If airborne concentrations of contaminants reach action levels based on observations with the direct reading instruments, then the appropriate PPE upgrade or work stoppage order will be enforced by the SHSO. In case a work stoppage order is given, the area must be cleared of all personnel immediately.

The use of action levels and the basis for the selection of monitoring equipment is explained as follows:

Action levels determine:

(1) the PPE to be used by site workers
(2) their ability to remain and work in the exclusion zone

The selection of the specified monitoring equipment is based on

(1) the nature of the contaminants
(2) the likely concentrations of the contaminants
(3) the probable duration of exposure
(4) the relative sensitivity of the monitoring equipment to the specific contaminants

The following summarizes the calibration requirements for the air monitoring instruments used at the site:

Instrument	Calibration Frequency
PID: Mini RAE-QRAE	Beginning of each work shift

Air Monitoring and Contaminant Action Levels

Task No.(s)	Location	Contaminant	Monitoring Equipment	Monitoring Frequency	Action Level Concentration	
					Mandatory Respirator Use	Mandatory Work Stoppage
1	Work Areas	All analyzed compounds	PID: Multi-Rae	Periodically during all tasks/activities.	--	10 ppm

PID = Photoionization Detector (HNU, TIP, OVM)
FID = Flame Ionization Detector (OVA)
LEL-O_2 = Explosivity and Oxygen Meter

Name(s) of individual(s) responsible for performing the monitoring, and certifying the results:

All Hillmann personnel

Type, make and model of instruments used: Multi-Rae PID Gas Monitor

Method and frequency of calibration: 100 ppm isobutylene-calibration gas. Calibrated prior to each day's use according to manufacturer's instruction.

Procedures for Handling Anticipated Wastes

Waste Generation

Anticipated: Yes: ___ No:____X____

Types: NA ___ Liquid _____ Solid ___X___ Sludge_____ Gas _

Quantity: Expected volume of each type:

This project ___will ____X_ will not generate non-hazardous, contaminated wastes. These wastes will be:

_____ stored _____ treated
___transported ____manifested in the following manner:

Packaging requirements for waste material:

_____
_____
_____
_____
_____

Decontamination Procedures

All personnel that may be exposed to contaminated soil will wear modified level D Personal Protective Equipment to include disposable gloves. Gloves will be changed after handling potentially impacted material or equipment and placed in a plastic garbage bag for proper disposal. All personnel will wash their hands before eating or drinking and no smoking will be allowed on site.

All equipment brought onto the site will be cleaned of any contaminants prior to accessing the site to prevent offsite cross-contamination or the need to decontaminate prior to the start of field activities. After each borehole is completed, all drilling equipment used for the soil boring (augers, etc.) will be decontaminated with soap (Alconox® or equivalent) and water followed by a water rinse, using a brush as necessary, to remove soil and contaminants. At the conclusion of daily project activities, all equipment will again be decontaminated with soap and water and a water rinse. All equipment will be handled with clean gloves after cleaning to minimize cross-contamination.

Spill Prevention and Response

Potentially hazardous spill situations can be mitigated by using containment devices and materials in work areas. If site conditions are suitable, earthen berms will be constructed around specific areas. If site conditions are not suitable for this, or the potential spill is smaller, barriers will be constructed with sorbent materials such as “speedi-dry”, sorbent booms and/or straw bales. Dikes and berms will also be used to divert stormwater run-on and run-off away from critical zones.

Because a spill cleanup must be conducted under crisis conditions, it is important that the methods used for dealing with a spill be thought out beforehand. However, the steps followed cannot be inflexible, because no two spills are identical. Factors that will be assessed in the event of any and all spills include:

1. The volume of the hazardous substance released and the rate of release.
2. The nature of the spill material.
3. What danger exists to personnel in the immediate area.
4. Nature of damage and possibilities of repair.
5. If the transfer of material to an alternate containment is advisable.
6. Feasibility of the construction of a containment dike.
7. Nature of spill area.
8. Whether the spilled substance has reached a watercourse or sewer.
9. Danger of explosion or fire.
10. Equipment and supplies necessary to confine the material and carry out the cleanup.

In most cases, the success of a cleanup operation is dependent upon the time it takes to contain the spill. Therefore, Hillmann’s first attempt at spill containment will be at the point of discharge. This can often be accomplished by closing valves, reinforcing or repairing damaged containers, moving or changing the position of fallen or ruptured containers, or emptying the container by pumping to a temporary storage or holding vessel. Pumps, suction hoses and containers will be available to recover spilled materials when directed to do so by the Site Supervisor.

Handling and transport of drummed waste always must be conducted in a controlled and safe manner, which will minimize damage to structurally sound drums, repacks and overpacks. If leakage or spillage of waste occurs, the drum must immediately be placed within an overpack unit. Overpack units must be provided at each staging area, at areas of existing drums, and along all site roadways.

In the event of a spill, the drum handling team must immediately contact the SHSO, who will have all personnel evacuated from the immediate spill area. Only personnel trained in spill response procedures shall isolate and contain the spill. Where possible, spilled waste material must be collected and placed in repack containers for ultimate disposal. Following containment and collection of spilled waste, the area must be surveyed by the SHSO, who will decide if it is safe to permit re-entry of work teams.

Task/Work Area	Potential Spill or Discharge	Equipment, Materials, and Procedures for Spill Cleanup

Emergency Procedures

Potential emergencies that may arise are most likely to be associated with physical hazards from heavy equipment operation and/or lifting and loading of debris. Emergency response will, in most cases, be performed in Level D protection.

Modifications to these emergency procedures may be necessary after the actual site set-up, based on prevailing conditions. Periodic reviews of these procedures will be performed by the SHSO to ensure that they are appropriate for all anticipated emergencies.

Responsibilities

The Site Supervisor has the authority and responsibility to commit company resources to appropriately respond to an emergency, and to exclude all personnel not directly responding to the emergency.

Prior to beginning work at the site, Hillmann will designate an employee, usually the SHSO, to be responsible for initiating any emergency response actions. In the event an injury or illness requires more than first aid treatment, the SHSO (or alternate) will accompany the injured person to the hospital, and will remain with the person until release or admittance is decided.

Evacuation Plan

The basic elements of an emergency evacuation plan include employee training, escape routes, escape procedures, critical operations or equipment, rescue and medical duty assignments, designation of responsible parties, emergency reporting procedures and methods to account for all employees after evacuation.

When appropriate, wind indicators visible to all on-site personnel will be provided by the SHSO to indicate possible routes of upwind escape. Work-area entrance and exit routes will be planned, and emergency escape routes will be delineated by the SHSO. The discovery of any condition that would suggest the existence of a situation more hazardous than anticipated, should result in the evacuation of the team and a re-evaluation of the hazard and the level of protection required. This re-evaluation will be conducted by appropriate on-site health and safety personnel.

In the highly unlikely event that barrels, canisters, or chemical gases or vapors are uncovered during site work, the following procedures shall be followed:

1) In the event that barrels, canisters, or any other vessels are encountered during excavation, all work shall immediately cease and all workers to be removed from the area. The SHSO shall be immediately notified, and he/she shall identify vessel contents, handling procedures and storage and disposal techniques prior to starting work.

2) In the event that high concentrations of gases or vapors are detected, the following actions will be taken:

    - Remove all workers from the area
    - Monitor gas or vapor concentrations to determine the type of respiratory protection that will be required before workers reenter the area.

3) In the highly unlikely event of a major leak of toxic gas, such as might occur if a compressed gas cylinder were ruptured during excavation or drilling, all on-site personnel will be evacuated to a safe distance. The risk will be assessed prior to restarting work.

Training

Employees will be instructed in the specific aspects of emergency evaluation applicable to the site as part of the site safety meeting prior to the commencement of all on-site activities. On-site refresher or update training is required anytime escape routes or procedures are modified or personnel assignments are changed. During

the site safety meeting, all employees will be trained in, and reminded of, the location of this plan, the procedures outlined in this plan, and the communication systems and evacuation routes used during an emergency.

On a continuous basis, individual employees should be constantly alert for indicators of potentially hazardous situations, and for signs and symptoms in themselves and others that warn of hazardous conditions and exposures. Rapid recognition of dangerous situations can avert an emergency. In the event of any emergency that necessitates an evaluation of the site, on-site personnel will be notified by the use of car horns sounded in regularly spaced, repeated blasts, as detailed in the next section of this procedure. The Site Supervisor in conjunction with the SHSO will control the site until the appropriate local or state agency representatives arrive, if required.

Alarm Systems Emergency Signals

The simplest and most effective emergency communication system, in any situation, is direct voice communications. Voice communications will be supplemented anytime voices cannot be clearly perceived above ambient noise levels (e.g., noise from heavy equipment, drilling rigs or backhoes, and anytime a clear line-of-sight cannot be easily maintained among all site personnel because of distance, terrain, or other obstructions. When voice communications must be supplemented, the following emergency signals, using car horns, will be used.

- One Horn Blast: General Warning

  One blast is used to signal relatively minor, but important events on site. An example would be a minor chemical spill where there is no immediate damage to life or health, yet personnel working on site should be aware of the situation so unnecessary problems are avoided. If one horn blast is sounded, personnel must stop all activity and equipment on site and await further instruction from the SHSO.

- Two Horn Blasts: Medical Emergency

  Two blasts are used to signal a medical emergency where immediate first aid or emergency medical care is required. If two horn blasts are sounded, all first aid and CPR trained personnel should respond, as appropriate. All other activity and equipment should stop, and personnel should await further instructions from the SHSO.

- Three Horn Blasts Followed by One Continuous Blast: Immediate Danger to Life or Health

  Three blasts followed by another extended or continuous horn blast signals a situation that could present an immediate danger to the life or health (IDLH) to all employees on site. Examples of possible IDLH situations could include fires, explosions, hazardous chemical spills or releases, hurricanes, tornadoes, blizzards or floods. If three horn blasts followed by a continuous blast are sounded, all activity and equipment must stop, and all personnel must evacuate the site to an appropriately designated site located outside the site gate, or further off site if necessary. (Note: unless otherwise specified, all decontamination procedures must be implemented.) All personnel must be accounted for by the SHSO or Site Supervisor, and other response actions determined by the SHSO or Site Supervisor must be followed.

Employees on site will use the “buddy” system (pairs). Buddies should pre-arrange hand signals or other means of emergency communication in case radios cannot be used, or if the radios no longer operate. The following had signals are suggested:

1. Hand gripping throat: out of air, can’t breathe.
2. Grip partner’s wrist or place both hands around waste: leave area immediately, no debate.
3. Hand on top of head: need assistance.
4. Thumbs up: OK, I’m alright, I understand.
5. Thumbs down: No, negative.

Visual contact will be maintained between employee pairs. Team members will remain in close proximity to each other in order to provide assistance in case of emergencies, and will inform each other of any of the following effects of exposure to site contamination:

- Headaches
- Dizziness
- Blurred vision
- Cramps
- Irritation of eyes, skin or respiratory tract

If any member of the work crew experiences any adverse symptoms while on site, the entire work crew will immediately stop work and follow the instructions provided by the SHSO.

Medical Treatment/First Aid

Eyewash stations will be available at the work activity locations, the outside of the personal decontamination facility and at the equipment decontamination area. Community emergency services (EMS, fire, and police) will be notified immediately if their resources are needed on site. If necessary, the injured or sick party shall be taken to the nearest hospital.

Fire Extinguishers

Equipment – All heavy equipment will be supplied with ABC fire extinguishers are also located in all vehicles.

Emergency Reporting

Any incident (other than minor first aid treatment) resulting in injury, illness or property damage will be reported to Hillmann. An incident investigation will be initiated as soon as emergency conditions are under control. The purpose of this investigation is not to attribute blame but to determine the pertinent facts so that repeat or similar occurrences can be avoided.

The investigations will begin while details are fresh in the mind of all involved. The person administering first aid may be able to start the fact gathering process if the injured are able to speak. Pertinent facts must be determined. Questions beginning with who, what, when, where, and how are usually most effective to discover ways to improve job performance in terms of efficiency, quality of work, as well as safety and health concerns.

On-Site Evacuation Plan – An emergency evacuation alarm (air horn, etc.) will be on site at all times. This alarm should be of sufficient power to be heard by personnel operating heavy equipment. A series of repeated blasts is the signal for all Hillmann personnel and subcontractors to evacuate the site and assemble at:

To be determined at the beginning of each field event:

The criteria for activating the alarm will be the first sign of any serious problem that requires assistance or evacuation.

Should either a fire or explosion occur, all personnel will proceed immediately to the evacuation assembly point and await further instructions. At that time a personnel check will be conducted to determine if anyone is missing, and the local fire and police departments will be called for assistance. Once on site, the acting officer of the fire department and the Site Supervisor will determine if further evacuations are necessary. No Hillmann personnel will re-enter the site without clearance from the SHSO.

Subcontractor Safety

It has been and shall continue to be the policy of Hillmann that employees of all subcontractors are required to adhere to all applicable company, local, state, and federal safety rules and regulations.

When an infraction of a local, state, federal, or company safety regulation is observed, the SHSO will request verbally that the subcontractor's supervisory personnel correct the infraction immediately. If correction is not made, then the project director will request in writing that proper corrective action be taken. Subcontractors who continue to ignore proper safety procedures present a danger for all workers around them. A Stop-work call should be initiated until compliance with safety protocols are achieved; subcontractors will have payments withheld until compliance is achieved.

Subcontractors are required to hold safety meetings for their employees when they are working on Hillmann projects, and submit documentation of such meetings to the Project Manager. Subcontractor employees are not required to attend Hillmann's safety meetings.

Job Safety & Health Protection

The Occupational Safety and Health Act of 1970 provides job safety and health protection for workers by promoting safe and healthful working conditions throughout the Nation. Provisions of the Act include the following:

Employers

All employers must furnish to employees' employment and a place of employment free from recognized hazards that are causing or are likely to cause death or serious harm to employees. Employers must comply with occupational safety and health standards issued under the Act.

Employees

Employees must comply with all occupational safety and health standards, rules, regulations and orders issued under the Act that apply to their own actions and conduct on the job.

The Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor has the primary responsibility for administering the Act. OSHA issues occupational salary and health standards, and its Compliance Safety and Health Officers conduct job site inspections to help ensure compliance with the Act.

Inspection

The Act requires that a representative of the employer and a representative authorized by the employees be given an opportunity to accompany the OSHA inspector for the purpose of aiding the inspection.

Complaint

Employees or their representatives have the right to file a complaint with the nearest OSHA office requesting an inspection. If they believe unsafe or unhealthful conditions exist in their workplace. OSHA will withhold, on request, names of employees complaining.

The Act provides that employees may not be discharged or discriminated against in any way for filing safety and health complaints or for otherwise exercising their rights under the Act.

Employees who believe they have been discriminated against may file a complaint with their nearest OSHA office within 30 days of the alleged discriminatory action.

Citation

If upon inspection OSHA believes an employer has violated the Act, a citation alleging such violations will be issued to the employer. Each citation will specify a time period with which the alleged violation must be corrected.

The OSHA citation must be prominently displayed at or near the place of alleged violation for three days, or until it is corrected, whichever is later, to warn employees of dangers that may exist there.

Proposed Penalty

The Act provides for mandatory penalties against employers of up to $1,000 for each serious violation and for optional penalties of up to $1,000 for each non-serious violation. Penalties of up to $1,000 per day may be proposed for failure to correct violations within the proposed time period. Also, any employer who willfully or repeatedly violates the Act may be assessed penalties of up to $10,000 for each such violation.

There are also provisions for central penalties. Any willful violation resulting in death of an employee, upon conviction, is punishable by a fine of up to $250,000 (or $500,000 if the employer is a corporation), or by imprisonment for up to six months or both. A second conviction of an employer doubles the possible term of imprisonment.

Voluntary Activity

While providing penalties for violation, the Act also encourages efforts by labor and management before an OSHA inspection, to reduce workplace hazards voluntarily and to develop and improve safety and health programs in all workplaces and industries. OSHA's Voluntary Protection Programs recognize outstanding efforts of this nature.

OSHA has published Safety and Health Program Management Guidelines to assist employers in establishing or perfecting programs to prevent or control employee exposure to workplace hazards. There are many public and private organizations that can provide information and assistance in this effort if requested. Also, your local OSHA office can provide considerable help and advice on saving safety and health problems or can refer you to other sources for help such as training.

Consultation

Free assistance in identifying and correcting hazards and in improving safety and health management is available to employers, without citation or penalty, through OSHA-supported programs in each State. These programs are usually administered by the State of Labor or Health Department or a State University.

Under provisions of Title 29, Code of Federal Regulations, part 1903.2(s)(1) employers must post this notice (or facsimile) in a conspicuous place where notices to employees are customarily posted.

