

Periodic Review Report

2424 Hamburg Turnpike Site
BCP Site Number: C915296
Lackawanna, New York

May 2021
Revised June 2021

0345-021-001



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PERIODIC REVIEW REPORT

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1.0 EXECUTIVE SUMMARY

The 2424 Hamburg Turnpike Site (C915296) was a former automobile filling and service station. Prior to implementation of interim and final remedial measures, performed in accordance with the March 13, 2018 Decision Document issued by the Department of Environmental Conservation (NYSDEC), the Site exhibited localized volatile organic contaminants (VOCs) in groundwater, localized semi-volatile organic contaminants (SVOCs) in soil, and metals contaminants in soil. The Site has had two documented petroleum spills prior to entering the BCP program. Remedial activities completed prior to NYSDEC issuance of a Certificate of Completion in December 2019 included: removal of hydraulic lifts, petroleum underground storage tanks (USTs), and petroleum piping, and petroleum-impacted soil; and installation of a dual-phase extraction (DPE) system. The DPE system has removed over 5,400 pounds of VOCs from the soil and groundwater since system start-up in November 2019. It appears that the DPE system is effectively removing residual impacts. The Site is in compliance with the SMP, engineering, and institutional control requirements.

2.0 INTRODUCTION

Benchmark Environmental Engineering and Science, PLLC (Benchmark), in association with TurnKey Environmental Restoration, LLC (TurnKey) have prepared this Periodic Review Report (PRR), on behalf of 2424 Hamburg Turnpike, LLC to summarize the post-COC status of New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) Site No. C915296, located in the City of Lackawanna, Erie County, New York (Site; see Figure 1).

This PRR has been prepared for the 2424 Hamburg Turnpike Site in accordance with NYSDEC DER-10 *Technical Guidance for Site Investigation and Remediation* (May 2010). The NYSDEC's Institutional and Engineering Controls (IC/EC) Certification Form has been completed for the Site (see Appendix A). This PRR and the associated inspection forms have been completed for the December 24, 2019 to April 24, 2021 reporting period.

2.1 Site Background

The Site is located at 2424 Hamburg Turnpike, in the City of Lackawanna, County of Erie, New York and is identified as S.B.L No. 141.59-5-2 on the Erie County Tax Map. The 1.04-acre BCP Site is currently unoccupied with a vacant commercial building, bound by an active gasoline station to the north, a retail store to the south, vacant land to the east and Hamburg Turnpike (aka NY State Route 5) with vacant industrial land across Route 5 to the west (see Figure 2).

The Site was historically used as an automobile filling and service station (Stop-N-Gas) beginning in at least 1957 when three 10,000-gallon underground storage tanks (USTs) were installed on-site. Petroleum bulk storage (PBS) records indicate that the three USTs were closed/removed in 1994. Subsequent to the automobile filling and service station operations, the Site operated as a retail store. Historic Sanborn maps and aerial photographs indicate that prior to the current on-site development, the Site was vacant land from at least 1926 through at least 1951.

2.2 Remedial History

After acceptance into the NYS BCP in November 2015, a Remedial Investigation/ Alternatives Analysis (RI/AA) Work Plan and a Work Plan for Interim Remedial Measures were prepared and submitted to the NYSDEC for review and approval. Interim Remedial

Measures (IRM) activities were completed to address the removal of seven hydraulic lifts; excavation of grossly contaminated soil/fill; groundwater management; and excavation backfilling. A Remedial Action Work Plan (RAWP) was prepared and approved by the NYSDEC detailing the removal of petroleum piping, installation of a dual-phase extraction (DPE) system, and installation of site-wide cover system. The cleanup was successful in achieving the remedial objectives for the Site. The Site Management Plan (SMP) and Final Engineering Report (FER) were approved by the Department in December 2019. The NYSDEC issued a COC for the Site on December 24, 2019.

3.0 SITE OVERVIEW

Previous investigations identified environmental contamination on-Site that required remediation. 2424 Hamburg Turnpike, LLC entered into a Brownfield Cleanup Agreement (BCA) with the NYSDEC to remediate the Site. BCP investigations and remediation were completed between 2015 and 2019.

The remedial activities included:

- Removal and disposal of seven in-ground lifts from the former automotive repair building.
- Excavation and off-site disposal of non-hazardous soil/fill exceeding the Part 375 Commercial Soil Cleanup Objectives (SCOs) encountered during in-ground lift removal activities.
- Demolition of the on-Site shed located in the southeast corner of the site, and demolition of the elevated concrete floor slabs located north of the shed and at the northern portion of the site.
- Excavation and off-site disposal of petroleum piping and non-hazardous soil/fill exceeding the Part 375 Commercial SCOs between the former tank field and the fuel dispensing islands.
- Installation of a dual-phase extraction (DPE) system to mitigate remaining contamination within the subsurface soil/fill and the groundwater.
- Replacement of existing exterior asphalt/concrete cover with a new primarily asphalt pavement cover over approximately 0.73 acres.
- Placement of a vegetated soil cover with a minimum of 12 inches of imported borrow soil meeting Part 375 Commercial SCOs over approximately 0.3 acres.

- And replacement of approximately 2,500 square feet of 6-inch-thick reinforced concrete floor in the garage bay of the building

Documentation of the completed remedial action activities described above are provided in the FER.

Remedial activities were completed in October 2019. The FER and SMP for the Site were approved by the Department in December 2019. The Certificate of Completion (COC) was issued for the Site on December 24, 2019.

4.0 REMEDY PERFORMANCE

The Site is in compliance with the SMP. The cover system is maintained in accordance with the approved SMP. The completed IC/EC Certification form and site photographs are included in Appendix A and Appendix B, respectively.

Post-remedial inspections, groundwater monitoring, and operation and maintenance of the DPE system have been completed at the Site. Table 1 summarizes DPE system samples used for mass removal calculations. The DPE influent air will be sampled and reported in the next PRR.

Groundwater sample analytical results are summarized on Table 2, with representative groundwater isopotential shown on Figures 3 for the associated sampling event. The water level was not collected at MW-1 because the well could not be located and is believed to be buried with the cover soil. Laboratory analytical data reports are provided electronically in Appendix C.