Equipment Calibration Log

Operator Name:_____ Instrument Notice:_____

Signature:_____ Serial Number:_____

Date	Time	Concentration	Comments

Sampling Log

Operator Name:_____ Instrument Notice:_____

Signature:_____ Serial Number:_____

Was the equipment calibrated? _____ Yes _____ No

Date	Time	Concentration	Comments

Daily Sign In/Sign Out Form

(to be completed on site)

Site Name: 85 Riverdale Avenue, Yonkers, NY 10701

Location: 85 Riverdale Avenue, Yonkers, NY 10701

Employee Name	Company Name	Purpose	Time In	Time Out

Signature of SHSO (or designee)

Date

Daily Safety Meeting Log

(to be completed on site)

Site Name 85 Riverdale Avenue, Yonkers, NY 10701

Location 85 Riverdale Avenue, Yonkers, NY 10701

Weather _____

Topics _____

_____

_____

_____

_____

_____

_____

Employee Names:	Signatures
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

_____ _____

Signature of SHSO (or designee) Date

ACCIDENT INVESTIGATION REPORT

Place Accident Occurred:		Name of Person Involved:	
Site Location		Age / Sex	Job Title
		Yrs in This Job	Yrs with Company
Date & Time of Incident AM __/__/_____:__ PM		Date & Time of Investigation AM __/__/___:__ PM	
Date Incident Reported __/__/	Reported to Whom	Investigated By:	
Regulatory Agencies or Insurance Carriers Contacted:		Witness(es):	
Description from injured or witnesses (use reverse side of form for more space): Signature Date			

Select one or more in each column. Don't hesitate to write in your own words (continue on reverse side, if necessary).

When completing the following task:
- ☐Operating (what machine)_____
- ☐Using (what tool)_____
- ☐Handling (what material)_____
- ☐Maintenance or repair (of what)_____
- ☐Office or sales task_____
- ☐Other -- Provide details_____

The following occurred:
- ☐Amputation (total or partial)_____
- ☐Burn (thermal)_____
- ☐Burn (chemical)_____
- ☐Electric shock_____
- ☐Concussion/unconscious_____
- ☐Crushing injury (contusion, crush, bruise) -- intact skin_____
- ☐Cut, laceration, puncture, abrasion_____
- ☐Fracture or dislocation_____
- ☐Sprain/strain_____
- ☐Cumulative trauma_____
- ☐Occupational illness or disease_____
- ☐Internal injuries_____
- ☐None -- Near accident_____
- ☐Other -- Provide details_____
- ☐Respiratory_____

To the (explain details):
- ☐Head, face, neck_____
- ☐Eye_____
- ☐Trunk, abdomen_____
- ☐Back (upper, lower)_____
- ☐Arm, shoulder_____
- ☐Fingers_____
- ☐Leg, hip, knee_____
- ☐Ankle, foot_____
- ☐Toes_____
- ☐Internal Injuries_____
- ☐Body System:_____
- ☐Circulatory_____
- ☐Digestive_____
- ☐Musculoskeletal_____
- ☐Nervous_____
- ☐Other_____
- ☐Other (specify)_____

Person was, or got:
- ☐Struck against (not including falls)_____
- ☐Struck by_____
- ☐Fell from (from a higher level)_____
- ☐Slipped, tripped, fell on (in the same level)_____
- ☐Foreign body in eye_____
- ☐Contacted electrical energy from_____
- ☐Exposure to (substance)_____
  - from inhalation_____
  - ingestion_____
  - skin absorption_____
- ☐Vehicle accident_____
- ☐Caught in, under or between_____
- ☐Repetitive_____
- ☐Other_____

While (taking what position) Where (or What):
- ☐Carrying_____
- ☐Climbing_____
- ☐Bending_____
- ☐Driving_____
- ☐Jumping_____
- ☐Kneeling_____
- ☐Lifting - below waist, give weight)_____
- ☐Lifting - above waist, give weight)_____
- ☐Pulling_____
- ☐Pushing_____
- ☐Reaching or stretching_____
- ☐Riding_____
- ☐Running_____
- ☐Sitting_____
- ☐Standing_____
- ☐Throwing_____
- ☐Twisting or turning_____
- ☐Walking_____
- ☐Other_____

Medical Treatment (check as many as apply)
- ☐The injured employee was able to return to work the same day.
- ☐The injured employee was sent home
- ☐The injured employee was sent to a doctor/ clinic; list the doctor/clinic name, address, and phone:_____

- ☐The employee was hospitalized.

List name and address of hospital:

Attending physician:_____

What conditions contributed
- ☐Awkward job procedure
- ☐Inadequate guard/safety device
- ☐Inadequate warning/labeling system
- ☐Fire/explosion hazard
- ☐Not secured against moving
- ☐Poor housekeeping
- ☐Protruding object
- ☐Close clearance/congestion
- ☐Hazardous arrangement/storage
- ☐Defective tools/equipment
- ☐Inadequate ventilation
- ☐Atmospheric condition: gases,

What unsafe procedures contributed
- ☐Operating without training/authority
- ☐Failure to follow proper procedure
- ☐Failure to secure
- ☐Operating at unsafe speed
- ☐Failure to warn/signal
- ☐Congestion
- ☐Used defective equipment
- ☐Used equipment improperly/unsafely
- ☐Improper loading or placement
- ☐Horseplay/distraction
- ☐Improper protective equipment
- ☐Improper lifting or carrying

The underlying causes of the incident are:
- ☐Unaware of job hazards
- ☐Inattention to hazard
- ☐Unaware of how to avoid incident
- ☐Not enough time to act
- ☐Person motivated to use unsafe procedure
- ☐Emotional/mental/physical stress
- ☐Equipment failed to perform as expected
- ☐Intoxicant/drugs
- ☐Failure to report/correct unsafe condition
- ☐Illness/medical condition
- ☐Work procedure not ergonomically correct
- ☐Substandard design

Classification (check as many as apply)
- ☐Fatality
- ☐Medical treatment other than First Aid
- ☐Occupation illness or disease
- ☐First Aid
- ☐Environmental Release
- ☐Property Damage
- ☐Near-accident

dusts, fumes, vapors
☐Repetitive motion
☐Illumination/noise hazard
☐Other

☐Taking unsafe or awkward position
☐Servicing moving equipment
☐Other

☐Other

What steps have already been taken to prevent similar incidents?_____

What else can be done (engineering controls, training, enforcement, process changes) to eliminate the hazard?_____

SHSO's Signature Date

Health and Safety Review: Is proposed action appropriate? Yes ☐ No ☐ Comments_____

DHS's Signature Date

VEHICLE ACCIDENT REPORT

EMPLOYEE NAME:_____ DRV LIC NO.:_____

COMPANY ADDRESS:_____ INSURANCE COMPANY_____

POLICY NO.:_____

DESCRIPTION OF ACCIDENT

DATE:_____ TIME:_____ SPEED LIMIT_____:

LOCATION:_____

DIRECTION OF TRAVEL:_____

HOW DID IT HAPPEN?_____

USE SPACE BELOW TO INDICATE VEHICLE PATHS - INDICATE NORTH BY ARROW

POLICE REPORT

NAME OF OFFICER: _____ BADGE #: _____

DEPARTMENT: _____ LOCATION: _____

SUMMONS ISSUED? Y [ ] N [ ] TO WHOM? _____

YOUR VEHICLE

YEAR/MAKE: _____ REGIST #: _____

DRIVEN BY: _____ AGE: ___ TEL #: _____

ADDRESS: _____ CITY: _____ STATE: _____

NATURE OF DAMAGE: _____

OTHER DRIVER
(continue below for additional drivers and witnesses)

NAME: _____ DRV LIC NO.: _____

ADDRESS: _____ VEHICLE REGISTRATION: _____

_____ INSURANCE COMPANY _____

POLICY NO.: _____

HASP Sign-Off Form

INSTRUCTIONS: Site personnel are required to read, understand, and agree to the provision of the plan. Personnel are required to sign this form indicating agreement. The original of this form is maintained by the Project Manager, and becomes part of the permanent site project files upon completion of site work.

Site Name: 85 Riverdale Avenue, Yonkers, NY 10701

Location: 85 Riverdale Avenue, Yonkers, NY 10701

Project Name and Number: G6-2420

I have read, understand, and agree to comply with the provisions of this HASP for work activities on this site.

Name	Signature	Company/Agency	Date

TETRACHLOROETHYLENE

ICSC: 0076

1,1,2,2-Tetrachloroethylene Perchloroethylene Tetrachloroethene C_2Cl_4 / $Cl_2C=CCl_2$ Molecular mass: 165.8 ICSC # 0076	CAS # 127-18-4 RTECS # KX3850000 UN # 1897 EC # 602-028-00-4 April 13, 2000 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			
EXPOSURE		STRICT HYGIENE! PREVENT GENERATION OF MISTS!	
•INHALATION	Dizziness. Drowsiness. Headache. Nausea. Weakness. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
•SKIN	Dry skin. Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain.	Safety goggles , face shield .	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Give plenty of water to drink. Rest.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Ventilation. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT let this chemical enter the environment. Personal protection: filter respirator for organic gases and vapours.	Separated from metals ,(see Chemical Dangers), food and feedstuffs . Keep in the dark. Ventilation along the floor.	Do not transport with food and feedstuffs. Marine pollutant. Xn symbol N symbol R: 40-51/53 S: (2-)23-36/37-61 UN Hazard Class: 6.1 UN Packing Group: III

ICSC: 0076	Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

ICSC: 0076

TETRACHLOROETHYLENE

IMPORTANT DATA	**PHYSICAL STATE; APPEARANCE:** COLOURLESS LIQUID , WITH CHARACTERISTIC ODOUR. **PHYSICAL DANGERS:** The vapour is heavier than air. **CHEMICAL DANGERS:** On contact with hot surfaces or flames this substance decomposes forming toxic and corrosive fumes (hydrogen chloride, phosgene, chlorine). The substance decomposes slowly on contact with moisture producing trichloroacetic acid and hydrochloric acid. Reacts with metals such as aluminium, lithium, barium, beryllium. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: 25 ppm as TWA, 100 ppm as STEL; A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued; (ACGIH 2004). MAK: skin absorption (H); Carcinogen category: 3B; (DFG 2004). OSHA PEL†: TWA 100 ppm C 200 ppm 300 ppm (5-minute maximum peak in any 3-hours) NIOSH REL: Ca Minimize workplace exposure concentrations. See Appendix A NIOSH IDLH: Ca 150 ppm See: 127184 **ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation and by ingestion. **INHALATION RISK:** A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C. **EFFECTS OF SHORT-TERM EXPOSURE:** The substance is irritating to the eyes , the skin and the respiratory tract . If this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis. The substance may cause effects on the central nervous system. Exposure at high levels may result in unconsciousness. **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the liver and kidneys. This substance is probably carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point: 121°C Melting point: -22°C Relative density (water = 1): 1.6 Solubility in water, g/100 ml at 20°C: 0.015 Vapour pressure, kPa at 20°C: 1.9 Relative vapour density (air = 1): 5.8 Relative density of the vapour/air-mixture at 20°C (air = 1): 1.09 Octanol/water partition coefficient as log Pow: 2.9
ENVIRONMENTAL DATA	The substance is toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment. 

NOTES

Depending on the degree of exposure, periodic medical examination is suggested. The odour warning when the exposure limit value is exceeded is insufficient. Do NOT use in the vicinity of a fire or a hot surface, or during welding. An added stabilizer or inhibitor can influence the toxicological properties of this substance, consult an expert. Card has been partly updated in April 2005. See section Occupational Exposure Limits.

Transport Emergency Card: TEC (R)-61S1897

NFPA Code: H2; F0; R0;

ADDITIONAL INFORMATION

IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

Page last reviewed: July 22, 2015

Page last updated: July 1, 2014

TRICHLOROETHYLENE

ICSC: 0081

1,1,2-Trichloroethylene Trichloroethene Ethylene trichloride Acetylene trichloride C_2HCl_3 / $ClCH=CCl_2$ Molecular mass: 131.4 ICSC # 0081	CAS # 79-01-6 RTECS # KX4550000 UN # 1710 EC # 602-027-00-9 April 10, 2000 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible under specific conditions. See Notes.		In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION		Prevent build-up of electrostatic charges (e.g., by grounding).	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		PREVENT GENERATION OF MISTS! STRICT HYGIENE!	
•INHALATION	Dizziness. Drowsiness. Headache. Weakness. Nausea. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
•SKIN	Dry skin. Redness.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain.	Safety spectacles, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Give plenty of water to drink. Rest.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Ventilation. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Personal protection: filter respirator for organic gases and vapours. Do NOT let this chemical enter the environment.	Separated from metals (see Chemical Dangers), strong bases, food and feedstuffs . Dry. Keep in the dark. Ventilation along the floor.	Do not transport with food and feedstuffs. Marine pollutant. T symbol R: 45-36/38-52/53-67 S: 53-45-61 UN Hazard Class: 6.1 UN Packing Group: III

ICSC: 0081	Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

ICSC: 0081

TRICHLOROETHYLENE

IMPORTANT DATA	**PHYSICAL STATE; APPEARANCE:** COLOURLESS LIQUID , WITH CHARACTERISTIC ODOUR. **PHYSICAL DANGERS:** The vapour is heavier than air. As a result of flow, agitation, etc., electrostatic charges can be generated. **CHEMICAL DANGERS:** On contact with hot surfaces or flames this substance decomposes forming toxic and corrosive fumes (phosgene , hydrogen chloride). The substance decomposes on contact with strong alkali producing dichloroacetylene , which increases fire hazard. Reacts violently with metal powders such as magnesium, aluminium, titanium, and barium. Slowly decomposed by light in presence of moisture, with formation of corrosive hydrochloric acid. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: 50 ppm as TWA; 100 ppm as STEL; A5; BEI issued; (ACGIH 2004). MAK: Carcinogen category: 1; Germ cell mutagen group: 3B; (DFG 2004). OSHA PEL‡: TWA 100 ppm C 200 ppm 300 ppm (5-minute maximum peak in any 2 hours) NIOSH REL: Ca See Appendix A See Appendix C NIOSH IDLH: Ca 1000 ppm See: 79016	**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation and by ingestion. **INHALATION RISK:** A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C. **EFFECTS OF SHORT-TERM EXPOSURE:** The substance is irritating to the eyes and the skin . Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis. The substance may cause effects on the central nervous system , resulting in respiratory failure . Exposure could cause lowering of consciousness. **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the central nervous system , resulting in loss of memory. The substance may have effects on the liver and kidneys (see Notes). This substance is probably carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point: 87°C Melting point: -73°C Relative density (water = 1): 1.5 Solubility in water, g/100 ml at 20°C: 0.1 Vapour pressure, kPa at 20°C: 7.8 Relative vapour density (air = 1): 4.5	Relative density of the vapour/air-mixture at 20°C (air = 1): 1.3 Auto-ignition temperature: 410°C Explosive limits, vol% in air: 8-10.5 Octanol/water partition coefficient as log Pow: 2.42 Electrical conductivity (NOT on card): 800pS/m
ENVIRONMENTAL DATA	The substance is harmful to aquatic organisms. The substance may cause long-term effects in the aquatic environment. 	

NOTES

Combustible vapour/air mixtures difficult to ignite, may be developed under certain conditions. Use of alcoholic beverages enhances the harmful effect. Depending on the degree of exposure, periodic medical examination is suggested. The odour warning when the exposure limit value is exceeded is insufficient. Do NOT use in the vicinity of a fire or a hot surface, or during welding. An added stabilizer or inhibitor can influence the toxicological properties of this substance, consult an expert. Card has been partly updated in October 2004. See sections Occupational Exposure Limits, EU classification, Emergency Response.

Transport Emergency Card: TEC (R)-61S1710

NFPA Code: H2; F1; R0;

ADDITIONAL INFORMATION

SAFETY DATA SHEET

Creation Date 27-Jan-2010 **Revision Date** 17-Jan-2018 **Revision Number** 6

1. Identification

Product Name **Methylene chloride**

Cat No. : **D37-1; D37-4; D37-20; D37-200; D37-200LC; D37-500; D37FB-19; D37FB-50; D37FB-115; D37FB-200; D37POP-19; D37POPB-50; D37POPB-200; D37RB-19; D37RB-50; D37RB-115; D37RB-200; D37RS-19; D37RS-28; D37RS-50; D37RS-115; D37RS-200; D37SK-4; D37SK-4LC; D37SS-28; D37SS-50; D37SS-115; D37SS-200; D37SS-1350; D37RS1000ASME; NC1485726; D37RE200ASME; NC1568702**

CAS-No 75-09-2
Synonyms Dichloromethane; DCM

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Carcinogenicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Central nervous system (CNS).	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Liver, Kidney, Blood.	

Label Elements

Signal Word
Danger

Hazard Statements
Causes skin irritation
Causes serious eye irritation
May cause drowsiness or dizziness
May cause cancer
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)

WARNING. Cancer - https://www.p65warnings.ca.gov/.

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Methylene chloride	75-09-2	>99.5

4. First-aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects None reasonably foreseeable. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media No information available

Flash Point No information available
Method - No information available

Autoignition Temperature 556 °C / 1032.8 °F

Explosion Limits
Upper 23 vol %
Lower 13 vol %
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
Carbon monoxide (CO) Carbon dioxide (CO_2) Hydrogen chloride gas Phosgene
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
2	1	0	N/A

6. Accidental release measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation.
Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Ensure adequate ventilation.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Methylene chloride	TWA: 50 ppm	(Vacated) TWA: 500 ppm (Vacated) STEL: 2000 ppm (Vacated) Ceiling: 1000 ppm TWA: 25 ppm STEL: 125 ppm	IDLH: 2300 ppm	TWA: 100 ppm TWA: 330 mg/m^3 STEL: 500 ppm STEL: 1740 mg/m^3

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Long sleeved clothing.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	sweet
Odor Threshold	No information available
pH	No information available
Melting Point/Range	-97 °C / -142.6 °F
Boiling Point/Range	39 °C / 102.2 °F
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	23 vol %
Lower	13 vol %
Vapor Pressure	350 mbar @ 20°C
Vapor Density	2.93 (Air = 1.0)
Specific Gravity	1.33
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	556 °C / 1032.8 °F
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	C H2 Cl2
Molecular Weight	84.93

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products. Excess heat.