5.0 SITE MANAGEMENT PLAN

The SMP was prepared for the Site and approved by the Department in December 2019. The SMP includes an Institutional and Engineering Control (IC/EC) Plan, Operation, Monitoring and Maintenance (OM&M) Plan, an Excavation Work Plan (EWP), and a copy of the Environmental Easements. A brief description of the components of the SMP is presented below.

5.1 Operation, Monitoring and Maintenance Plan

The OM&M Plan addresses three major remedial components: the DPE system; groundwater monitoring; and the annual inspection & certification.

5.1.1 DPE System

The DPE system is comprised of 14 DPE wells, 2-inch diameter HDPE conveyance piping, and the DPE remedial system. The DPE system extracts soil vapor and groundwater. The soil vapor is discharged through a stack at the top of the building. The groundwater is treated with a carbon filter and discharged to the publicly operated treatment works (POTW) in accordance with the sewer discharge permit.

Installation of the DPE system was completed between August and September 2019. System startup and optimization was completed between November and December 2019.

Routine DPE system monitoring was completed during the reporting period, including field measurements of system soil vapor influent air with photoionization detector (PID), vacuum readings on the DPE wells, effluent water flow meter readings, and routine system maintenance.

DPE System Operation

The DPE system has been operating since November 8, 2019 with one major shutdown for the winter (December 22, 2020 through April 19, 2021). The system shuts down periodically due to excessive water uptake as shown in Table 3 with the system restart notes. These brief shutdowns are generally related to large infiltration events and the system is restarted within a few days. It has recently come to our attention that the previously reported mass removal data was incorrect and under-reported because C5-C8 aliphatics, benzene, toluene, ethylbenzene, and xylene were not included in the sum of hydrocarbons. This has been revised on Table 1 and subsequently on Table 3. Since startup, a total of 5,746 pounds of vapor-phase petroleum hydrocarbons have been removed from the shallow vadose zone. Additionally, approximately 823,800 gallons of groundwater containing approximately 26 pounds of aqueous-phase volatile organic contaminants (VOCs) have been removed and treated (see Table 1). The primary purpose of the liquid phase removal is to depress the water table slightly and expose the petroleum “smear zone” for vacuum extraction. The carbon that treats the groundwater is replaced occasionally and the carbon recycling documentation is provided in Appendix D.

Table 3 provides a Summary of VOC mass removal from the vapor phase of the DPE system. A graph of the accumulative mass removed VS time is provided in Figure 4. As depicted in Figure 4 and Table 3, the DPE system mass removal rate dropped by more than 50% in December 2019 and continued to drop and maintain low PID readings and mass removal rates into June 2020. During this time, the DPE system was removing less than two pounds of VOCs per day on average. This also corresponds to cold and wet seasonal conditions when the shallow water table rises, and ground temperatures are low. The DPE system mass removal rate slowed to less than two pounds per day again in October 2020. Based on trends observed from December 2019 through June 2020 a request to temporarily shut down the system for the winter was submitted to the Department and was approved on December 21, 2020. The DPE system works well at this site in seasonally dry and warm conditions when impacted soil vapor is effectively being extracted from the shallow vadose zone, as evident from the cumulative mass of VOCs removed thus far.

5.1.2 Groundwater Monitoring

Groundwater monitoring has been completed annually since receiving the COC in December 2019. Groundwater monitoring was completed on October 15, 2020 for this reporting period. Groundwater monitoring logs are provided in Appendix E.

Groundwater analytical results are summarized on Table 2 and laboratory analytical data reports are provided in Appendix C. Analytical results show an increase in VOC concentrations at MW-2 since completion of the IRMs and remedial actions. The increased concentrations may be due to the DPE system drawing groundwater impacts past MW-2 into DPE-1 and DPE-10 as depicted in Figure 3. Nevertheless, total VOCs at MW-2 remain below 1 ppm.

5.1.3 Annual Inspection and Certification

Annual inspection and certification are required to verify, certify, and attest that the institutional controls (ICs) and/or engineering controls (ECs) employed at the Site:

- Are in place and effective;
- Are performing as designed;

- That nothing has occurred that would impair the ability of the controls to protect the public health and environment;
- That nothing has occurred that would constitute a violation or failure to comply with any operation and maintenance plan for such controls;
- Access is available to the Site to evaluate continued operation and maintenance of such controls.

The site inspection was completed on April 19, 2021 for the current reporting period. The property is being used in accordance with the commercial or industrial uses. No observable indication of intrusive activities was noted during the Site inspection. No observable use of groundwater was noted during the reporting period. No erosion of the cover system was noted during the site inspection.

The completed Site Management Periodic Review Report Notice – Institutional and Engineering Controls Certification Form is included in Appendix A. A photolog of the most recent Site inspection is included in Appendix B.

5.2 Excavation Work Plan

An Excavation Work Plan (EWP) was included in the approved-SMP for the Site. The EWP provides guidelines for the management of soil and fill material during any future intrusive activities.

No intrusive activities requiring management of on-Site soil or fill material; or the placement of backfill materials occurred during the monitoring period.

5.3 Engineering and Institutional Control Requirements and Compliance

As detailed in the Environmental Easements, several IC/ECs need to be maintained as a requirement of the BCAs for the Site.

5.3.1 Institutional Controls

- Groundwater-Use Restriction – the use of groundwater for potable and non-potable purposes is prohibited without water quality treatment as determined by the NYSDOH or County DOH;

- Land-Use Restriction: The controlled property may be used for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws; and
- Implementation of the SMP. Requires compliance with the Department-approved Site Management Plan

5.3.2 Engineering Controls

- All engineering controls must be operated, maintained, and inspected as specified in the SMP;
- Dual-Phase Extraction – Based on the remaining VOC impacts in unsaturated and shallow saturated soil, an in-situ dual-phase soil vapor and groundwater extraction system was selected as an engineering control to treat the remaining impacts. DPE is an in-situ remediation technology that uses a blower to remove both contaminated groundwater and hydrocarbon vapor (i.e., soil gas) from the subsurface. The DPE system is evaluated based on mass removal trends, groundwater depression, groundwater quality improvements, and soil sampling (prior to discontinuation). DPE System has been operated and maintained in compliance with the SMP; and
- Cover System – Exposure to remaining soil contamination at the Site is mitigated by a cover system placed over the Site. This cover system is comprised of a minimum of 12 inches of DER-10 compliant soil/stone material over demarcation layer, and hardscape elements of the redevelopment, including asphalt, concrete-covered sidewalks, and concrete building slabs. The cover system is evaluated by observing that the cover is intact without signs of excavation or erosion. The cover system, including buildings, concrete sidewalks, asphalt, and landscaped vegetated soil are being maintained in compliance with the SMP.

At the time of the site inspection, the Site was compliant with the engineering and institutional control requirements.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The Site is in compliance with the SMP, engineering, and institutional control requirements. Land use and groundwater use restrictions have been adhered to during this monitoring period. The DPE system has been effective at lower the groundwater table, treating impacted groundwater, and removing VOCs from the soil, evident from the mass removal trends on Table 3. The groundwater concentrations at MW-2 have gone up compared to pre-remediation concentrations, but we believe that this was caused by the DPE system pulling contamination past MW-2. We expect to see lower concentrations during next year's groundwater sampling event. The cover system has prevented contact to remaining contamination by providing a barrier that has not been breached during this monitoring period.

The SMP, engineering, and institutional controls have been effective and there are no changes to recommended. We plan on completing the next groundwater monitoring and a site inspection in the Fall of 2021 and will transmit the results in the next PRR report that will be submitted in May 2022.

7.0 DECLARATION/LIMITATION

A Benchmark principal engineer, licensed in New York and with direct supervisory responsibility conducted the annual site inspections for the 2424 Hamburg Turnpike Site BCP Site No. C915296, located in Lackawanna, New York, according to generally accepted practices. This report complied with the scope of work provided to 2424 Hamburg Turnpike, LLC by Benchmark-TurnKey.

This report has been prepared for the exclusive use of 2424 Hamburg Turnpike, LLC. The contents of this report are limited to information available at the time of the site inspection. The findings herein may be relied upon only at the discretion of 2424 Hamburg Turnpike, LLC. Use of or reliance upon this report or its findings by any other person or entity is prohibited without written permission of Benchmark-TurnKey.

TABLES



Table 1 - Summary of DPE System Samples used for Mass Removal

2424 Hamburg Turnpike
2424 Hamburg Turnpike LLC

Parameters ¹	DPE Vapor Sample 11-15-19	
	TO-15 VOCs (ug/m ³)	APH (ug/m ³)
n-Hexane	166,000	NA
Benzene	1,550	1,900
Cyclohexane	36,500	NA
Xylene (total)	119,000	117,000
2,2,4-Trimethylpentane	258,000	NA
Heptane	132,000	NA
Toluene	18,900	19,000
Ethylbenzene	26,900	27,000
4-Ethyltoluene	13,200	NA
1,3,5-Trimethylbenzene	17,400	NA
1,2,4-Trimethylbenzene	40,200	NA
Tentatively Identified Compounds (TICs) (ppbV)	317,000	NA
C5-C8 Aliphatics	NA	5,200,000
C9-C12 Aliphatics	NA	330,000
C9-C10 Aromatics	NA	160,000
Sum of APH (ug/m ³)	NA	5,854,900

Notes:

1) Only parameters detected in at least one sample are presented in this table.

APH = Air-phase Petroleum Hydrocarbons

NA = Not Analyzed

PID = 1260 ppm

Sum of Air-phase Petroleum Hydrocarbons (APH) 5,854,900 ug/m³

5,855 mg/m³

1 ppm on PID = 4.65 mg/m³

Parameters ¹	DPE GW Sample 11-12-19
CP-51 List VOCs (ug/L)	
Benzene	21
Toluene	230
Ethylbenzene	300
p/m-Xylene	1200
o-Xylene	420
n-Butylbenzene	20 J
sec-Butylbenzene	12 J
Isopropylbenzene	39
p-Isopropylbenzene	7.8 J
n-Isopropylbenzene	100
1,3,5-Trimethylbenzene	320
1,2,4-Trimethylbenzene	1100

Notes:

1) Only parameters detected in at least one sample are presented in this table.

J = Estimated value; result is less than the sample quantitation limit but greater than zero.

3,770	ugL	Sum of VOCs
3.77	mg/L	
823,774	gallons	
3,118,314	Liters	
11,755,420	mg	
25.92	pounds	



TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
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**2424 HAMBURG TURNPIKE SITE
BCP SITE NO. C915296
LACKAWANNA, NEW YORK**

Parameter ¹	NYSDEC Class GA GWQS ²	MW-2 7/27/16	MW-2 10/15/20 ³	MW-3 7/27/16	MW-3 10/15/20
<i>TCL Volatile Organic Compounds (VOCs) - ug/L</i>					
Acetone	50	12	ND	4.4 J	ND
Benzene	1	8.9	63 D	8.8	9.7
Carbon disulfide	60	0.4	ND	ND	ND
Cyclohexane	--	ND	83 D	ND	3.6 J
Ethylbenzene	5	6.3	270 D	3.5	5
Isopropylbenzene (Cumene)	5	ND	23 D	ND	3.2
m,p-Xylenes	5	NA	480 D	NA	5.6
Methyl tert-butyl ether	10	5.1	2.7 J D	0.5 J	ND
Methylcyclohexane	-	ND	30 D	0.97 J	ND
O-Xylene	5	NA	17 D	NA	2.1 J
Toluene	5	8.6	14 D	5	2.2 J
Xylenes, Total	5	40	497 D	9.5	7.7 J
<i>TOTAL VOCs</i>	--	81.30	982.7 D	32.67	31.4

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per NYSDEC TOGS 1.1.1 Class GA Groundwater Quality Standards (GWQS).
3. Analyzed at a dilution factor of 2.