Incompatible Materials Strong oxidizing agents, Strong acids, Amines

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO_2), Hydrogen chloride gas, Phosgene

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methylene chloride	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rat)	53 mg/L (Rat) 6 h 76000 mg/m³ (Rat) 4 h

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes and skin

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Methylene chloride	75-09-2	Group 2A	Reasonably Anticipated	A3	X	A3

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

Mexico - Occupational Exposure Limits - Carcinogens
A1 - Confirmed Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
A4 - Not Classifiable as a Human Carcinogen
A5 - Not Suspected as a Human Carcinogen

Mutagenic Effects Mutagenic effects have occured in microorganisms.

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Central nervous system (CNS)

STOT - repeated exposure Liver Kidney Blood

Aspiration hazard No information available

Symptoms / effects,both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects Tumorigenic effects have been reported in experimental animals.

12. Ecological information

Ecotoxicity

.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Methylene chloride	EC50:>660 mg/L/96h	Pimephales promelas: LC50:193 mg/L/96h	EC50: 1 mg/L/24 h EC50: 2.88 mg/L/15 min	EC50: 140 mg/L/48h

Persistence and Degradability Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its volatility.

Component	log Pow
Methylene chloride	1.25

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Methylene chloride - 75-09-2	U080	-

14. Transport information

DOT

UN-No UN1593
Proper Shipping Name DICHLOROMETHANE
Hazard Class 6.1
Packing Group III

TDG

UN-No UN1593
Proper Shipping Name DICHLOROMETHANE
Hazard Class 6.1
Packing Group III

IATA

UN-No UN1593
Proper Shipping Name Dichloromethane
Hazard Class 6.1
Packing Group III

IMDG/IMO

UN-No UN1593
Proper Shipping Name Dichloromethane
Hazard Class 6.1
Packing Group III

15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Methylene chloride	X	X	-	200-838-9	-		X	X	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Methylene chloride	75-09-2	>99.5	0.1

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Methylene chloride	-	-	X	X

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Methylene chloride	X		-

OSHA Occupational Safety and Health Administration

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Methylene chloride	125 ppm STEL 12.5 ppm Action Level 25 ppm TWA	-

CERCLA This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Methylene chloride	1000 lb 1 lb	-

California Proposition 65 This product contains the following proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Methylene chloride	75-09-2	Carcinogen	200 µg/day 50 µg/day	Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Methylene chloride	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ):	Y
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date	27-Jan-2010
Revision Date	17-Jan-2018
Print Date	17-Jan-2018
Revision Summary	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

Appendix C

NYSDOH Decision Matrices

85 Riverdale Avenue, Yonkers, NY

SV-1/IA-1

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.421**	1 and above
<6 **Result: ND**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: 0.167**	0.2 to <1	1 and above
<6 **Result: 1.88**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 4.24**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	**No Further Action**	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3	3 to < 10 **Result: 9.07**	10 and above
<100 **Result: ND**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

85 Riverdale Avenue, Yonkers, NY

SV-2/IA-2

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.541**	1 and above
<6 **Result: ND**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60 **Result: 47.9**	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result:**	0.2 to <1	1 and above **Result: 1.27**
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result:**	0.2 to <1	1 and above **Result: 3.57**
<6	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	~~Mitigate~~
60 and above **Result: 98.3**	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result:**	3 to < 10	10 and above Result: 277
<100 Result: 18	No Further Action	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	**No Further Action**	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: 0.415**	3 to < 10	10 and above
<100 **Result: 10.1**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3	3 to < 10	10 and above **Result 6.7**
<100 **Result: ND**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

85 Riverdale Avenue, Yonkers, NY

SV-3/IA-3

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.572**	1 and above
<6 **Result: ND**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60 **Result: 35.3**	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1	1 and above **Result: 1.27**
<6 **Result: ND**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1	1 and above **Result: 3.61**
<6 **Result 3.1**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3	3 to < 10	10 and above **Result: 283**
<100 **Result: 18.9**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	**No Further Action**	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result:0.426**	3 to < 10	10 and above
<100 **Result: 3.87**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 Result: 0.426	3 to < 10	10 and above **Result 6.6**
<100 **Result: 2.36**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

85 Riverdale Avenue, Yonkers, NY

SV-4/IA-4

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result:**	0.2 to <1 **Result: 0.484**	1 and above
<6 **Result: ND**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60 **Result: 35.3**	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1	1 and above **Result 2.3**
<6 **Result: ND**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result:**	0.2 to <1	1 and above **Result: 6.66**
<6	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above **Result: 15,500**	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result:**	3 to < 10	10 and above **Result: 604**
<100	No Further Action	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above **Result: 490,000**	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: 0.955**	3 to < 10	10 and above
<100	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above **Result: 1,930**	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3	3 to < 10 **Result: 7.2**	10 and above **Result: 11.2**
<100 **Result: ND**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

85 Riverdale Avenue, Yonkers, NY

SV-5/IA-5

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.421**	1 and above
<6 **Result: 2.55**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60 **Result: 35.3**	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: 0.167**	0.2 to <1	1 and above
<6 **Result: 1.44**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: 0.454**	3 to < 10	10 and above
<100 **Result: 7.39**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3	3 to < 10 **Result: 8.79**	10 and above
<100 **Result: ND**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

85 Riverdale Avenue, Yonkers, NY

SV-7/IA-7

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.453**	1 and above
<6	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60 **Result: 9.31**	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result:**	0.2 to <1 **Result: 0.599**	1 and above
<6 **Result: ND**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1	1 and above **Result: 2.06**
<6 **Result: ND**	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result:**	3 to < 10	10 and above **Result: 161**
<100	No Further Action	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000 **Result: 652**	No Further Action	Monitor	**Mitigate**
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: 0.24**	3 to < 10	10 and above
<100 **Result: 9.55**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 Result: 0.24	3 to < 10	10 and above **Result: 18.8**
<100 **Result: ND**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

Appendix D

Laboratory Analytical Reports

ANALYTICAL REPORT

Lab Number:	L1909015
Client:	Hillmann Consulting, LLC 1600 Route 22 East Union, NJ 07083
ATTN:	Chris Hirschmann
Phone:	(908) 688-2636
Project Name:	G6-2420
Project Number:	G6-2420
Report Date:	03/25/19

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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508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1909015-01	IA-1	AIR	NY	03/07/19 15:09	03/07/19
L1909015-02	SV-1	SOIL_VAPOR	NY	03/07/19 17:27	03/07/19
L1909015-03	IA-2	AIR	NY	03/07/19 17:24	03/07/19
L1909015-04	SV-2	SOIL_VAPOR	NY	03/07/19 17:23	03/07/19
L1909015-05	IA-3	AIR	NY	03/07/19 17:20	03/07/19
L1909015-06	SV-3	SOIL_VAPOR	NY	03/07/19 17:21	03/07/19
L1909015-07	IA-4	AIR	NY	03/07/19 16:06	03/07/19
L1909015-08	SV-4	SOIL_VAPOR	NY	03/07/19 16:06	03/07/19
L1909015-09	IA-5	AIR	NY	03/07/19 17:25	03/07/19
L1909015-10	SV-5	SOIL_VAPOR	NY	03/07/19 16:12	03/07/19
L1909015-11	IA-6	AIR	NY	03/07/19 13:55	03/07/19
L1909015-12	IA-7	AIR	NY	03/07/19 13:44	03/07/19
L1909015-13	SV-7	SOIL_VAPOR	NY	03/07/19 17:19	03/07/19
L1909015-14	IA-8	AIR	NY	03/07/19 14:48	03/07/19
L1909015-15	IA-9	AIR	NY	03/07/19 14:55	03/07/19
L1909015-16	IA-10	AIR	NY	03/07/19 14:07	03/07/19
L1909015-17	AA-11	AIR	NY	03/07/19 14:03	03/07/19
L1909015-18	IA-12	AIR	NY	03/07/19 16:03	03/07/19
L1909015-19	IA-13	AIR	NY	03/07/19 17:15	03/07/19
L1909015-20	IA-14	AIR	NY	03/07/19 17:15	03/07/19
L1909015-21	UNUSED CAN #2656	AIR	NY		03/07/19

Project Name:	G6-2420	**Lab Number:**	L1909015
Project Number:	G6-2420	**Report Date:**	03/25/19

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: G6-2420 **Lab Number:** L1909015
Project Number: G6-2420 **Report Date:** 03/25/19

Case Narrative (continued)

Report Submission

This is a final report including the final results for all samples submitted for analysis. This report replaces the one issued on March 15, 2019.

Volatile Organics in Air

Canisters were released from the laboratory on March 5, 2019. The canister certification results are provided as an addendum.

L1909015-07: 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.

L1909015-08: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L1909015-10: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L1909015-13: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

The WG1215690-5 Laboratory Duplicate RPD for tetrachloroethene (63%), performed on L1909015-09, is above the acceptance criteria; however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

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: 03/25/19

AIR

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-01
Client ID: IA-1
Sample Location: NY

Date Collected: 03/07/19 15:09
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 20:03
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.351	0.200	--	1.74	0.989	--		1
Chloromethane	0.507	0.200	--	1.05	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	14.2	5.00	--	26.8	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	2.09	1.00	--	4.96	2.38	--		1
Trichlorofluoromethane	0.244	0.200	--	1.37	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	2.61	0.500	--	9.07	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-01
Client ID: IA-1
Sample Location: NY

Date Collected: 03/07/19 15:09
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	0.210	0.200	--	0.671	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	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
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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-01
Client ID: IA-1
Sample Location: NY

Date Collected: 03/07/19 15:09
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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	87		60-140
Bromochloromethane	86		60-140
chlorobenzene-d5	83		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-01
Client ID: IA-1
Sample Location: NY

Date Collected: 03/07/19 15:09
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/14/19 20:03
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.067	0.020	--	0.421	0.126	--		1
Trichloroethene	0.031	0.020	--	0.167	0.107	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,2-Dichloroethene (total)	ND	0.020	--	ND	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	84		60-140
bromochloromethane	87		60-140
chlorobenzene-d5	84		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-02
Client ID: SV-1
Sample Location: NY

Date Collected: 03/07/19 17:27
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 03:42
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.422	0.200	--	2.09	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	0.723	0.200	--	1.60	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	9.95	5.00	--	18.7	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	15.6	1.00	--	37.1	2.38	--		1
Trichlorofluoromethane	1.11	0.200	--	6.24	1.12	--		1
Isopropanol	1.47	0.500	--	3.61	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	51.2	0.200	--	159	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	1.05	0.500	--	3.10	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-02
Client ID: SV-1
Sample Location: NY

Date Collected: 03/07/19 17:27
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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	0.686	0.200	--	2.42	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	1.60	0.200	--	5.11	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	0.349	0.200	--	1.88	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.413	0.200	--	1.69	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	2.30	0.200	--	8.67	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	0.625	0.200	--	4.24	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.361	0.200	--	1.57	0.869	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-02
Client ID: SV-1
Sample Location: NY

Date Collected: 03/07/19 17:27
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	1.31	0.400	--	5.69	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.477	0.200	--	2.03	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.360	0.200	--	1.56	0.869	--		1
4-Ethyltoluene	0.311	0.200	--	1.53	0.983	--		1
1,3,5-Trimethylbenzene	0.341	0.200	--	1.68	0.983	--		1
1,2,4-Trimethylbenzene	1.53	0.200	--	7.52	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	96		60-140
Bromochloromethane	100		60-140
chlorobenzene-d5	101		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-03
Client ID: IA-2
Sample Location: NY

Date Collected: 03/07/19 17:24
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 20:35
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.325	0.200	--	1.61	0.989	--		1
Chloromethane	0.580	0.200	--	1.20	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	75.5	5.00	--	142	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	10.4	1.00	--	24.7	2.38	--		1
Trichlorofluoromethane	0.429	0.200	--	2.41	1.12	--		1
Isopropanol	4.40	0.500	--	10.8	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	1.93	0.500	--	6.70	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	0.234	0.200	--	1.14	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-03
Client ID: IA-2
Sample Location: NY

Date Collected: 03/07/19 17:24
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	0.288	0.200	--	0.920	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	0.516	0.200	--	1.94	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-03
Client ID: IA-2
Sample Location: NY

Date Collected: 03/07/19 17:24
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.488	0.200	--	2.40	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	0.812	0.200	--	4.88	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	83		60-140
Bromochloromethane	84		60-140
chlorobenzene-d5	82		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-03
Client ID: IA-2
Sample Location: NY

Date Collected: 03/07/19 17:24
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/14/19 20:35
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.320	0.020	--	1.27	0.079	--		1
1,1,1-Trichloroethane	0.076	0.020	--	0.415	0.109	--		1
Carbon tetrachloride	0.086	0.020	--	0.541	0.126	--		1
Trichloroethene	0.664	0.020	--	3.57	0.107	--		1
Tetrachloroethene	40.8	0.020	--	277	0.136	--		1
1,2-Dichloroethene (total)	0.320	0.020	--	1.27	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	80		60-140
bromochloromethane	85		60-140
chlorobenzene-d5	83		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-04
Client ID: SV-2
Sample Location: NY

Date Collected: 03/07/19 17:23
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 04:22
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	2.51	0.200	--	12.4	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	0.243	0.200	--	0.538	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	41.7	5.00	--	78.6	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	15.9	1.00	--	37.8	2.38	--		1
Trichlorofluoromethane	31.5	0.200	--	177	1.12	--		1
Isopropanol	3.48	0.500	--	8.55	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	0.903	0.500	--	2.74	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	64.5	0.200	--	201	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	1.06	0.500	--	3.13	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: G6-2420 ***Lab Number:*** L1909015

Project Number: G6-2420 ***Report Date:*** 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-04
Client ID: SV-2
Sample Location: NY

Date Collected: 03/07/19 17:23
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	3.68	0.200	--	18.0	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	9.83	0.200	--	34.6	0.705	--		1
1,1,1-Trichloroethane	1.86	0.200	--	10.1	1.09	--		1
Benzene	5.95	0.200	--	19.0	0.639	--		1
Carbon tetrachloride	7.61	0.200	--	47.9	1.26	--		1
Cyclohexane	2.68	0.200	--	9.22	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	18.3	0.200	--	98.3	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	1.44	0.200	--	5.90	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	3.36	0.200	--	12.7	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	2.66	0.200	--	18.0	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.410	0.200	--	1.78	0.869	--		1

Project Name: G6-2420 ***Lab Number:*** L1909015

Project Number: G6-2420 ***Report Date:*** 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-04
Client ID: SV-2
Sample Location: NY

Date Collected: 03/07/19 17:23
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	1.40	0.400	--	6.08	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.589	0.200	--	2.51	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.393	0.200	--	1.71	0.869	--		1
4-Ethyltoluene	0.411	0.200	--	2.02	0.983	--		1
1,3,5-Trimethylbenzene	0.418	0.200	--	2.05	0.983	--		1
1,2,4-Trimethylbenzene	1.59	0.200	--	7.82	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	100		60-140
chlorobenzene-d5	101		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-05
Client ID: IA-3
Sample Location: NY

Date Collected: 03/07/19 17:20
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 21:08
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.316	0.200	--	1.56	0.989	--		1
Chloromethane	0.570	0.200	--	1.18	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	77.6	5.00	--	146	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	10.4	1.00	--	24.7	2.38	--		1
Trichlorofluoromethane	0.445	0.200	--	2.50	1.12	--		1
Isopropanol	4.39	0.500	--	10.8	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	1.90	0.500	--	6.60	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	0.220	0.200	--	1.07	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-05
Client ID: IA-3
Sample Location: NY

Date Collected: 03/07/19 17:20
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	0.287	0.200	--	0.917	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	0.494	0.200	--	1.86	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-05
Client ID: IA-3
Sample Location: NY

Date Collected: 03/07/19 17:20
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.445	0.200	--	2.19	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	0.859	0.200	--	5.16	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	82		60-140
Bromochloromethane	85		60-140
chlorobenzene-d5	83		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-05
Client ID: IA-3
Sample Location: NY

Date Collected: 03/07/19 17:20
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/14/19 21:08
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.320	0.020	--	1.27	0.079	--		1
1,1,1-Trichloroethane	0.078	0.020	--	0.426	0.109	--		1
Carbon tetrachloride	0.091	0.020	--	0.572	0.126	--		1
Trichloroethene	0.671	0.020	--	3.61	0.107	--		1
Tetrachloroethene	41.8	0.020	--	283	0.136	--		1
1,2-Dichloroethene (total)	0.320	0.020	--	1.27	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	81		60-140
bromochloromethane	85		60-140
chlorobenzene-d5	84		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-06
Client ID: SV-3
Sample Location: NY

Date Collected: 03/07/19 17:21
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 05:41
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	3.53	0.200	--	17.5	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	129	5.00	--	243	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	108	1.00	--	257	2.38	--		1
Trichlorofluoromethane	40.5	0.200	--	228	1.12	--		1
Isopropanol	12.1	0.500	--	29.7	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	1.45	0.500	--	4.40	1.52	--		1
Methylene chloride	0.679	0.500	--	2.36	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	76.3	0.200	--	238	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	1.77	0.500	--	5.22	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-06
Client ID: SV-3
Sample Location: NY