Definitions:

D = Concentration of analyte was quantified from diluted analysis.
 ND = Parameter not detected above laboratory detection limit.
 NA = Not Analyzed
 "--" = No GWQS available.
 J = Estimated value; result is less than the sample quantitation limit but greater than zero.
 ug/L = micrograms per liter

Exceeds NYSDEC Class GA GWQS



Table 3 - Summary of DPE System VOC Mass Removal

2424 Hamburg Turnpike
2424 Hamburg Turnpike LLC

Date	Influent (Untreated) PID Reading (ppm)	Corrected Influent Concentration ¹ (mg/m3)	Corrected Influent Concentration1 (lb/cf)	Air Flow Rate (CFM)	Volume of Air Processed Since Last Monitoring Period (CF)	VOCs Removed Since Last Monitoring Period (lb)	Rate of VOC Removal (lb/day)	Total VOC Removal to Date (lb)	Notes
11/08/19	808	3757	2.346E-04	194	0	0	0.0	0	
11/11/19	1,146	5329	3.327E-04	195	771572	218.8	79.6	218.83	
11/11/19	1,240	5766	3.600E-04	195	11714	4.1	97.4	222.89	
11/12/19	1,270	5906	3.687E-04	195	304568	111.0	102.4	333.84	
11/12/19	770	3581	2.235E-04	197	11773	3.5	83.7	337.33	
11/13/19	610	2837	1.771E-04	197	260055	52.1	56.8	389.42	
11/13/19	900	4185	2.613E-04	196	47188	10.3	62.1	399.76	
11/14/19	730	3395	2.119E-04	197	200448	47.4	67.0	447.18	
11/14/19	960	4464	2.787E-04	196	11776	2.9	69.3	450.07	
11/15/19	1,550	7208	4.499E-04	196	282049	102.8	102.8	552.83	
11/18/19	920	4278	2.671E-04	196	858158	307.7	101.1	860.48	
11/20/19	400	1860	1.161E-04	196	553069	106.0	54.1	966.45	
11/21/19	570	2651	1.655E-04	196	306107	43.1	39.8	1009.54	
11/21/19	200	930	5.806E-05	198	23625	2.6	31.7	1012.18	
11/22/19	79	367	2.293E-05	197	284349	11.5	11.5	1023.70	
11/22/19	370	1721	1.074E-04	196	23594	1.5	18.5	1025.24	
11/25/19	580	2697	1.684E-04	196	811952	112.0	38.9	1137.20	
11/26/19	370	1721	1.074E-04	196	271059	37.4	39.0	1174.57	
11/26/19	750	3488	2.177E-04	195	23480	3.8	45.8	1178.39	
11/27/19	810	3767	2.351E-04	196	-175748	-39.8	63.7	1138.59	
12/02/19	380	1767	1.103E-04	194	1848967	319.4	48.5	1457.95	
12/02/19	1,080	5022	3.135E-04	193	11631	2.5	59.2	1460.42	
12/04/19	1,000	4650	2.903E-04	193	602367	181.9	83.9	1642.27	
12/09/19	860	3999	2.496E-04	193	1354356	365.6	75.0	2007.91	
12/09/19	450	2093	1.306E-04	194	11611	2.2	53.0	2010.12	
12/11/19	420	1953	1.219E-04	194	570514	72.0	35.3	2082.16	
12/18/19	240	1116	6.967E-05	193	1962692	188.0	26.7	2270.18	
12/18/19	218	1014	6.328E-05	194	11614	0.8	18.5	2270.95	
12/20/19	206	958	5.980E-05	195	513340	31.6	17.2	2302.54	
01/02/20	150	698	4.354E-05	194	2709448	140.0	14.5	2442.54	Restart system
01/02/20	40	186	1.161E-05	194	11648	0.3	7.7	2442.86	
01/02/20	20	93	5.806E-06	193	23237	0.2	2.4	2443.07	
01/03/20	11	51	3.193E-06	194	244183	1.1	1.3	2444.16	
01/03/20	73	339	2.119E-05	195	11681	0.1	3.4	2444.31	
01/06/20	120	558	3.483E-05	194	830025	23.3	7.9	2467.56	
01/06/20	132	614	3.832E-05	194	11655	0.4	10.2	2467.98	
01/08/20	168	781	4.877E-05	195	559723	24.4	12.2	2492.36	
01/14/20	125	581	3.629E-05	195	1647525	70.1	11.9	2562.42	
01/21/20	122	567	3.542E-05	195	1989395	71.3	10.1	2633.74	
01/27/20	90	419	2.613E-05	195	1650028	50.8	8.6	2684.52	
02/05/20	68	316	1.974E-05	194	2534268	58.1	6.4	2742.63	
02/13/20	10	45	2.787E-06	196	1474046	16.6	3.2	2759.24	Restart System
02/25/20	25	115	7.170E-06	195	70292	0.3	1.4	2759.59	Restart System
02/28/20	11	53	3.280E-06	195	397638	2.1	1.5	2761.66	Restart System
03/04/20	13	60	3.774E-06	195	1191585	4.2	1.0	2765.87	Restart System
03/11/20	9	42	2.613E-06	195	1940228	6.2	0.9	2772.06	
03/17/20	62	287	1.791E-05	195	1673771	17.2	2.9	2789.24	
03/20/20	30	140	8.767E-06	195	737694	9.8	3.7	2799.08	Restart System
04/14/20	13	58	3.629E-06	196	46947	0.3	1.7	2799.37	Restart System
04/15/20	20	92	5.748E-06	195	363689	1.7	1.3	2801.07	
04/24/20	20	92	5.748E-06	195	23416	0.1	1.6	2801.21	Restart System
04/27/20	70	324	2.023E-05	195	949326	12.3	3.7	2813.54	
05/01/20	20	94	5.864E-06	195	772197	10.1	3.7	2823.62	Restart System
05/01/20	6	27	1.713E-06	196	35153	0.1	1.1	2823.75	
05/04/20	43	202	1.260E-05	195	868599	6.2	2.0	2829.97	
05/06/20	64	299	1.869E-05	195	609444	9.5	4.4	2839.50	
05/06/20	72	334	2.087E-05	195	11725	0.2	5.6	2839.73	
05/12/20	78	361	2.253E-05	196	1630571	35.4	6.1	2875.12	
05/19/20	25	114	7.112E-06	196	1949462	28.9	4.2	2904.00	
05/19/20	38	178	1.109E-05	196	35231	0.3	2.6	2904.33	
06/03/20	4	20	1.248E-06	197	894773	5.5	1.7	2909.85	Restart System
06/03/20	4	20	1.248E-06	197	70853	0.1	0.4	2909.93	Turn System off too much water
06/04/20	4	16	1.016E-06	195	35267	0.0	0.3	2909.97	Restart system. Turn System off too much water
06/12/20	8	37	2.293E-06	195	46776	0.1	0.5	2910.05	Restart system
06/15/20	17	80	5.022E-06	196	854702	3.1	1.0	2913.18	
06/15/20	28	131	8.157E-06	195	11722	0.1	1.9	2913.25	
06/17/20	80	372	2.322E-05	196	551678	8.7	4.4	2921.91	
06/17/20	130	606	3.785E-05	195	11726	0.4	8.6	2922.27	
06/23/20	130	606	3.782E-05	196	1675125	63.4	10.6	2985.65	
06/24/20	84	388	2.424E-05	195	257972	8.0	8.7	2993.66	Turned system off for carbon change out
06/25/20	84	390	2.433E-05	195	35079	0.9	6.8	2994.51	Restart system
06/30/20	1,500	6975	4.354E-04	195	1449474	333.2	64.5	3327.72	
07/02/20	1,500	6975	4.354E-04	195	491846	214.2	122.4	3541.88	
07/02/20	1,500	6975	4.354E-04	195	81999	35.7	122.4	3577.59	
07/08/20	1,240	5766	3.600E-04	195	1640811	652.5	111.9	4230.14	
07/14/20	362	1683	1.051E-04	195	1664251	387.0	65.4	4617.11	
07/14/20	393	1827	1.141E-04	195	11714	1.3	30.8	4618.40	
08/09/20	100	465	2.906E-05	194	6020079	430.9	20.0	5049.26	Restart system
08/09/20	76	355	2.215E-05	195	11655	0.3	7.2	5049.56	
08/16/20	87	403	2.514E-05	195	1965991	46.5	6.6	5096.04	
08/22/20	87	403	2.514E-05	196	1711995	43.0	7.1	5139.08	
08/22/20	112	522	3.260E-05	195	11717	0.3	8.1	5139.42	
08/29/20	186	864	5.391E-05	195	1918211	83.0	12.1	5222.39	
09/05/20	205	953	5.948E-05	195	1966587	111.5	15.9	5333.88	
09/12/20	139	644	4.021E-05	195	1944551	96.9	14.0	5430.80	



Table 3 - Summary of DPE System VOC Mass Removal

2424 Hamburg Turnpike
2424 Hamburg Turnpike LLC

Date	Influent (Untreated) PID Reading (ppm)	Corrected Influent Concentration ¹ (mg/m3)	Corrected Influent Concentration1 (lb/cf)	Air Flow Rate (CFM)	Volume of Air Processed Since Last Monitoring Period (CF)	VOCs Removed Since Last Monitoring Period (lb)	Rate of VOC Removal (lb/day)	Total VOC Removal to Date (lb)	Notes
09/20/20	161	748	4.671E-05	195	2226815	96.8	12.2	5527.57	
09/27/20	188	876	5.466E-05	196	1993822	101.1	14.3	5628.63	
09/27/20	309	1435	8.955E-05	197	35292	2.5	20.4	5631.17	
10/01/20	4	17	1.045E-06	195	763344	34.6	12.8	5665.75	
10/03/20	22	104	6.503E-06	196	538688	2.0	1.1	5667.78	
10/10/20	24	113	7.025E-06	196	1972751	13.3	1.9	5681.13	
10/18/20	26	121	7.577E-06	196	2256390	16.5	2.1	5697.60	
10/18/20	20	94	5.893E-06	195	23471	0.2	1.9	5697.76	
10/25/20	14	66	4.151E-06	194	1668863	8.4	1.4	5706.14	
10/25/20	7	32	1.974E-06	195	11660	0.0	0.9	5706.18	
10/31/20	6	29	1.800E-06	196	1617861	3.1	0.5	5709.23	
11/07/20	4	17	1.074E-06	196	2080529	3.0	0.4	5712.22	
11/19/20	9	44	2.729E-06	196	3352365	6.4	0.5	5718.59	
12/03/20	4	19	1.161E-06	195	1550175	3.0	0.5	5721.61	
12/11/20	3	12	7.548E-07	196	4553819	4.4	0.3	5725.97	
12/17/20	2	11	6.677E-07	196	1681895	1.2	0.2	5727.17	
12/22/20	3	12	7.548E-07	195	1433459	1.0	0.2	5728.19	System shut down for winter
04/19/21	20	91	5.690E-06	194	35089	0.1	0.9	5728.30	System Startup
04/30/21	21	99	6.183E-06	194	3033373	18.0	1.7	5746.31	