Date Collected: 03/07/19 17:21
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	2.38	0.200	--	11.6	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.761	0.200	--	2.68	0.705	--		1
1,1,1-Trichloroethane	0.710	0.200	--	3.87	1.09	--		1
Benzene	0.677	0.200	--	2.16	0.639	--		1
Carbon tetrachloride	5.61	0.200	--	35.3	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	0.576	0.200	--	3.10	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.517	0.200	--	2.12	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	2.94	0.200	--	11.1	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	2.78	0.200	--	18.9	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.462	0.200	--	2.01	0.869	--		1

Project Name: G6-2420 ***Lab Number:*** L1909015

Project Number: G6-2420 ***Report Date:*** 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-06
Client ID: SV-3
Sample Location: NY

Date Collected: 03/07/19 17:21
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	1.59	0.400	--	6.91	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.636	0.200	--	2.71	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.473	0.200	--	2.05	0.869	--		1
4-Ethyltoluene	0.553	0.200	--	2.72	0.983	--		1
1,3,5-Trimethylbenzene	0.454	0.200	--	2.23	0.983	--		1
1,2,4-Trimethylbenzene	2.13	0.200	--	10.5	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	92		60-140
Bromochloromethane	100		60-140
chlorobenzene-d5	101		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-07
Client ID: IA-4
Sample Location: NY

Date Collected: 03/07/19 16:06
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 21:40
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.346	0.200	--	1.71	0.989	--		1
Chloromethane	0.606	0.200	--	1.25	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	130	5.00	--	245	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	20.4	1.00	--	48.5	2.38	--		1
Trichlorofluoromethane	0.348	0.200	--	1.96	1.12	--		1
Isopropanol	5.06	0.500	--	12.4	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	3.22	0.500	--	11.2	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	0.355	0.200	--	1.73	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-07
Client ID: IA-4
Sample Location: NY

Date Collected: 03/07/19 16:06
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	0.341	0.200	--	1.09	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	0.973	0.200	--	3.67	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-07
Client ID: IA-4
Sample Location: NY

Date Collected: 03/07/19 16:06
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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	1.77	0.200	--	10.6	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	85		60-140
Bromochloromethane	83		60-140
chlorobenzene-d5	84		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-07
Client ID: IA-4
Sample Location: NY

Date Collected: 03/07/19 16:06
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/14/19 21:40
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.580	0.020	--	2.30	0.079	--		1
1,1,1-Trichloroethane	0.175	0.020	--	0.955	0.109	--		1
Carbon tetrachloride	0.077	0.020	--	0.484	0.126	--		1
Trichloroethene	1.24	0.020	--	6.66	0.107	--		1
Tetrachloroethene	111	0.020	--	753	0.136	--	E	1
1,2-Dichloroethene (total)	0.580	0.020	--	2.30	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	82		60-140
bromochloromethane	84		60-140
chlorobenzene-d5	85		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-07 D
Client ID: IA-4
Sample Location: NY

Date Collected: 03/07/19 16:06
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/15/19 08:37
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Tetrachloroethene	89.1	0.067	--	604	0.452	--		3.333

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	75		60-140
bromochloromethane	82		60-140
chlorobenzene-d5	80		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-08 D
Client ID: SV-4
Sample Location: NY

Date Collected: 03/07/19 16:06
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 06:17
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	312.	--	ND	1540	--		1563
Chloromethane	ND	312.	--	ND	644	--		1563
Freon-114	ND	312.	--	ND	2180	--		1563
Vinyl chloride	ND	312.	--	ND	798	--		1563
1,3-Butadiene	ND	312.	--	ND	690	--		1563
Bromomethane	ND	312.	--	ND	1210	--		1563
Chloroethane	ND	312.	--	ND	823	--		1563
Ethanol	ND	7810	--	ND	14700	--		1563
Vinyl bromide	ND	312.	--	ND	1360	--		1563
Acetone	ND	1560	--	ND	3710	--		1563
Trichlorofluoromethane	ND	312.	--	ND	1750	--		1563
Isopropanol	ND	781	--	ND	1920	--		1563
1,1-Dichloroethene	ND	312.	--	ND	1240	--		1563
Tertiary butyl Alcohol	ND	781.	--	ND	2370	--		1563
Methylene chloride	ND	781.	--	ND	2710	--		1563
3-Chloropropene	ND	312.	--	ND	977	--		1563
Carbon disulfide	ND	312.	--	ND	972	--		1563
Freon-113	ND	312.	--	ND	2390	--		1563
trans-1,2-Dichloroethene	ND	312.	--	ND	1240	--		1563
1,1-Dichloroethane	ND	312.	--	ND	1260	--		1563
Methyl tert butyl ether	ND	312.	--	ND	1120	--		1563
2-Butanone	ND	781.	--	ND	2300	--		1563
cis-1,2-Dichloroethene	ND	312	--	ND	1240	--		1563

Project Name: G6-2420 ***Lab Number:*** L1909015

Project Number: G6-2420 ***Report Date:*** 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-08 D
Client ID: SV-4
Sample Location: NY

Date Collected: 03/07/19 16:06
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	781.	--	ND	2810	--		1563
Chloroform	ND	312.	--	ND	1520	--		1563
Tetrahydrofuran	ND	781.	--	ND	2300	--		1563
1,2-Dichloroethane	ND	312.	--	ND	1260	--		1563
n-Hexane	ND	312.	--	ND	1100	--		1563
1,1,1-Trichloroethane	354	312	--	1930	1700	--		1563
Benzene	ND	312.	--	ND	997	--		1563
Carbon tetrachloride	ND	312.	--	ND	1960	--		1563
Cyclohexane	ND	312.	--	ND	1070	--		1563
1,2-Dichloropropane	ND	312.	--	ND	1440	--		1563
Bromodichloromethane	ND	312.	--	ND	2090	--		1563
1,4-Dioxane	ND	312.	--	ND	1120	--		1563
Trichloroethene	2890	312	--	15500	1680	--		1563
2,2,4-Trimethylpentane	ND	312.	--	ND	1460	--		1563
Heptane	ND	312.	--	ND	1280	--		1563
cis-1,3-Dichloropropene	ND	312.	--	ND	1420	--		1563
4-Methyl-2-pentanone	ND	781.	--	ND	3200	--		1563
trans-1,3-Dichloropropene	ND	312.	--	ND	1420	--		1563
1,1,2-Trichloroethane	ND	312.	--	ND	1700	--		1563
Toluene	ND	312.	--	ND	1180	--		1563
2-Hexanone	ND	312.	--	ND	1280	--		1563
Dibromochloromethane	ND	312.	--	ND	2660	--		1563
1,2-Dibromoethane	ND	312.	--	ND	2400	--		1563
Tetrachloroethene	72300	312	--	490000	2120	--		1563
Chlorobenzene	ND	312.	--	ND	1440	--		1563
Ethylbenzene	ND	312.	--	ND	1360	--		1563

Project Name: G6-2420 ***Lab Number:*** L1909015

Project Number: G6-2420 ***Report Date:*** 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-08 D
Client ID: SV-4
Sample Location: NY

Date Collected: 03/07/19 16:06
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	ND	625.	--	ND	2710	--		1563
Bromoform	ND	312.	--	ND	3230	--		1563
Styrene	ND	312.	--	ND	1330	--		1563
1,1,2,2-Tetrachloroethane	ND	312.	--	ND	2140	--		1563
o-Xylene	ND	312.	--	ND	1360	--		1563
4-Ethyltoluene	ND	312.	--	ND	1530	--		1563
1,3,5-Trimethylbenzene	ND	312.	--	ND	1530	--		1563
1,2,4-Trimethylbenzene	ND	312.	--	ND	1530	--		1563
Benzyl chloride	ND	312.	--	ND	1620	--		1563
1,3-Dichlorobenzene	ND	312.	--	ND	1880	--		1563
1,4-Dichlorobenzene	ND	312.	--	ND	1880	--		1563
1,2-Dichlorobenzene	ND	312.	--	ND	1880	--		1563
1,2,4-Trichlorobenzene	ND	312.	--	ND	2320	--		1563
Hexachlorobutadiene	ND	312.	--	ND	3330	--		1563

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	105		60-140
chlorobenzene-d5	102		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-09
Client ID: IA-5
Sample Location: NY

Date Collected: 03/07/19 17:25
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 22:13
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.358	0.200	--	1.77	0.989	--		1
Chloromethane	0.547	0.200	--	1.13	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	14.9	5.00	--	28.1	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	2.33	1.00	--	5.53	2.38	--		1
Trichlorofluoromethane	0.255	0.200	--	1.43	1.12	--		1
Isopropanol	0.575	0.500	--	1.41	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	2.53	0.500	--	8.79	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-09
Client ID: IA-5
Sample Location: NY

Date Collected: 03/07/19 17:25
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	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
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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-09
Client ID: IA-5
Sample Location: NY

Date Collected: 03/07/19 17:25
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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	84		60-140
Bromochloromethane	84		60-140
chlorobenzene-d5	82		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-09
Client ID: IA-5
Sample Location: NY

Date Collected: 03/07/19 17:25
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/14/19 22:13
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.067	0.020	--	0.421	0.126	--		1
Trichloroethene	0.031	0.020	--	0.167	0.107	--		1
Tetrachloroethene	0.067	0.020	--	0.454	0.136	--		1
1,2-Dichloroethene (total)	ND	0.020	--	ND	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	81		60-140
bromochloromethane	85		60-140
chlorobenzene-d5	84		60-140

Project Name: G6-2420 ***Lab Number:*** L1909015

Project Number: G6-2420 ***Report Date:*** 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-10 D
Client ID: SV-5
Sample Location: NY

Date Collected: 03/07/19 16:12
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 09:11
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	1.37	0.250	--	6.77	1.24	--		1.25
Chloromethane	ND	0.250	--	ND	0.516	--		1.25
Freon-114	ND	0.250	--	ND	1.75	--		1.25
Vinyl chloride	ND	0.250	--	ND	0.639	--		1.25
1,3-Butadiene	ND	0.250	--	ND	0.553	--		1.25
Bromomethane	ND	0.250	--	ND	0.971	--		1.25
Chloroethane	ND	0.250	--	ND	0.660	--		1.25
Ethanol	38.3	6.25	--	72.2	11.8	--		1.25
Vinyl bromide	ND	0.250	--	ND	1.09	--		1.25
Acetone	16.6	1.25	--	39.4	2.97	--		1.25
Trichlorofluoromethane	18.8	0.250	--	106	1.40	--		1.25
Isopropanol	3.57	0.625	--	8.78	1.54	--		1.25
1,1-Dichloroethene	ND	0.250	--	ND	0.991	--		1.25
Tertiary butyl Alcohol	0.832	0.625	--	2.52	1.89	--		1.25
Methylene chloride	ND	0.625	--	ND	2.17	--		1.25
3-Chloropropene	ND	0.250	--	ND	0.783	--		1.25
Carbon disulfide	101	0.250	--	315	0.779	--		1.25
Freon-113	ND	0.250	--	ND	1.92	--		1.25
trans-1,2-Dichloroethene	ND	0.250	--	ND	0.991	--		1.25
1,1-Dichloroethane	ND	0.250	--	ND	1.01	--		1.25
Methyl tert butyl ether	ND	0.250	--	ND	0.901	--		1.25
2-Butanone	0.710	0.625	--	2.09	1.84	--		1.25
cis-1,2-Dichloroethene	ND	0.250	--	ND	0.991	--		1.25

Project Name: G6-2420 ***Lab Number:*** L1909015

Project Number: G6-2420 ***Report Date:*** 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-10 D
Client ID: SV-5
Sample Location: NY

Date Collected: 03/07/19 16:12
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.625	--	ND	2.25	--		1.25
Chloroform	ND	0.250	--	ND	1.22	--		1.25
Tetrahydrofuran	ND	0.625	--	ND	1.84	--		1.25
1,2-Dichloroethane	ND	0.250	--	ND	1.01	--		1.25
n-Hexane	ND	0.250	--	ND	0.881	--		1.25
1,1,1-Trichloroethane	ND	0.250	--	ND	1.36	--		1.25
Benzene	0.414	0.250	--	1.32	0.799	--		1.25
Carbon tetrachloride	0.405	0.250	--	2.55	1.57	--		1.25
Cyclohexane	ND	0.250	--	ND	0.861	--		1.25
1,2-Dichloropropane	ND	0.250	--	ND	1.16	--		1.25
Bromodichloromethane	ND	0.250	--	ND	1.67	--		1.25
1,4-Dioxane	ND	0.250	--	ND	0.901	--		1.25
Trichloroethene	0.268	0.250	--	1.44	1.34	--		1.25
2,2,4-Trimethylpentane	ND	0.250	--	ND	1.17	--		1.25
Heptane	0.276	0.250	--	1.13	1.02	--		1.25
cis-1,3-Dichloropropene	ND	0.250	--	ND	1.13	--		1.25
4-Methyl-2-pentanone	ND	0.625	--	ND	2.56	--		1.25
trans-1,3-Dichloropropene	ND	0.250	--	ND	1.13	--		1.25
1,1,2-Trichloroethane	ND	0.250	--	ND	1.36	--		1.25
Toluene	2.12	0.250	--	7.99	0.942	--		1.25
2-Hexanone	ND	0.250	--	ND	1.02	--		1.25
Dibromochloromethane	ND	0.250	--	ND	2.13	--		1.25
1,2-Dibromoethane	ND	0.250	--	ND	1.92	--		1.25
Tetrachloroethene	1.09	0.250	--	7.39	1.70	--		1.25
Chlorobenzene	ND	0.250	--	ND	1.15	--		1.25
Ethylbenzene	ND	0.250	--	ND	1.09	--		1.25

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-10 D
Client ID: SV-5
Sample Location: NY

Date Collected: 03/07/19 16:12
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	0.808	0.500	--	3.51	2.17	--		1.25
Bromoform	ND	0.250	--	ND	2.58	--		1.25
Styrene	0.331	0.250	--	1.41	1.06	--		1.25
1,1,2,2-Tetrachloroethane	ND	0.250	--	ND	1.72	--		1.25
o-Xylene	ND	0.250	--	ND	1.09	--		1.25
4-Ethyltoluene	ND	0.250	--	ND	1.23	--		1.25
1,3,5-Trimethylbenzene	ND	0.250	--	ND	1.23	--		1.25
1,2,4-Trimethylbenzene	0.832	0.250	--	4.09	1.23	--		1.25
Benzyl chloride	ND	0.250	--	ND	1.29	--		1.25
1,3-Dichlorobenzene	ND	0.250	--	ND	1.50	--		1.25
1,4-Dichlorobenzene	ND	0.250	--	ND	1.50	--		1.25
1,2-Dichlorobenzene	ND	0.250	--	ND	1.50	--		1.25
1,2,4-Trichlorobenzene	ND	0.250	--	ND	1.86	--		1.25
Hexachlorobutadiene	ND	0.250	--	ND	2.67	--		1.25

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	98		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-11
Client ID: IA-6
Sample Location: NY

Date Collected: 03/07/19 13:55
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 23:18
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.357	0.200	--	1.77	0.989	--		1
Chloromethane	0.559	0.200	--	1.15	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	35.0	5.00	--	65.9	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	11.5	1.00	--	27.3	2.38	--		1
Trichlorofluoromethane	0.239	0.200	--	1.34	1.12	--		1
Isopropanol	1.25	0.500	--	3.07	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	23.2	0.500	--	80.6	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	0.832	0.500	--	2.45	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	0.299	0.200	--	1.46	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-11
Client ID: IA-6
Sample Location: NY

Date Collected: 03/07/19 13:55
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.394	0.200	--	1.39	0.705	--		1
Benzene	0.232	0.200	--	0.741	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	6.29	0.200	--	23.7	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
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.298	0.200	--	1.29	0.869	--		1
p/m-Xylene	0.821	0.400	--	3.57	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	0.248	0.200	--	1.08	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-11
Client ID: IA-6
Sample Location: NY

Date Collected: 03/07/19 13:55
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.391	0.200	--	1.92	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	81		60-140
Bromochloromethane	83		60-140
chlorobenzene-d5	84		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-11
Client ID: IA-6
Sample Location: NY

Date Collected: 03/07/19 13:55
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/14/19 23:18
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.027	0.020	--	0.107	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.067	0.020	--	0.421	0.126	--		1
Trichloroethene	0.099	0.020	--	0.532	0.107	--		1
Tetrachloroethene	4.24	0.020	--	28.8	0.136	--		1
1,2-Dichloroethene (total)	0.027	0.020	--	0.107	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	79		60-140
bromochloromethane	85		60-140
chlorobenzene-d5	84		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-12
Client ID: IA-7
Sample Location: NY

Date Collected: 03/07/19 13:44
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 23:50
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.359	0.200	--	1.78	0.989	--		1
Chloromethane	0.532	0.200	--	1.10	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	70.5	5.00	--	133	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	9.78	1.00	--	23.2	2.38	--		1
Trichlorofluoromethane	0.273	0.200	--	1.53	1.12	--		1
Isopropanol	2.06	0.500	--	5.06	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	5.40	0.500	--	18.8	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	0.520	0.500	--	1.53	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	0.329	0.200	--	1.61	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-12
Client ID: IA-7
Sample Location: NY

Date Collected: 03/07/19 13:44
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	0.237	0.200	--	0.757	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	1.53	0.200	--	5.77	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-12
Client ID: IA-7
Sample Location: NY

Date Collected: 03/07/19 13:44
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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	0.381	0.200	--	2.29	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	82		60-140
Bromochloromethane	85		60-140
chlorobenzene-d5	84		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-12
Client ID: IA-7
Sample Location: NY