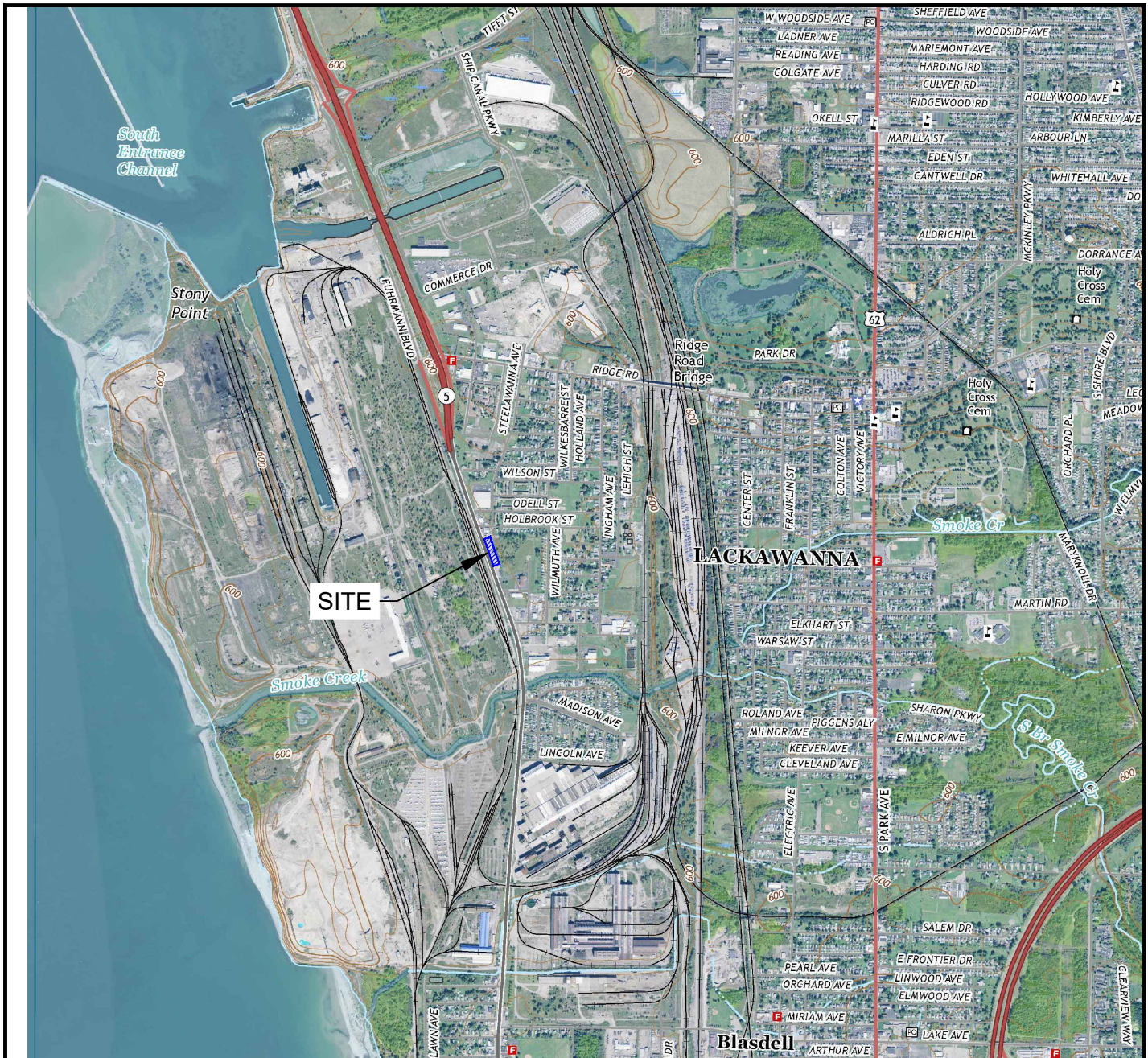
Notes:

1. The estimated mass of contamination recovered is based on ratio of the sum of the volatile organic carbons (VOCs) as measured by a vapor sample collected on November 15, 2019 with a summa canister compared to a contemporaneous PID reading. The average concentration of VOCs was 4.65 mg/m3 per 1 ppm PID reading.

2) VOCs = volatile organic compounds; ppm= parts per million; mg/m3 = milligrams per cubic meter; lb/cf = pounds of OCs per cubic foot; in Hg = inches of mercury; CFM = cubic feet per minute; CF = cubic feet; lb = pounds

FIGURES

FIGURE 1



APPROXIMATE SCALE 1" = 2,500'
BASE MAP IS USGS 2016 BUFFALO SE QUADRANGLE.



SITE LOCATION & VICINITY MAP

PERIODIC REVIEW REPORT

2424 HAMBURG TURNPIKE SITE

BCP SITE NO. C915296

LACKAWANNA, NEW YORK

PREPARED FOR

2424 HAMBURG TURNPIKE, LLC



2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

PROJECT NO.: 0345-021-001

DATE:

DRAFTED BY: RFL/CCB

DISCLAIMER:

PROPERTY OF BENCHMARK EES, PLLC. IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK EES, PLLC.



SITE PLAN (AERIAL)

PERIODIC REVIEW REPORT
2424 HAMBURG TURNPIKE
BCP SITE NO. C915296
LACKAWANNA, NEW YORK

2424 HAMBURG TURNPIKE, LLC

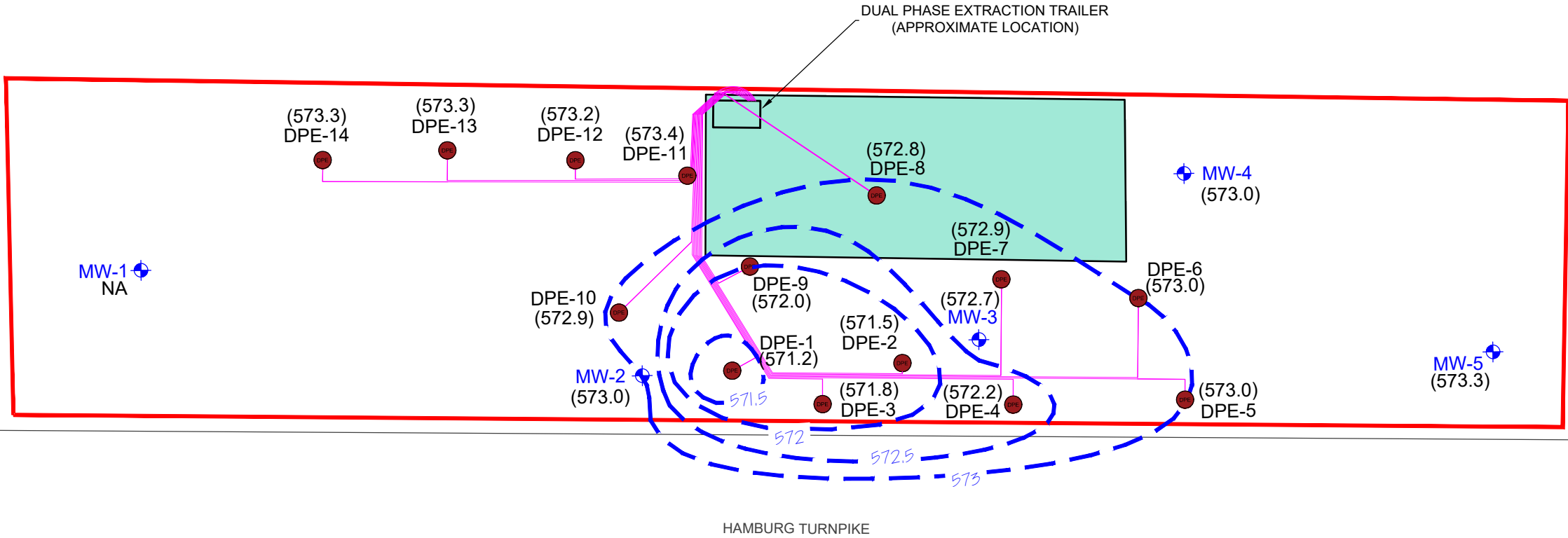
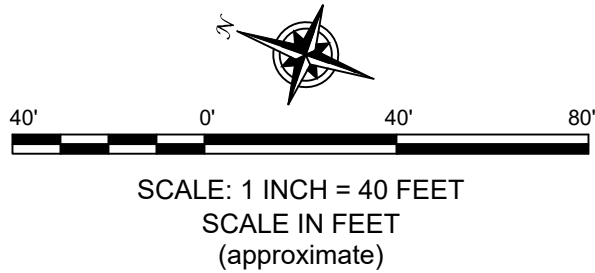
BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 858-0599

0345-021-001

FIGURE 2

DISCLAIMER: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT PROPERTY OF BENCHMARK EES, PLLC. IMPORTANT: TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK EES, PLLC.



GROUNDWATER ISOPOTENTIAL MAP

OCTOBER 15, 2020
PERIODIC REVIEW REPORT
2424 HAMBURG TURNPIKE SITE
BCP SITE NO. C915296
LACKAWANNA, NEW YORK
PREPARED FOR
2424 HAMBURG TURNPIKE, LLC

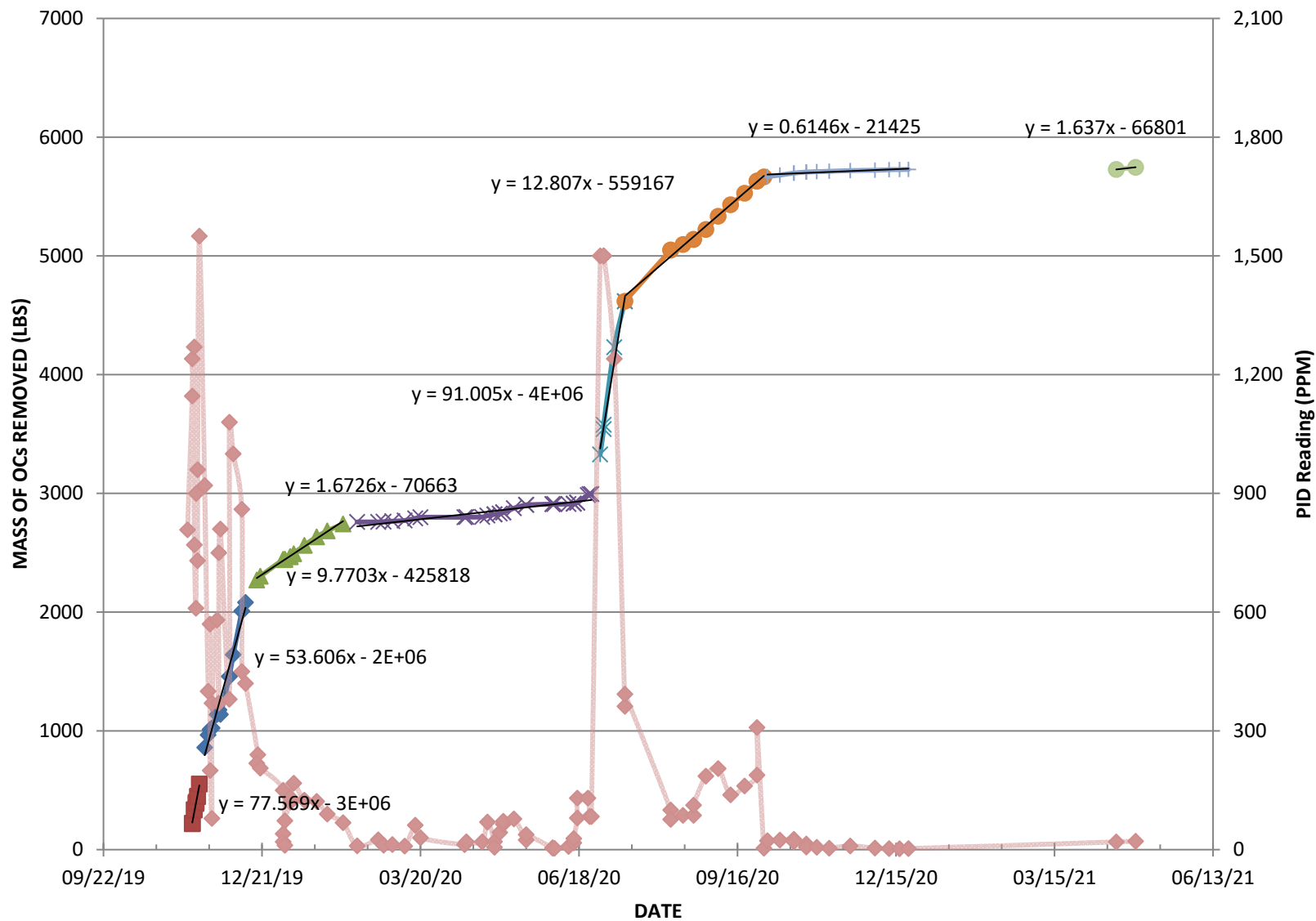


JOB NO.: 0345-021-001

FIGURE 3

DISCLAIMER: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT PROPERTY OF BENCHMARK EES, PLLC. IMPORTANT: TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK EES, PLLC.