Date Collected: 03/07/19 13:44
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/14/19 23:50
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.151	0.020	--	0.599	0.079	--		1
1,1,1-Trichloroethane	0.044	0.020	--	0.240	0.109	--		1
Carbon tetrachloride	0.072	0.020	--	0.453	0.126	--		1
Trichloroethene	0.383	0.020	--	2.06	0.107	--		1
Tetrachloroethene	23.7	0.020	--	161	0.136	--		1
1,2-Dichloroethene (total)	0.151	0.020	--	0.599	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	80		60-140
bromochloromethane	85		60-140
chlorobenzene-d5	85		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-13 D
Client ID: SV-7
Sample Location: NY

Date Collected: 03/07/19 17:19
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 07:32
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.607	0.333	--	3.00	1.65	--		1.667
Chloromethane	ND	0.333	--	ND	0.688	--		1.667
Freon-114	2.20	0.333	--	15.4	2.33	--		1.667
Vinyl chloride	ND	0.333	--	ND	0.851	--		1.667
1,3-Butadiene	ND	0.333	--	ND	0.737	--		1.667
Bromomethane	ND	0.333	--	ND	1.29	--		1.667
Chloroethane	ND	0.333	--	ND	0.879	--		1.667
Ethanol	41.8	8.34	--	78.8	15.7	--		1.667
Vinyl bromide	ND	0.333	--	ND	1.46	--		1.667
Acetone	11.1	1.67	--	26.4	3.97	--		1.667
Trichlorofluoromethane	6.27	0.333	--	35.2	1.87	--		1.667
Isopropanol	3.47	0.834	--	8.53	2.05	--		1.667
1,1-Dichloroethene	ND	0.333	--	ND	1.32	--		1.667
Tertiary butyl Alcohol	ND	0.834	--	ND	2.53	--		1.667
Methylene chloride	ND	0.834	--	ND	2.90	--		1.667
3-Chloropropene	ND	0.333	--	ND	1.04	--		1.667
Carbon disulfide	61.8	0.333	--	192	1.04	--		1.667
Freon-113	ND	0.333	--	ND	2.55	--		1.667
trans-1,2-Dichloroethene	ND	0.333	--	ND	1.32	--		1.667
1,1-Dichloroethane	ND	0.333	--	ND	1.35	--		1.667
Methyl tert butyl ether	ND	0.333	--	ND	1.20	--		1.667
2-Butanone	0.960	0.834	--	2.83	2.46	--		1.667
cis-1,2-Dichloroethene	ND	0.333	--	ND	1.32	--		1.667

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-13 D
Client ID: SV-7
Sample Location: NY

Date Collected: 03/07/19 17:19
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.834	--	ND	3.01	--		1.667
Chloroform	ND	0.333	--	ND	1.63	--		1.667
Tetrahydrofuran	ND	0.834	--	ND	2.46	--		1.667
1,2-Dichloroethane	ND	0.333	--	ND	1.35	--		1.667
n-Hexane	0.737	0.333	--	2.60	1.17	--		1.667
1,1,1-Trichloroethane	1.75	0.333	--	9.55	1.82	--		1.667
Benzene	1.46	0.333	--	4.66	1.06	--		1.667
Carbon tetrachloride	1.48	0.333	--	9.31	2.09	--		1.667
Cyclohexane	0.385	0.333	--	1.33	1.15	--		1.667
1,2-Dichloropropane	ND	0.333	--	ND	1.54	--		1.667
Bromodichloromethane	ND	0.333	--	ND	2.23	--		1.667
1,4-Dioxane	ND	0.333	--	ND	1.20	--		1.667
Trichloroethene	ND	0.333	--	ND	1.79	--		1.667
2,2,4-Trimethylpentane	ND	0.333	--	ND	1.56	--		1.667
Heptane	ND	0.333	--	ND	1.36	--		1.667
cis-1,3-Dichloropropene	ND	0.333	--	ND	1.51	--		1.667
4-Methyl-2-pentanone	ND	0.834	--	ND	3.42	--		1.667
trans-1,3-Dichloropropene	ND	0.333	--	ND	1.51	--		1.667
1,1,2-Trichloroethane	ND	0.333	--	ND	1.82	--		1.667
Toluene	2.30	0.333	--	8.67	1.25	--		1.667
2-Hexanone	ND	0.333	--	ND	1.36	--		1.667
Dibromochloromethane	ND	0.333	--	ND	2.84	--		1.667
1,2-Dibromoethane	ND	0.333	--	ND	2.56	--		1.667
Tetrachloroethene	96.1	0.333	--	652	2.26	--		1.667
Chlorobenzene	ND	0.333	--	ND	1.53	--		1.667
Ethylbenzene	ND	0.333	--	ND	1.45	--		1.667

Project Name: G6-2420 ***Lab Number:*** L1909015

Project Number: G6-2420 ***Report Date:*** 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-13 D
Client ID: SV-7
Sample Location: NY

Date Collected: 03/07/19 17:19
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	1.07	0.667	--	4.65	2.90	--		1.667
Bromoform	ND	0.333	--	ND	3.44	--		1.667
Styrene	0.518	0.333	--	2.21	1.42	--		1.667
1,1,2,2-Tetrachloroethane	ND	0.333	--	ND	2.29	--		1.667
o-Xylene	ND	0.333	--	ND	1.45	--		1.667
4-Ethyltoluene	0.398	0.333	--	1.96	1.64	--		1.667
1,3,5-Trimethylbenzene	0.370	0.333	--	1.82	1.64	--		1.667
1,2,4-Trimethylbenzene	1.92	0.333	--	9.44	1.64	--		1.667
Benzyl chloride	ND	0.333	--	ND	1.72	--		1.667
1,3-Dichlorobenzene	ND	0.333	--	ND	2.00	--		1.667
1,4-Dichlorobenzene	ND	0.333	--	ND	2.00	--		1.667
1,2-Dichlorobenzene	ND	0.333	--	ND	2.00	--		1.667
1,2,4-Trichlorobenzene	ND	0.333	--	ND	2.47	--		1.667
Hexachlorobutadiene	ND	0.333	--	ND	3.55	--		1.667

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	89		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	98		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-14
Client ID: IA-8
Sample Location: NY

Date Collected: 03/07/19 14:48
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/23/19 23:30
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.439	0.200	--	2.17	0.989	--		1
Chloromethane	0.532	0.200	--	1.10	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	34.6	5.00	--	65.2	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	12.2	1.00	--	29.0	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	0.979	0.500	--	2.41	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	16.1	0.500	--	47.5	1.47	--		1
Ethyl Acetate	ND	1.00	--	ND	3.60	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-14
Client ID: IA-8
Sample Location: NY

Date Collected: 03/07/19 14:48
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	7.14	0.200	--	25.2	0.705	--		1
Benzene	0.454	0.200	--	1.45	0.639	--		1
Cyclohexane	9.29	0.200	--	32.0	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	0.239	0.200	--	1.12	0.934	--		1
Heptane	2.22	0.200	--	9.10	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	1.04	0.200	--	3.92	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	0.216	0.200	--	0.938	0.869	--		1
p/m-Xylene	0.811	0.400	--	3.52	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	0.301	0.200	--	1.31	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-14
Client ID: IA-8
Sample Location: NY

Date Collected: 03/07/19 14:48
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.225	0.200	--	1.11	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	99		60-140
chlorobenzene-d5	100		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-14
Client ID: IA-8
Sample Location: NY

Date Collected: 03/07/19 14:48
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/23/19 23:30
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.063	0.020	--	0.396	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,2-Dichloroethene (total)	ND	0.020	--	ND	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	98		60-140
bromochloromethane	102		60-140
chlorobenzene-d5	96		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-15
Client ID: IA-9
Sample Location: NY

Date Collected: 03/07/19 14:55
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/24/19 00:10
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.455	0.200	--	2.25	0.989	--		1
Chloromethane	0.492	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	9.48	5.00	--	17.9	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	2.96	1.00	--	7.03	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	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	0.701	0.500	--	2.07	1.47	--		1
Ethyl Acetate	ND	1.00	--	ND	3.60	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-15
Client ID: IA-9
Sample Location: NY

Date Collected: 03/07/19 14:55
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.377	0.200	--	1.33	0.705	--		1
Benzene	0.243	0.200	--	0.776	0.639	--		1
Cyclohexane	0.338	0.200	--	1.16	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	0.285	0.200	--	1.07	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-15
Client ID: IA-9
Sample Location: NY

Date Collected: 03/07/19 14:55
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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	98		60-140
chlorobenzene-d5	98		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-15
Client ID: IA-9
Sample Location: NY

Date Collected: 03/07/19 14:55
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/24/19 00:10
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.063	0.020	--	0.396	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,2-Dichloroethene (total)	ND	0.020	--	ND	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	95		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	94		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-16
Client ID: IA-10
Sample Location: NY

Date Collected: 03/07/19 14:07
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/24/19 00:50
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.467	0.200	--	2.31	0.989	--		1
Chloromethane	0.498	0.200	--	1.03	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	49.2	5.00	--	92.7	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	3.08	1.00	--	7.32	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	1.43	0.500	--	3.52	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	0.957	0.500	--	3.32	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	1.00	--	ND	3.60	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-16
Client ID: IA-10
Sample Location: NY

Date Collected: 03/07/19 14:07
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	0.207	0.200	--	0.661	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	0.264	0.200	--	0.995	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	0.223	0.200	--	1.10	0.983	--		1
1,3,5-Trimethylbenzene	0.265	0.200	--	1.30	0.983	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-16
Client ID: IA-10
Sample Location: NY

Date Collected: 03/07/19 14:07
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.988	0.200	--	4.86	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	96		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	98		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-16
Client ID: IA-10
Sample Location: NY

Date Collected: 03/07/19 14:07
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/24/19 00:50
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.068	0.020	--	0.428	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.320	0.020	--	2.17	0.136	--		1
1,2-Dichloroethene (total)	ND	0.020	--	ND	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	95		60-140
bromochloromethane	100		60-140
chlorobenzene-d5	96		60-140

Project Name: G6-2420 ***Lab Number:*** L1909015

Project Number: G6-2420 ***Report Date:*** 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-17
Client ID: AA-11
Sample Location: NY

Date Collected: 03/07/19 14:03
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/14/19 19:30
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.309	0.200	--	1.53	0.989	--		1
Chloromethane	0.493	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	9.16	5.00	--	17.3	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	1.17	1.00	--	2.78	2.38	--		1
Trichlorofluoromethane	0.213	0.200	--	1.20	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	0.855	0.500	--	2.97	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-17
Client ID: AA-11
Sample Location: NY

Date Collected: 03/07/19 14:03
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	0.256	0.200	--	0.818	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	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
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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-17
Client ID: AA-11
Sample Location: NY

Date Collected: 03/07/19 14:03
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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	87		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	88		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-17
Client ID: AA-11
Sample Location: NY

Date Collected: 03/07/19 14:03
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/14/19 19:30
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.053	0.020	--	0.210	0.079	--		1
1,1,1-Trichloroethane	0.052	0.020	--	0.284	0.109	--		1
Carbon tetrachloride	0.127	0.020	--	0.799	0.126	--		1
Trichloroethene	0.084	0.020	--	0.451	0.107	--		1
Tetrachloroethene	1.59	0.020	--	10.8	0.136	--		1
1,2-Dichloroethene (total)	0.053	0.020	--	0.210	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	85		60-140
bromochloromethane	90		60-140
chlorobenzene-d5	89		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-18
Client ID: IA-12
Sample Location: NY

Date Collected: 03/07/19 16:03
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/15/19 00:23
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.362	0.200	--	1.79	0.989	--		1
Chloromethane	0.515	0.200	--	1.06	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	28.6	5.00	--	53.9	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	3.70	1.00	--	8.79	2.38	--		1
Trichlorofluoromethane	0.227	0.200	--	1.28	1.12	--		1
Isopropanol	1.02	0.500	--	2.51	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	3.94	0.500	--	13.7	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	0.240	0.200	--	1.17	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: G6-2420 ***Lab Number:*** L1909015

Project Number: G6-2420 ***Report Date:*** 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-18
Client ID: IA-12
Sample Location: NY

Date Collected: 03/07/19 16:03
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	0.244	0.200	--	0.988	0.809	--		1
n-Hexane	0.221	0.200	--	0.779	0.705	--		1
Benzene	0.217	0.200	--	0.693	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	1.07	0.200	--	4.03	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-18
Client ID: IA-12
Sample Location: NY

Date Collected: 03/07/19 16:03
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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	83		60-140
Bromochloromethane	85		60-140
chlorobenzene-d5	82		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-18
Client ID: IA-12
Sample Location: NY

Date Collected: 03/07/19 16:03
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/15/19 00:23
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.026	0.020	--	0.103	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.066	0.020	--	0.415	0.126	--		1
Trichloroethene	0.024	0.020	--	0.129	0.107	--		1
Tetrachloroethene	4.52	0.020	--	30.7	0.136	--		1
1,2-Dichloroethene (total)	0.026	0.020	--	0.103	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	80		60-140
bromochloromethane	85		60-140
chlorobenzene-d5	83		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-19
Client ID: IA-13
Sample Location: NY

Date Collected: 03/07/19 17:15
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/15/19 00:55
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.327	0.200	--	1.62	0.989	--		1
Chloromethane	0.507	0.200	--	1.05	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	29.2	5.00	--	55.0	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	3.36	1.00	--	7.98	2.38	--		1
Trichlorofluoromethane	0.251	0.200	--	1.41	1.12	--		1
Isopropanol	1.16	0.500	--	2.85	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	2.08	0.500	--	7.23	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	0.550	0.500	--	1.62	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	0.228	0.200	--	1.11	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-19
Client ID: IA-13
Sample Location: NY

Date Collected: 03/07/19 17:15
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.234	0.200	--	0.825	0.705	--		1
Benzene	0.232	0.200	--	0.741	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	0.698	0.200	--	2.63	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-19
Client ID: IA-13
Sample Location: NY

Date Collected: 03/07/19 17:15
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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	77		60-140
Bromochloromethane	82		60-140
chlorobenzene-d5	81		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-19
Client ID: IA-13
Sample Location: NY

Date Collected: 03/07/19 17:15
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/15/19 00:55
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.030	0.020	--	0.119	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	0.024	0.020	--	0.129	0.107	--		1
Tetrachloroethene	4.96	0.020	--	33.6	0.136	--		1
1,2-Dichloroethene (total)	0.030	0.020	--	0.119	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	75		60-140
bromochloromethane	82		60-140
chlorobenzene-d5	82		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-20
Client ID: IA-14
Sample Location: NY

Date Collected: 03/07/19 17:15
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/15/19 01:27
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.368	0.200	--	1.82	0.989	--		1
Chloromethane	0.506	0.200	--	1.04	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	28.1	5.00	--	52.9	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	2.06	1.00	--	4.89	2.38	--		1
Trichlorofluoromethane	0.236	0.200	--	1.33	1.12	--		1
Isopropanol	1.21	0.500	--	2.97	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	0.703	0.500	--	2.44	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-20
Client ID: IA-14
Sample Location: NY

Date Collected: 03/07/19 17:15
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	0.229	0.200	--	0.732	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	0.334	0.200	--	1.26	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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-20
Client ID: IA-14
Sample Location: NY

Date Collected: 03/07/19 17:15
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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	80		60-140
Bromochloromethane	83		60-140
chlorobenzene-d5	80		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

SAMPLE RESULTS

Lab ID: L1909015-20
Client ID: IA-14
Sample Location: NY

Date Collected: 03/07/19 17:15
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/15/19 01:27
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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	0.067	0.020	--	0.421	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	6.43	0.020	--	43.6	0.136	--		1
1,2-Dichloroethene (total)	ND	0.020	--	ND	0.079	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	77		60-140
bromochloromethane	84		60-140
chlorobenzene-d5	82		60-140

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/13/19 20:46

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 02,04,06,08,10,13 Batch: WG1215316-4								
Propylene	ND	0.500	--	ND	0.861	--		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
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
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/13/19 20:46

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 02,04,06,08,10,13 Batch: WG1215316-4								
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	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

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/13/19 20:46

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 02,04,06,08,10,13 Batch: WG1215316-4								
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
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: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/14/19 16:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01,03,05,07,09,11-12,17-20 Batch: WG1215690-4								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	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
Ethyl Alcohol	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	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,2-Dichloroethene (total)	ND	0.020	--	ND	0.079	--		1
tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
1,3-Dichloropropene, Total	ND	0.020	--	ND	0.091	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	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

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/14/19 16:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01,03,05,07,09,11-12,17-20 Batch: WG1215690-4								
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		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
Cyclohexane	ND	0.200	--	ND	0.688	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
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
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.020	--	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
2-Hexanone	ND	0.200	--	ND	0.820	--		1

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/14/19 16:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01,03,05,07,09,11-12,17-20 Batch: WG1215690-4								
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
Xylene (Total)	ND	0.020	--	ND	0.087	--		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
1,2,3-Trichloropropane	ND	0.020	--	ND	0.121	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		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
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

Project Name: G6-2420
Project Number: G6-2420
Lab Number: L1909015
Report Date: 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/14/19 16:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01,03,05,07,09,11-12,17-20 Batch: WG1215690-4								
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

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/14/19 15:43

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01,03,05,07,09,11-12,17-20 Batch: WG1215692-4								
Propylene	ND	0.500	--	ND	0.861	--		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
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
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/14/19 15:43

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01,03,05,07,09,11-12,17-20 Batch: WG1215692-4								
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	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

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/14/19 15:43

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01,03,05,07,09,11-12,17-20 Batch: WG1215692-4								
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
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: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/23/19 19:04

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 14-16 Batch: WG1218917-4								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	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
Ethyl Alcohol	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	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,2-Dichloroethene (total)	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
1,3-Dichloropropene, Total	ND	0.020	--	ND	0.091	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	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

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/23/19 19:04

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 14-16 Batch: WG1218917-4								
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		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
Cyclohexane	ND	0.200	--	ND	0.688	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
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
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.020	--	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
2-Hexanone	ND	0.200	--	ND	0.820	--		1

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/23/19 19:04

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 14-16 Batch: WG1218917-4								
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
Xylene (Total)	ND	0.020	--	ND	0.087	--		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
1,2,3-Trichloropropane	ND	0.020	--	ND	0.121	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		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
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

Project Name: G6-2420
Project Number: G6-2420
Lab Number: L1909015
Report Date: 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/23/19 19:04

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 14-16 Batch: WG1218917-4								
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

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/23/19 18:24

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 14-16 Batch: WG1218918-4								
Propylene	ND	0.500	--	ND	0.861	--		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
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
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/23/19 18:24

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 14-16 Batch: WG1218918-4								
Ethyl Acetate	ND	1.00	--	ND	3.60	--		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	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

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/23/19 18:24

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 14-16 Batch: WG1218918-4								
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
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: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 02,04,06,08,10,13 Batch: WG1215316-3								
Propylene	122		-		70-130	-		
Dichlorodifluoromethane	89		-		70-130	-		
Chloromethane	99		-		70-130	-		
Freon-114	97		-		70-130	-		
Vinyl chloride	99		-		70-130	-		
1,3-Butadiene	104		-		70-130	-		
Bromomethane	97		-		70-130	-		
Chloroethane	100		-		70-130	-		
Ethanol	102		-		40-160	-		
Vinyl bromide	95		-		70-130	-		
Acetone	77		-		40-160	-		
Trichlorofluoromethane	86		-		70-130	-		
Isopropanol	82		-		40-160	-		
1,1-Dichloroethene	95		-		70-130	-		
Tertiary butyl Alcohol	87		-		70-130	-		
Methylene chloride	94		-		70-130	-		
3-Chloropropene	105		-		70-130	-		
Carbon disulfide	92		-		70-130	-		
Freon-113	96		-		70-130	-		
trans-1,2-Dichloroethene	110		-		70-130	-		
1,1-Dichloroethane	110		-		70-130	-		
Methyl tert butyl ether	108		-		70-130	-		
Vinyl acetate	113		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 02,04,06,08,10,13 Batch: WG1215316-3								
2-Butanone	111		-		70-130	-		
cis-1,2-Dichloroethene	112		-		70-130	-		
Ethyl Acetate	118		-		70-130	-		
Chloroform	107		-		70-130	-		
Tetrahydrofuran	111		-		70-130	-		
1,2-Dichloroethane	96		-		70-130	-		
n-Hexane	113		-		70-130	-		
1,1,1-Trichloroethane	100		-		70-130	-		
Benzene	101		-		70-130	-		
Carbon tetrachloride	103		-		70-130	-		
Cyclohexane	113		-		70-130	-		
1,2-Dichloropropane	113		-		70-130	-		
Bromodichloromethane	106		-		70-130	-		
1,4-Dioxane	117		-		70-130	-		
Trichloroethene	114		-		70-130	-		
2,2,4-Trimethylpentane	117		-		70-130	-		
Heptane	111		-		70-130	-		
cis-1,3-Dichloropropene	113		-		70-130	-		
4-Methyl-2-pentanone	113		-		70-130	-		
trans-1,3-Dichloropropene	95		-		70-130	-		
1,1,2-Trichloroethane	115		-		70-130	-		
Toluene	116		-		70-130	-		
2-Hexanone	124		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 02,04,06,08,10,13 Batch: WG1215316-3								
Dibromochloromethane	122		-		70-130	-		
1,2-Dibromoethane	115		-		70-130	-		
Tetrachloroethene	116		-		70-130	-		
Chlorobenzene	118		-		70-130	-		
Ethylbenzene	121		-		70-130	-		
p/m-Xylene	120		-		70-130	-		
Bromoform	123		-		70-130	-		
Styrene	117		-		70-130	-		
1,1,2,2-Tetrachloroethane	121		-		70-130	-		
o-Xylene	124		-		70-130	-		
4-Ethyltoluene	117		-		70-130	-		
1,3,5-Trimethylbenzene	118		-		70-130	-		
1,2,4-Trimethylbenzene	124		-		70-130	-		
Benzyl chloride	127		-		70-130	-		
1,3-Dichlorobenzene	119		-		70-130	-		
1,4-Dichlorobenzene	122		-		70-130	-		
1,2-Dichlorobenzene	120		-		70-130	-		
1,2,4-Trichlorobenzene	128		-		70-130	-		
Hexachlorobutadiene	121		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09,11-12,17-20 Batch: WG1215690-3								
Propylene	95		-		70-130	-		25
Dichlorodifluoromethane	94		-		70-130	-		25
Chloromethane	96		-		70-130	-		25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	102		-		70-130	-		25
Vinyl chloride	97		-		70-130	-		25
1,3-Butadiene	98		-		70-130	-		25
Bromomethane	100		-		70-130	-		25
Chloroethane	90		-		70-130	-		25
Ethyl Alcohol	98		-		40-160	-		25
Vinyl bromide	96		-		70-130	-		25
Acetone	76		-		40-160	-		25
Trichlorofluoromethane	103		-		70-130	-		25
iso-Propyl Alcohol	83		-		40-160	-		25
Acrylonitrile	94		-		70-130	-		25
1,1-Dichloroethene	94		-		70-130	-		25
tert-Butyl Alcohol[1]	93		-		70-130	-		25
Methylene chloride	97		-		70-130	-		25
3-Chloropropene	94		-		70-130	-		25
Carbon disulfide	87		-		70-130	-		25
1,1,2-Trichloro-1,2,2-Trifluoroethane	97		-		70-130	-		25
trans-1,2-Dichloroethene	90		-		70-130	-		25
1,1-Dichloroethane	92		-		70-130	-		25
Methyl tert butyl ether	89		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09,11-12,17-20 Batch: WG1215690-3								
Vinyl acetate	98		-		70-130	-		25
2-Butanone	110		-		70-130	-		25
cis-1,2-Dichloroethene	94		-		70-130	-		25
Ethyl Acetate	99		-		70-130	-		25
Chloroform	99		-		70-130	-		25
Tetrahydrofuran	102		-		70-130	-		25
1,2-Dichloroethane	96		-		70-130	-		25
n-Hexane	93		-		70-130	-		25
1,1,1-Trichloroethane	97		-		70-130	-		25
Benzene	94		-		70-130	-		25
Carbon tetrachloride	96		-		70-130	-		25
Cyclohexane	93		-		70-130	-		25
Dibromomethane[1]	86		-		70-130	-		25
1,2-Dichloropropane	97		-		70-130	-		25
Bromodichloromethane	98		-		70-130	-		25
1,4-Dioxane	102		-		70-130	-		25
Trichloroethene	97		-		70-130	-		25
2,2,4-Trimethylpentane	95		-		70-130	-		25
cis-1,3-Dichloropropene	101		-		70-130	-		25
4-Methyl-2-pentanone	99		-		70-130	-		25
trans-1,3-Dichloropropene	90		-		70-130	-		25
1,1,2-Trichloroethane	101		-		70-130	-		25
Toluene	100		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09,11-12,17-20 Batch: WG1215690-3								
2-Hexanone	111		-		70-130	-		25
Dibromochloromethane	111		-		70-130	-		25
1,2-Dibromoethane	107		-		70-130	-		25
Tetrachloroethene	104		-		70-130	-		25
1,1,1,2-Tetrachloroethane	93		-		70-130	-		25
Chlorobenzene	101		-		70-130	-		25
Ethylbenzene	102		-		70-130	-		25
p/m-Xylene	101		-		70-130	-		25
Bromoform	113		-		70-130	-		25
Styrene	101		-		70-130	-		25
1,1,2,2-Tetrachloroethane	110		-		70-130	-		25
o-Xylene	103		-		70-130	-		25
1,2,3-Trichloropropane[1]	97		-		70-130	-		25
Isopropylbenzene	99		-		70-130	-		25
Bromobenzene[1]	95		-		70-130	-		25
4-Ethyltoluene	106		-		70-130	-		25
1,3,5-Trimethylbenzene	105		-		70-130	-		25
1,2,4-Trimethylbenzene	109		-		70-130	-		25
Benzyl chloride	99		-		70-130	-		25
1,3-Dichlorobenzene	114		-		70-130	-		25
1,4-Dichlorobenzene	111		-		70-130	-		25
sec-Butylbenzene	97		-		70-130	-		25
p-Isopropyltoluene	87		-		70-130	-		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09,11-12,17-20 Batch: WG1215690-3								
1,2-Dichlorobenzene	109		-		70-130	-		25
n-Butylbenzene	102		-		70-130	-		25
1,2,4-Trichlorobenzene	**133**	Q	-		70-130	-		25
Naphthalene	112		-		70-130	-		25
1,2,3-Trichlorobenzene	123		-		70-130	-		25
Hexachlorobutadiene	126		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab	Associated sample(s): 01,03,05,07,09,11-12,17-20		Batch: WG1215692-3					
Propylene	102		-		70-130	-		
Dichlorodifluoromethane	82		-		70-130	-		
Chloromethane	95		-		70-130	-		
Freon-114	100		-		70-130	-		
Vinyl chloride	94		-		70-130	-		
1,3-Butadiene	106		-		70-130	-		
Bromomethane	92		-		70-130	-		
Chloroethane	90		-		70-130	-		
Ethanol	92		-		40-160	-		
Vinyl bromide	96		-		70-130	-		
Acetone	74		-		40-160	-		
Trichlorofluoromethane	97		-		70-130	-		
Isopropanol	82		-		40-160	-		
1,1-Dichloroethene	91		-		70-130	-		
Tertiary butyl Alcohol	90		-		70-130	-		
Methylene chloride	94		-		70-130	-		
3-Chloropropene	91		-		70-130	-		
Carbon disulfide	90		-		70-130	-		
Freon-113	99		-		70-130	-		
trans-1,2-Dichloroethene	89		-		70-130	-		
1,1-Dichloroethane	90		-		70-130	-		
Methyl tert butyl ether	87		-		70-130	-		
Vinyl acetate	95		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab	Associated sample(s): 01,03,05,07,09,11-12,17-20		Batch: WG1215692-3					
2-Butanone	105		-		70-130	-		
cis-1,2-Dichloroethene	93		-		70-130	-		
Ethyl Acetate	97		-		70-130	-		
Chloroform	96		-		70-130	-		
Tetrahydrofuran	94		-		70-130	-		
1,2-Dichloroethane	89		-		70-130	-		
n-Hexane	99		-		70-130	-		
1,1,1-Trichloroethane	100		-		70-130	-		
Benzene	96		-		70-130	-		
Carbon tetrachloride	100		-		70-130	-		
Cyclohexane	96		-		70-130	-		
1,2-Dichloropropane	99		-		70-130	-		
Bromodichloromethane	104		-		70-130	-		
1,4-Dioxane	107		-		70-130	-		
Trichloroethene	101		-		70-130	-		
2,2,4-Trimethylpentane	100		-		70-130	-		
Heptane	96		-		70-130	-		
cis-1,3-Dichloropropene	104		-		70-130	-		
4-Methyl-2-pentanone	105		-		70-130	-		
trans-1,3-Dichloropropene	88		-		70-130	-		
1,1,2-Trichloroethane	105		-		70-130	-		
Toluene	97		-		70-130	-		
2-Hexanone	107		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab	Associated sample(s):	01,03,05,07,09,11-12,17-20	Batch:	WG1215692-3				
Dibromochloromethane	109		-		70-130	-		
1,2-Dibromoethane	102		-		70-130	-		
Tetrachloroethene	101		-		70-130	-		
Chlorobenzene	98		-		70-130	-		
Ethylbenzene	99		-		70-130	-		
p/m-Xylene	98		-		70-130	-		
Bromoform	110		-		70-130	-		
Styrene	98		-		70-130	-		
1,1,2,2-Tetrachloroethane	110		-		70-130	-		
o-Xylene	104		-		70-130	-		
4-Ethyltoluene	101		-		70-130	-		
1,3,5-Trimethylbenzene	101		-		70-130	-		
1,2,4-Trimethylbenzene	106		-		70-130	-		
Benzyl chloride	100		-		70-130	-		
1,3-Dichlorobenzene	105		-		70-130	-		
1,4-Dichlorobenzene	103		-		70-130	-		
1,2-Dichlorobenzene	105		-		70-130	-		
1,2,4-Trichlorobenzene	117		-		70-130	-		
Hexachlorobutadiene	118		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 14-16 Batch: WG1218917-3								
Propylene	**135**	Q	-		70-130	-		25
Dichlorodifluoromethane	91		-		70-130	-		25
Chloromethane	86		-		70-130	-		25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	96		-		70-130	-		25
Vinyl chloride	116		-		70-130	-		25
1,3-Butadiene	96		-		70-130	-		25
Bromomethane	107		-		70-130	-		25
Chloroethane	109		-		70-130	-		25
Ethyl Alcohol	118		-		40-160	-		25
Vinyl bromide	105		-		70-130	-		25
Acetone	75		-		40-160	-		25
Trichlorofluoromethane	76		-		70-130	-		25
iso-Propyl Alcohol	87		-		40-160	-		25
Acrylonitrile	115		-		70-130	-		25
1,1-Dichloroethene	107		-		70-130	-		25
tert-Butyl Alcohol[1]	118		-		70-130	-		25
Methylene chloride	97		-		70-130	-		25
3-Chloropropene	123		-		70-130	-		25
Carbon disulfide	101		-		70-130	-		25
1,1,2-Trichloro-1,2,2-Trifluoroethane	102		-		70-130	-		25
trans-1,2-Dichloroethene	118		-		70-130	-		25
1,1-Dichloroethane	114		-		70-130	-		25
Methyl tert butyl ether	86		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: G6-2420
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Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 14-16 Batch: WG1218917-3								
Vinyl acetate	109		-		70-130	-		25
2-Butanone	101		-		70-130	-		25
cis-1,2-Dichloroethene	123		-		70-130	-		25
Ethyl Acetate	**143**	Q	-		70-130	-		25
Chloroform	103		-		70-130	-		25
Tetrahydrofuran	107		-		70-130	-		25
1,2-Dichloroethane	83		-		70-130	-		25
n-Hexane	121		-		70-130	-		25
1,1,1-Trichloroethane	76		-		70-130	-		25
Benzene	93		-		70-130	-		25
Carbon tetrachloride	87		-		70-130	-		25
Cyclohexane	121		-		70-130	-		25
Dibromomethane[1]	83		-		70-130	-		25
1,2-Dichloropropane	110		-		70-130	-		25
Bromodichloromethane	99		-		70-130	-		25
1,4-Dioxane	117		-		70-130	-		25
Trichloroethene	97		-		70-130	-		25
2,2,4-Trimethylpentane	123		-		70-130	-		25
cis-1,3-Dichloropropene	77		-		70-130	-		25
4-Methyl-2-pentanone	90		-		70-130	-		25
trans-1,3-Dichloropropene	94		-		70-130	-		25
1,1,2-Trichloroethane	102		-		70-130	-		25
Toluene	101		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 14-16 Batch: WG1218917-3								
2-Hexanone	87		-		70-130	-		25
Dibromochloromethane	114		-		70-130	-		25
1,2-Dibromoethane	97		-		70-130	-		25
Tetrachloroethene	95		-		70-130	-		25
1,1,1,2-Tetrachloroethane	101		-		70-130	-		25
Chlorobenzene	100		-		70-130	-		25
Ethylbenzene	99		-		70-130	-		25
p/m-Xylene	98		-		70-130	-		25
Bromoform	127		-		70-130	-		25
Styrene	95		-		70-130	-		25
1,1,2,2-Tetrachloroethane	125		-		70-130	-		25
o-Xylene	98		-		70-130	-		25
1,2,3-Trichloropropane[1]	95		-		70-130	-		25
Isopropylbenzene	91		-		70-130	-		25
Bromobenzene[1]	96		-		70-130	-		25
4-Ethyltoluene	97		-		70-130	-		25
1,3,5-Trimethylbenzene	98		-		70-130	-		25
1,2,4-Trimethylbenzene	100		-		70-130	-		25
Benzyl chloride	103		-		70-130	-		25
1,3-Dichlorobenzene	100		-		70-130	-		25
1,4-Dichlorobenzene	98		-		70-130	-		25
sec-Butylbenzene	93		-		70-130	-		25
p-Isopropyltoluene	85		-		70-130	-		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 14-16 Batch: WG1218917-3								
1,2-Dichlorobenzene	102		-		70-130	-		25
n-Butylbenzene	96		-		70-130	-		25
1,2,4-Trichlorobenzene	89		-		70-130	-		25
Naphthalene	88		-		70-130	-		25
1,2,3-Trichlorobenzene	93		-		70-130	-		25
Hexachlorobutadiene	105		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 14-16 Batch: WG1218918-3								
Propylene	**148**	Q	-		70-130	-		
Dichlorodifluoromethane	91		-		70-130	-		
Chloromethane	87		-		70-130	-		
Freon-114	101		-		70-130	-		
Vinyl chloride	124		-		70-130	-		
1,3-Butadiene	102		-		70-130	-		
Bromomethane	112		-		70-130	-		
Chloroethane	115		-		70-130	-		
Ethanol	98		-		40-160	-		
Vinyl bromide	102		-		70-130	-		
Acetone	83		-		40-160	-		
Trichlorofluoromethane	78		-		70-130	-		
Isopropanol	90		-		40-160	-		
1,1-Dichloroethene	117		-		70-130	-		
Tertiary butyl Alcohol	116		-		70-130	-		
Methylene chloride	98		-		70-130	-		
3-Chloropropene	**132**	Q	-		70-130	-		
Carbon disulfide	103		-		70-130	-		
Freon-113	109		-		70-130	-		
trans-1,2-Dichloroethene	125		-		70-130	-		
1,1-Dichloroethane	124		-		70-130	-		
Methyl tert butyl ether	88		-		70-130	-		
Vinyl acetate	119		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 14-16 Batch: WG1218918-3								
2-Butanone	109		-		70-130	-		
cis-1,2-Dichloroethene	129		-		70-130	-		
Ethyl Acetate	**162**	Q	-		70-130	-		
Chloroform	108		-		70-130	-		
Tetrahydrofuran	118		-		70-130	-		
1,2-Dichloroethane	93		-		70-130	-		
n-Hexane	120		-		70-130	-		
1,1,1-Trichloroethane	80		-		70-130	-		
Benzene	96		-		70-130	-		
Carbon tetrachloride	89		-		70-130	-		
Cyclohexane	120		-		70-130	-		
1,2-Dichloropropane	119		-		70-130	-		
Bromodichloromethane	101		-		70-130	-		
1,4-Dioxane	111		-		70-130	-		
Trichloroethene	101		-		70-130	-		
2,2,4-Trimethylpentane	122		-		70-130	-		
Heptane	96		-		70-130	-		
cis-1,3-Dichloropropene	95		-		70-130	-		
4-Methyl-2-pentanone	96		-		70-130	-		
trans-1,3-Dichloropropene	78		-		70-130	-		
1,1,2-Trichloroethane	104		-		70-130	-		
Toluene	112		-		70-130	-		
2-Hexanone	100		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 14-16 Batch: WG1218918-3								
Dibromochloromethane	117		-		70-130	-		
1,2-Dibromoethane	104		-		70-130	-		
Tetrachloroethene	103		-		70-130	-		
Chlorobenzene	107		-		70-130	-		
Ethylbenzene	108		-		70-130	-		
p/m-Xylene	106		-		70-130	-		
Bromoform	125		-		70-130	-		
Styrene	102		-		70-130	-		
1,1,2,2-Tetrachloroethane	128		-		70-130	-		
o-Xylene	108		-		70-130	-		
4-Ethyltoluene	101		-		70-130	-		
1,3,5-Trimethylbenzene	116		-		70-130	-		
1,2,4-Trimethylbenzene	105		-		70-130	-		
Benzyl chloride	116		-		70-130	-		
1,3-Dichlorobenzene	104		-		70-130	-		
1,4-Dichlorobenzene	101		-		70-130	-		
1,2-Dichlorobenzene	105		-		70-130	-		
1,2,4-Trichlorobenzene	99		-		70-130	-		
Hexachlorobutadiene	107		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 02,04,06,08,10,13 QC Batch ID: WG1215316-5 QC Sample: L1909015-04 Client ID: SV-2						
Dichlorodifluoromethane	2.51	2.54	ppbV	1		25
Chloromethane	ND	ND	ppbV	NC		25
Freon-114	ND	ND	ppbV	NC		25
Vinyl chloride	ND	ND	ppbV	NC		25
1,3-Butadiene	0.243	0.240	ppbV	1		25
Bromomethane	ND	ND	ppbV	NC		25
Chloroethane	ND	ND	ppbV	NC		25
Ethanol	41.7	41.0	ppbV	2		25
Vinyl bromide	ND	ND	ppbV	NC		25
Acetone	15.9	15.4	ppbV	3		25
Trichlorofluoromethane	31.5	33.5	ppbV	6		25
Isopropanol	3.48	3.55	ppbV	2		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
Tertiary butyl Alcohol	0.903	0.946	ppbV	5		25
Methylene chloride	ND	ND	ppbV	NC		25
3-Chloropropene	ND	ND	ppbV	NC		25
Carbon disulfide	64.5	66.7	ppbV	3		25
Freon-113	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
Methyl tert butyl ether	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 02,04,06,08,10,13 QC Batch ID: WG1215316-5 QC Sample: L1909015-04 Client ID: SV-2						
2-Butanone	1.06	1.05	ppbV	1		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
Ethyl Acetate	ND	ND	ppbV	NC		25
Chloroform	3.68	3.72	ppbV	1		25
Tetrahydrofuran	ND	ND	ppbV	NC		25
1,2-Dichloroethane	ND	ND	ppbV	NC		25
n-Hexane	9.83	9.53	ppbV	3		25
1,1,1-Trichloroethane	1.86	1.91	ppbV	3		25
Benzene	5.95	5.91	ppbV	1		25
Carbon tetrachloride	7.61	7.99	ppbV	5		25
Cyclohexane	2.68	2.61	ppbV	3		25
1,2-Dichloropropane	ND	ND	ppbV	NC		25
Bromodichloromethane	ND	ND	ppbV	NC		25
1,4-Dioxane	ND	ND	ppbV	NC		25
Trichloroethene	18.3	18.2	ppbV	1		25
2,2,4-Trimethylpentane	ND	ND	ppbV	NC		25
Heptane	1.44	1.42	ppbV	1		25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC		25
4-Methyl-2-pentanone	ND	ND	ppbV	NC		25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 02,04,06,08,10,13 QC Batch ID: WG1215316-5 QC Sample: L1909015-04 Client ID: SV-2						
Toluene	3.36	3.19	ppbV	5		25
2-Hexanone	ND	ND	ppbV	NC		25
Dibromochloromethane	ND	ND	ppbV	NC		25
1,2-Dibromoethane	ND	ND	ppbV	NC		25
Tetrachloroethene	2.66	2.56	ppbV	4		25
Chlorobenzene	ND	ND	ppbV	NC		25
Ethylbenzene	0.410	0.389	ppbV	5		25
p/m-Xylene	1.40	1.33	ppbV	5		25
Bromoform	ND	ND	ppbV	NC		25
Styrene	0.589	0.579	ppbV	2		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25
o-Xylene	0.393	0.381	ppbV	3		25
4-Ethyltoluene	0.411	0.391	ppbV	5		25
1,3,5-Trimethylbenzene	0.418	0.405	ppbV	3		25
1,2,4-Trimethylbenzene	1.59	1.17	ppbV	**30**	Q	25
Benzyl chloride	ND	ND	ppbV	NC		25
1,3-Dichlorobenzene	ND	ND	ppbV	NC		25
1,4-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2,4-Trichlorobenzene	ND	ND	ppbV	NC		25
Hexachlorobutadiene	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01,03,05,07,09,11-12,17-20 QC Batch ID: WG1215690-5 QC Sample: L1909015-09 Client ID: IA-5						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Carbon tetrachloride	0.067	0.067	ppbV	0		25
Trichloroethene	0.031	0.032	ppbV	3		25
Tetrachloroethene	0.067	0.035	ppbV	**63**	Q	25
1,2-Dichloroethene (total)	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01,03,05,07,09,11-12,17-20 QC Batch ID: WG1215692-5 QC Sample: L1909015-09 Client ID: IA-5						
Dichlorodifluoromethane	0.358	0.336	ppbV	6		25
Chloromethane	0.547	0.546	ppbV	0		25
Freon-114	ND	ND	ppbV	NC		25
1,3-Butadiene	ND	ND	ppbV	NC		25
Bromomethane	ND	ND	ppbV	NC		25
Chloroethane	ND	ND	ppbV	NC		25
Ethanol	14.9	14.6	ppbV	2		25
Vinyl bromide	ND	ND	ppbV	NC		25
Acetone	2.33	2.29	ppbV	2		25
Trichlorofluoromethane	0.255	0.241	ppbV	6		25
Isopropanol	0.575	0.538	ppbV	7		25
Tertiary butyl Alcohol	ND	ND	ppbV	NC		25
Methylene chloride	2.53	2.52	ppbV	0		25
3-Chloropropene	ND	ND	ppbV	NC		25
Carbon disulfide	ND	ND	ppbV	NC		25
Freon-113	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
Methyl tert butyl ether	ND	ND	ppbV	NC		25
2-Butanone	ND	ND	ppbV	NC		25
Ethyl Acetate	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01,03,05,07,09,11-12,17-20 QC Batch ID: WG1215692-5 QC Sample: L1909015-09 Client ID: IA-5						
Chloroform	ND	ND	ppbV	NC		25
Tetrahydrofuran	ND	ND	ppbV	NC		25
1,2-Dichloroethane	ND	ND	ppbV	NC		25
n-Hexane	ND	ND	ppbV	NC		25
Benzene	ND	0.204	ppbV	NC		25
Cyclohexane	ND	ND	ppbV	NC		25
1,2-Dichloropropane	ND	ND	ppbV	NC		25
Bromodichloromethane	ND	ND	ppbV	NC		25
1,4-Dioxane	ND	ND	ppbV	NC		25
2,2,4-Trimethylpentane	ND	ND	ppbV	NC		25
Heptane	ND	ND	ppbV	NC		25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC		25
4-Methyl-2-pentanone	ND	ND	ppbV	NC		25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Toluene	ND	ND	ppbV	NC		25
2-Hexanone	ND	ND	ppbV	NC		25
Dibromochloromethane	ND	ND	ppbV	NC		25
1,2-Dibromoethane	ND	ND	ppbV	NC		25
Chlorobenzene	ND	ND	ppbV	NC		25
Ethylbenzene	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01,03,05,07,09,11-12,17-20 QC Batch ID: WG1215692-5 QC Sample: L1909015-09 Client ID: IA-5						
p/m-Xylene	ND	ND	ppbV	NC		25
Bromoform	ND	ND	ppbV	NC		25
Styrene	ND	ND	ppbV	NC		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25
o-Xylene	ND	ND	ppbV	NC		25
4-Ethyltoluene	ND	ND	ppbV	NC		25
1,3,5-Trimethylbenzene	ND	ND	ppbV	NC		25
1,2,4-Trimethylbenzene	ND	ND	ppbV	NC		25
Benzyl chloride	ND	ND	ppbV	NC		25
1,3-Dichlorobenzene	ND	ND	ppbV	NC		25
1,4-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2,4-Trichlorobenzene	ND	ND	ppbV	NC		25
Hexachlorobutadiene	ND	ND	ppbV	NC		25

Project Name: G6-2420 **Lab Number:** L1909015

Project Number: G6-2420 **Report Date:** 03/25/19

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 Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1909015-01	IA-1	0096	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	3.4	3
L1909015-01	IA-1	649	6.0L Can	03/05/19	286021	L1908259-01	Pass	-29.6	-4.3	-	-	-	-
L1909015-02	SV-1	0083	Flow 4	03/05/19	286021		-	-	-	Pass	3.3	3.6	9
L1909015-02	SV-1	1541	6.0L Can	03/05/19	286021	L1908064-02	Pass	-29.6	-4.1	-	-	-	-
L1909015-03	IA-2	0335	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	2.0	49
L1909015-03	IA-2	982	6.0L Can	03/05/19	286021	L1908162-02	Pass	-29.5	-8.1	-	-	-	-
L1909015-04	SV-2	0756	Flow 3	03/05/19	286021		-	-	-	Pass	3.3	3.4	3
L1909015-04	SV-2	1535	6.0L Can	03/05/19	286021	L1908259-02	Pass	-29.6	-9.4	-	-	-	-
L1909015-05	IA-3	0831	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	2.3	36
L1909015-05	IA-3	985	6.0L Can	03/05/19	286021	L1908259-01	Pass	-29.3	-7.2	-	-	-	-
L1909015-06	SV-3	0348	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	3.6	9
L1909015-06	SV-3	897	6.0L Can	03/05/19	286021	L1908259-01	Pass	-29.7	-5.3	-	-	-	-
L1909015-07	IA-4	0243	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	3.6	9
L1909015-07	IA-4	584	6.0L Can	03/05/19	286021	L1908259-02	Pass	-29.8	-4.1	-	-	-	-
L1909015-08	SV-4	01112	Flow 1	03/05/19	286021		-	-	-	Pass	3.3	3.6	9

Project Name: G6-2420

Project Number: G6-2420

Lab Number: L1909015

Report Date: 03/25/19

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 Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1909015-08	SV-4	1574	6.0L Can	03/05/19	286021	L1908259-02	Pass	-29.6	-3.7	-	-	-	-
L1909015-09	IA-5	0576	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	3.2	3
L1909015-09	IA-5	1636	6.0L Can	03/05/19	286021	L1908259-02	Pass	-29.8	-4.7	-	-	-	-
L1909015-10	SV-5	0913	Flow 4	03/05/19	286021		-	-	-	Pass	3.3	2.3	36
L1909015-10	SV-5	1695	6.0L Can	03/05/19	286021	L1908259-02	Pass	-29.5	-18.6	-	-	-	-
L1909015-11	IA-6	01176	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	4.0	19
L1909015-11	IA-6	1981	6.0L Can	03/05/19	286021	L1908259-01	Pass	-29.4	-3.7	-	-	-	-
L1909015-12	IA-7	0286	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	3.2	3
L1909015-12	IA-7	648	6.0L Can	03/05/19	286021	L1908259-02	Pass	-29.5	-3.3	-	-	-	-
L1909015-13	SV-7	0262	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	3.4	3
L1909015-13	SV-7	1680	6.0L Can	03/05/19	286021	L1907969-03	Pass	-29.6	-4.3	-	-	-	-
L1909015-14	IA-8	0948	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	3.0	10
L1909015-14	IA-8	773	6.0L Can	03/05/19	286021	L1908259-02	Pass	-29.6	-1.2	-	-	-	-
L1909015-15	IA-9	01120	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	3.7	11
L1909015-15	IA-9	1849	6.0L Can	03/05/19	286021	L1908259-02	Pass	-29.6	-4.1	-	-	-	-

Project Name: G6-2420

Project Number: G6-2420

Lab Number: L1909015

Report Date: 03/25/19

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 Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1909015-16	IA-10	01069	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	3.8	14
L1909015-16	IA-10	2631	6.0L Can	03/05/19	286021	L1908259-01	Pass	-29.3	-3.4	-	-	-	-
L1909015-17	AA-11	01253	FLOW 5	03/05/19	286021		-	-	-	Pass	3.3	3.3	0
L1909015-17	AA-11	1642	6.0L Can	03/05/19	286021	L1908259-01	Pass	-29.4	-3.7	-	-	-	-
L1909015-18	IA-12	0619	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	3.6	9
L1909015-18	IA-12	2566	6.0L Can	03/05/19	286021	L1908259-01	Pass	-29.7	-4.4	-	-	-	-
L1909015-19	IA-13	01248	FLOW 5	03/05/19	286021		-	-	-	Pass	3.3	3.6	9
L1909015-19	IA-13	1813	6.0L Can	03/05/19	286021	L1908259-01	Pass	-29.4	-7.2	-	-	-	-
L1909015-20	IA-14	0341	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	3.6	9
L1909015-20	IA-14	963	6.0L Can	03/05/19	286021	L1908259-01	Pass	-29.3	-3.9	-	-	-	-
L1909015-21	UNUSED CAN #2656	0488	Flow 5	03/05/19	286021		-	-	-	Pass	3.3	3.3	0
L1909015-21	UNUSED CAN #2656	2656	6.0L Can	03/05/19	286021	L1908259-02	Pass	-29.8	-29.8	-	-	-	-

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

Lab Number: L1907969
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1907969-03
Client ID: CAN 1680 SHELF 48
Sample Location:

Date Collected: 02/28/19 09:00
Date Received: 02/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/01/19 20:06
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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: L1907969
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1907969-03
Client ID: CAN 1680 SHELF 48
Sample Location:

Date Collected: 02/28/19 09:00
Date Received: 02/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1907969
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1907969-03
Client ID: CAN 1680 SHELF 48
Sample Location:

Date Collected: 02/28/19 09:00
Date Received: 02/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1907969
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1907969-03
Client ID: CAN 1680 SHELF 48
Sample Location:

Date Collected: 02/28/19 09:00
Date Received: 02/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1907969
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1907969-03
Client ID: CAN 1680 SHELF 48
Sample Location:

Date Collected: 02/28/19 09:00
Date Received: 02/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	95		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	96		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1907969
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1907969-03
Client ID: CAN 1680 SHELF 48
Sample Location:

Date Collected: 02/28/19 09:00
Date Received: 02/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/01/19 20:06
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1907969
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1907969-03
Client ID: CAN 1680 SHELF 48
Sample Location:

Date Collected: 02/28/19 09:00
Date Received: 02/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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-Trimethybenzene	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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1907969
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1907969-03
Client ID: CAN 1680 SHELF 48
Sample Location:

Date Collected: 02/28/19 09:00
Date Received: 02/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	96		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	96		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908064
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908064-02
Client ID: CAN 1541 SHELF 43
Sample Location:

Date Collected: 03/01/19 09:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/01/19 18:47
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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: L1908064
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908064-02
Client ID: CAN 1541 SHELF 43
Sample Location:

Date Collected: 03/01/19 09:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1908064
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908064-02
Client ID: CAN 1541 SHELF 43
Sample Location:

Date Collected: 03/01/19 09:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1908064
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908064-02
Client ID: CAN 1541 SHELF 43
Sample Location:

Date Collected: 03/01/19 09:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1908064
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908064-02
Client ID: CAN 1541 SHELF 43
Sample Location:

Date Collected: 03/01/19 09:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	95		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	96		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908064
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908064-02
Client ID: CAN 1541 SHELF 43
Sample Location:

Date Collected: 03/01/19 09:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/01/19 18:47
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908064
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908064-02
Client ID: CAN 1541 SHELF 43
Sample Location:

Date Collected: 03/01/19 09:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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-Trimethybenzene	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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1908064

Project Number: CANISTER QC BAT **Report Date:** 03/25/19

Air Canister Certification Results

Lab ID: L1908064-02
Client ID: CAN 1541 SHELF 43
Sample Location:

Date Collected: 03/01/19 09:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	96		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	96		60-140

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

Lab Number: L1908162
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908162-02
Client ID: CAN 962 SHELF 47
Sample Location:

Date Collected: 03/01/19 13:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/02/19 07:44
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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: L1908162
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908162-02
Client ID: CAN 962 SHELF 47
Sample Location:

Date Collected: 03/01/19 13:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		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: L1908162
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908162-02
Client ID: CAN 962 SHELF 47
Sample Location:

Date Collected: 03/01/19 13:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1908162
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908162-02
Client ID: CAN 962 SHELF 47
Sample Location:

Date Collected: 03/01/19 13:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1908162
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908162-02
Client ID: CAN 962 SHELF 47
Sample Location:

Date Collected: 03/01/19 13:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	95		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	96		60-140

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

Lab Number: L1908162
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908162-02
Client ID: CAN 962 SHELF 47
Sample Location:

Date Collected: 03/01/19 13:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/02/19 07:44
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908162
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908162-02
Client ID: CAN 962 SHELF 47
Sample Location:

Date Collected: 03/01/19 13:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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-Trimethybenzene	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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908162
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908162-02
Client ID: CAN 962 SHELF 47
Sample Location:

Date Collected: 03/01/19 13:00
Date Received: 03/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	96		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	96		60-140

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

Lab Number: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-01
Client ID: CAN 619 SHELF 56
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/04/19 15:53
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-01
Client ID: CAN 619 SHELF 56
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		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: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-01
Client ID: CAN 619 SHELF 56
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-01
Client ID: CAN 619 SHELF 56
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-01
Client ID: CAN 619 SHELF 56
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	98		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	97		60-140

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

Lab Number: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-01
Client ID: CAN 619 SHELF 56
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/04/19 15:53
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-01
Client ID: CAN 619 SHELF 56
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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-Trimethybenzene	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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-01
Client ID: CAN 619 SHELF 56
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	99		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	96		60-140

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

Lab Number: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-02
Client ID: CAN 1786 SHELF 57
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/04/19 16:33
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-02
Client ID: CAN 1786 SHELF 57
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-02
Client ID: CAN 1786 SHELF 57
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-02
Client ID: CAN 1786 SHELF 57
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-02
Client ID: CAN 1786 SHELF 57
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
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	98		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	97		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-02
Client ID: CAN 1786 SHELF 57
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/04/19 16:33
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-02
Client ID: CAN 1786 SHELF 57
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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-Trimethybenzene	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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908259
Report Date: 03/25/19

Air Canister Certification Results

Lab ID: L1908259-02
Client ID: CAN 1786 SHELF 57
Sample Location:

Date Collected: 03/01/19 16:00
Date Received: 03/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	98		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	96		60-140

Project Name: G6-2420
Project Number: G6-2420

Lab Number: L1909015
Report Date: 03/25/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1909015-01A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-02A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1909015-03A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-04A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1909015-05A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-06A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1909015-07A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-08A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1909015-09A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-10A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1909015-11A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-12A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-13A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1909015-14A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-15A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-16A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-17A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-18A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-19A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-20A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1909015-21A	Canister - 6 Liter	N/A	NA			Y	Absent		CLEAN-FEE()

*Values in parentheses indicate holding time in days

Project Name:	G6-2420	**Lab Number:**	L1909015
Project Number:	G6-2420	**Report Date:**	03/25/19

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.
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.
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.

Footnotes

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

Report Format: Data Usability Report

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.

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.

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. If a 'Total' result is requested, the results of its individual components will also be reported.

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 Condensation Product".

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.

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 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:	G6-2420	**Lab Number:**	L1909015
Project Number:	G6-2420	**Report Date:**	03/25/19

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

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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.
Biological Tissue Matrix: EPA 3050B

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, SM4500Cl-D, SM2320B, SM2540C, SM4500H-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

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

Alpha Analytical
320 Forbes Blvd
Mansfield, MA 02048-1806
Tel: 508-822-9300
Fax: 508-822-3288

AIR Chain-of-Custody - NJ

Date Rec'd in Lab: 3/8/19 | ALPHA Job#: L1909015

1 of 4 COCs

Client Contact Information

Company: Hillmann
Address: 1600 Rt. 22 East
City/State/Zip: Union, NJ
Phone: (908)688-7800
FAX:
Email: rPowell@hillmanngroup.com
Site Contact: R Powell
Site Contact Phone: (908)323-4051

Project Information

Project Name: G6-2420
Project No: G6-2420
Site/Location: NY
Project Manager: C. Hirschmann

Analysis Turn-Around Time

Standard (Specify)
Rush (Specify)

NJ DEP Information

Bureau: Division: Contract No:

Report Information - Data Deliverables:

☐ FAX:
☐ ADEx ☐ Criteria Checker:
☐ EMail (standard pdf report)

Billing Information

☒ Same as Client Info PO #: G6-2420

ALPHA LAB ID (Lab Use Only)	Sample Identification	Sample Date(s)	Time Start (24 hr clock)	Time Stop (24 hr clock)	Canister Pressure in Field (Hg) (Start)	Canister Pressure in Field (Hg) (Stop)	Interior Temp. (F) (Start)	Interior Temp. (F) (Stop)	Outgoing Canister Pressure (Hg) (Note1)	Incoming Canister Pressure (Hg) (Note 2)	Flow Reg. ID	Can ID	Can Size (L)	Flow Controller Readout (ml/min) (Note1)	Batch Cert ID (Note 1)	TO-15	EPA 3C	Indoor / Ambient Air	Soil Gas
09015.01	IA-1	3/6-3/7/19	1516	1509	-30.30	-4.89	65	64			0096	649	6L			X		X	
.02	SV-1	↓	1516	1727	-29.69	-4.85	65	64			0083	1541	↓			X			X
.03	IA-2	↓	1520	1724	-30.73	-8.72	65	63			0335	982	↓			X		X	
.04	SV-2	↓	1520	1723	-30.34	-10.08	65	63			0756	1535	↓			X			X
.05	IA-3	↓	1522	1720	-30.47	-7.57	67	63			0831	985	↓			X		X	
.06	SV-3	↓	1522	1721	-30.34	-5.74	67	63			0348	897	↓			X			X

Custody Seals:
Outgoing Seal No: 611-615 (refer to crate seal)
Incoming Seal No: (if applicable)

Temperature (Fahrenheit)

	Ambient	Maximum	Minimum
Start			
Stop			

Pressure (inches of Hg)

	Ambient	Maximum	Minimum
Start			
Stop			

Individual Preparing Canister/Containers and Laboratory Canister Certification
Name: Nick Lep[illegible]
Signature: [signature]

Footnotes:
(1) Refer to equipment tags for these readings.
(2) Readings provided in data deliverable package.

Special Instructions/QC Requirements & Comments:

	Date/Time:		Date/Time:
Canisters Shipped by: R. K. Powell	3/7/19 1732	Canisters Received by: [signature]	3/7/19 1756
Samples Relinquished by: [signature]	3/7/19 1945	Received by: [signature] 3/7 2200	
Relinquished by: [signature] 03/08/19 0510	3/8 [illegible]	Received by: [signature] 3/8/19 0510	03/08/19 0100

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

Note: Combined External Chain of Custody and NJDEP Field Test Data Sheet

Alpha Analytical
320 Forbes Blvd
Mansfield, MA 02048-1806
Tel: 508-822-9300
Fax: 508-822-3288

AIR Chain-of-Custody - NJ

Date Rec'd in Lab: 3/8/19 | ALPHA Job#: L1909095

2 of 4 COCs

Client Contact Information
Company: Hillmann
Address:
City/State/Zip
Phone:
FAX:
Email:
Site Contact:
Site Contact Phone:

Project Information
Project Name: G6-2420
Project No:
Site/Location:
Project Manager:

Analysis Turn-Around Time
Standard (Specify)
Rush (Specify)

NJ DEP Information
Bureau: Division: Contract No:

Report Information - Data Deliverables:
☐ FAX:
☐ ADEx ☐ Criteria Checker:
☐ EMail (standard pdf report)

Billing Information
☒ Same as Client Info PO #: G6-2420

ALPHA LAB ID (Lab Use Only)	Sample Identification	Sample Date(s)	Time Start (24 hr clock)	Time Stop (24 hr clock)	Canister Pressure in Field (Hg) (Start)	Canister Pressure in Field (Hg) (Stop)	Interior Temp. (F) (Start)	Interior Temp. (F) (Stop)	Outgoing Canister Pressure (Hg) (Note1)	Incoming Canister Pressure (Hg) (Note 2)	Flow Reg. ID	Can ID	Can Size (L)	Flow Controller Readout (ml/min) (Note1)	Batch Cert ID (Note 1)	Analysis: TO-15	Analysis: EPA 3C	Matrix: Indoor /Ambient Air	Matrix: Soil Gas
0905.07	IA-4	3/6-3/7/19	1526	16:06	-30.17	-4.39	67	65			0243	584	6L			X		X	
08	SV-4		1526	16:06	-30.28	-4.24	67	65			01112	1574				X			X
09	IA-5		1534	17:25	-30.36	-5.31	67	71			0576	1636				X		X	
10	SV-5		1534	16:12	-30.47	-19.53	67	71			0913	1695				X			X
11	IA-6		1543	13:53	-30.12	-4.49	66	62			01176	1981				X		X	
12	IA-7		1610	13:44	-30.24	-3.69	64	65			0286	648				X		X	

Custody Seals:
Outgoing Seal No: 611-615 (refer to crate seal)
Incoming Seal No: (if applicable)

Temperature (Fahrenheit)

	Ambient	Maximum	Minimum	
Start				
Stop				

Individual Preparing Canister/Containers and Laboratory Canister Certification
Name: Nick Laprocina
Signature:

Pressure (inches of Hg)

	Ambient	Maximum	Minimum	
Start				
Stop				

Footnotes:
(1) Refer to equipment tags for these readings.
(2) Readings provided in data deliverable package.

Special Instructions/QC Requirements & Comments:

Canisters Shipped by: R. K. Trull	Date/Time: 3/7/19 1752	Canisters Received by:	Date/Time: 3/7/19 1752
Samples Relinquished by:	Date/Time: 3/7/19 1947	Received by: 3/7 2220	Date/Time:
Relinquished by: 03/08/19 0510	Date/Time: 3/8 0210	Received by: 3/8/19 0510	Date/Time: 03/08/19 0100

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

Note: Combined External Chain of Custody and NJDEP Field Test Data Sheet

Alpha Analytical
320 Forbes Blvd
Mansfield, MA 02048-1806
Tel: 508-822-9300
Fax: 508-822-3288

AIR Chain-of-Custody - NJ

Date Rec'd in Lab: 3/8/19 | **ALPHA Job#** L1909015

3 of 4 COCs

Client Contact Information

Company: Hillmann
Address:
City/State/Zip
Phone:
FAX:
Email:
Site Contact:
Site Contact Phone:

Project Information

Project Name: G6-2470
Project No:
Site/Location:
Project Manager:

Analysis Turn-Around Time

Standard (Specify)
Rush (Specify)

NJ DEP Information

Bureau: Division: Contract No:

Report Information - Data Deliverables:

☐ FAX:
☐ ADEx ☐ Criteria Checker: ______
☐ EMail (standard pdf report)

Billing Information

☒ Same as Client Info PO #: G6-2470

ALPHA LAB ID (Lab Use Only)	Sample Identification	Sample Date(s)	Time Start (24 hr clock)	Time Stop (24 hr clock)	Canister Pressure in Field (Hg) (Start)	Canister Pressure in Field (Hg) (Stop)	Interior Temp. (F) (Start)	Interior Temp. (F) (Stop)	Outgoing Canister Pressure (Hg) (Note1)	Incoming Canister Pressure (Hg) (Note 2)	Flow Reg. ID	Can ID	Can Size (L)	Flow Controller Readout (ml/min) (Note1)	Batch Cert ID (Note 1)	TO-15	EPA 3C	Indoor /Ambient Air	Soil Gas
09015.13	SV-7	3/6-3/7/19	1610	17:19	-30.41	-4.92	64	65			0262	1680	6L						X
14	IA-8	↓	1630	1448	-30.45	-2.20	56	54			0948	773	↓					X	
15	IA-9	↓	1635	1455	-30.21	-5.00	55	55			01120	1849	↓					X	
16	IA-10	↓	1641	14:07	-30.62	-4.52	45	47			01069	2631	↓					X	
17	AA-11	↓	1640	14:03	-31.44	-4.98	32	35			01253	1642	↓					X	
18	IA-12	↓	1628	16:03	-29.28	-4.83	64	65			0619	2566	↓					X	

Custody Seals:
Outgoing Seal No: 611-615 (refer to crate seal)
Incoming Seal No: ______ (if applicable)

Temperature (Fahrenheit)

	Ambient	Maximum	Minimum
Start			
Stop			

Pressure (inches of Hg)

	Ambient	Maximum	Minimum
Start			
Stop			

Individual Preparing Canister/Containers and Laboratory Canister Certification
Name: Nick Lopriore
Signature: [signature]

Footnotes:
(1) Refer to equipment tags for these readings.
(2) Readings provided in data deliverable package.

Special Instructions/QC Requirements & Comments:

Canisters Shipped by: K.K. Tall	Date/Time: 3/7/19 1732	Canisters Received by: [signature]	Date/Time: 3/7/19 1757
Samples Relinquished by: [signature]	Date/Time: 3/7/19 1941	Received by: [signature] 3/7 2220	Date/Time:
Relinquished by: [signature] 3/8 0220	Date/Time:	Received by: [signature]	Date/Time: 03/08/19 0100
[signature]	03/08/19 0510	[signature]	3/8/19 0510

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

Note: Combined External Chain of Custody and NJDEP Field Test Data Sheet

Alpha Analytical
320 Forbes Blvd
Mansfield, MA 02048-1806
Tel: 508-822-9300
Fax: 508-822-3288

AIR Chain-of-Custody - NJ

Date Rec'd in Lab: 3/8/19 | ALPHA Job#: L1909015

4 of 4 COCs

Client Contact Information
Company: Hillmann
Address:
City/State/Zip
Phone:
FAX:
Email:
Site Contact:
Site Contact Phone:

Project Information
Project Name: G6-2420
Project No:
Site/Location:
Project Manager:

Analysis Turn-Around Time
Standard (Specify)
Rush (Specify) 5 Day

NJ DEP Information
Bureau: Division: Contract No:

Report Information - Data Deliverables:
☐ FAX:
☐ ADEx ☐ Criteria Checker:
☐ EMail (standard pdf report)

Billing Information
☒ Same as Client Info PO #: G6-2420

ALPHA LAB ID (Lab Use Only)	Sample Identification	Sample Date(s)	Time Start (24 hr clock)	Time Stop (24 hr clock)	Canister Pressure in Field (Hg) (Start)	Canister Pressure in Field (Hg) (Stop)	Interior Temp. (F) (Start)	Interior Temp. (F) (Stop)	Outgoing Canister Pressure (Hg) (Note1)	Incoming Canister Pressure (Hg) (Note 2)	Flow Reg. ID	Can ID	Can Size (L)	Flow Controller Readout (ml/min) (Note1)	Batch Cert ID (Note 1)	Analysis: TO-15	Analysis: EPA 3C	Matrix: Indoor /Ambient Air	Matrix: Soil Gas
09015.19	~~AA-13~~ IA-13	3/6-3/7/19	1629	1715	-30.28	-7.52	64	64			01248	6813	6L			X		X	
.20	IA-14	1	1630	1715	-30.29	-4.73	64	64			0341	963	6L			X		X	

Custody Seals:
Outgoing Seal No: 611-615 (refer to crate seal)
Incoming Seal No: (if applicable)

Temperature (Fahrenheit)

	Ambient	Maximum	Minimum	
Start				
Stop				

Individual Preparing Canister/Containers and Laboratory Canister Certification
Name: Nick Lapack
Signature:

Pressure (inches of Hg)

	Ambient	Maximum	Minimum	
Start				
Stop				

Footnotes:
(1) Refer to equipment tags for these readings.
(2) Readings provided in data deliverable package.

Special Instructions/QC Requirements & Comments:

	Date/Time:		Date/Time:
Canisters Shipped by:	3/7/19 1752	Canisters Received by:	3/7/19 1752
Samples Relinquished by:	3/7/19 1941	Received by:	Date/Time:
Relinquished by:	Date/Time: 03/08/19 0510	Received by:	Date/Time: 03/08/19 0100
			3/8/19 0510

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

Note: Combined External Chain of Custody and NJDEP Field Test Data Sheet