FIGURE 4
2424 Hamburg Turnpike
Estimated Mass Removal



APPENDIX A

NYSDEC CERTIFICATION AND NOTIFICATION FORMS



Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form



Site No. **C915296** **Site Details** **Box 1**

Site Name 2424 Hamburg Turnpike

Site Address: 2424 Hamburg Turnpike Zip Code: 14218
City/Town: Lackawanna
County: Erie
Site Acreage: 1.050

Reporting Period: December 24, 2019 to April 24, 2021

- | | YES | NO |
|--|-------------------------------------|-------------------------------------|
| 1. Is the information above correct? | ☒ | ☐ |
| If NO, include handwritten above or on a separate sheet. | | |
| 2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period? | ☐ | ☒ |
| 3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))? | ☐ | ☒ |
| 4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period? | ☐ | ☒ |
| If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form. | | |
| 5. Is the site currently undergoing development? | ☐ | ☒ |

- | | YES | NO |
|--|-------------------------------------|--------------------------|
| 6. Is the current site use consistent with the use(s) listed below?
Commercial and Industrial | ☒ | ☐ |
| 7. Are all ICs in place and functioning as designed? | ☒ | ☐ |

**IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and
DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

Box 2A

YES NO

8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?

☐

If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.

9. Are the assumptions in the Qualitative Exposure Assessment still valid?
(The Qualitative Exposure Assessment must be certified every five years)

☐

If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.

SITE NO. C915296**Box 3****Description of Institutional Controls**ParcelOwnerInstitutional Control**141.59-5-2**

2424 Hamburg Turnpike, LLC

Ground Water Use Restriction
Landuse Restriction
Site Management Plan
O&M Plan
IC/EC Plan

Monitoring Plan
Building Use Restriction

Box 4**Description of Engineering Controls**ParcelEngineering Control**141.59-5-2**

Vapor Mitigation
Air Sparging/Soil Vapor Extraction
Cover System

Dual-phase extraction system and site cover

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

- a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the Engineering Control certification;
- b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO



2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

- (a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;
- (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;
- (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;
- (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and
- (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES NO



IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. C915296

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 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 Michael Lesakowski at 2558 Hamburg Turnpike
print name print business address Buffalo, NY 14218

am certifying as Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

[Signature]
Signature of Owner, Remedial Party, or Designated Representative
Rendering Certification

5/19/21
Date

EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 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 Thomas H. Forbes at Benchmark Civil / Environmental Engineering & Geology, LLC
print name print business address
2553 Hamburg Tpke
Buffalo, NY 14218

am certifying as a Professional Engineer for the owner
(Owner or Remedial Party)

Thomas H. Forbes
Signature of Professional Engineer, for the Owner or
Remedial Party, Rendering Certification



4-20-21
Date

APPENDIX B

SITE PHOTO LOG

SITE PHOTOGRAPHS

Photo 1:



Photo 2:



Photo 3:



Photo 4:



Photo 1: 2424 Hamburg Turnpike Building (Looking SE)

Photo 2: Asphalt cover (Looking NE)

Photo 3: Vegetated soil cover (Looking N)

Photo 4: Vegetated soil cover (Looking SW)

SITE PHOTOGRAPHS

Photo 5:



Photo 6:



Photo 7:



Photo 8:



Photo 5: South half of building with concrete floor (Looking NE)

Photo 6: North half of building with garage doors and concrete floor (Looking NE)

Photo 7: Dual phase extraction system manifold piping (Looking E)

Photo 8: Dual phase extraction system (Looking NE)

APPENDIX C

LABORATORY ANALYTICAL DATA REPORTS



ANALYTICAL REPORT

Lab Number:	L2044380
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Caroline Bukowski
Phone:	(716) 856-0599
Project Name:	2424 HAMBURG TURNPIKE
Project Number:	B0345-015-001
Report Date:	10/28/20

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001

Lab Number: L2044380
Report Date: 10/28/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2044380-01	MW-2	WATER	BUFFALO, NY	10/15/20 11:45	10/15/20
L2044380-02	MW-3	WATER	BUFFALO, NY	10/15/20 12:30	10/15/20

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001

Lab Number: L2044380
Report Date: 10/28/20

Case Narrative

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

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

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

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

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

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

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001

Lab Number: L2044380
Report Date: 10/28/20

Case Narrative (continued)

Report Revision

October 28, 2020: At the client's request, L2044380-01 was re-analyzed on a lower dilution for Volatile Organics. The results of the re-analysis are reported.

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

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:

Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative

Date: 10/28/20

ORGANICS

VOLATILES

Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L2044380**Project Number:** B0345-015-001**Report Date:** 10/28/20**SAMPLE RESULTS**

Lab ID: L2044380-01 D

Date Collected: 10/15/20 11:45

Client ID: MW-2

Date Received: 10/15/20

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 10/28/20 10:52

Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	5.0	1.4	2
1,1-Dichloroethane	ND		ug/l	5.0	1.4	2
Chloroform	ND		ug/l	5.0	1.4	2
Carbon tetrachloride	ND		ug/l	1.0	0.27	2
1,2-Dichloropropane	ND		ug/l	2.0	0.27	2
Dibromochloromethane	ND		ug/l	1.0	0.30	2
1,1,2-Trichloroethane	ND		ug/l	3.0	1.0	2
Tetrachloroethene	ND		ug/l	1.0	0.36	2
Chlorobenzene	ND		ug/l	5.0	1.4	2
Trichlorofluoromethane	ND		ug/l	5.0	1.4	2
1,2-Dichloroethane	ND		ug/l	1.0	0.26	2
1,1,1-Trichloroethane	ND		ug/l	5.0	1.4	2
Bromodichloromethane	ND		ug/l	1.0	0.38	2
trans-1,3-Dichloropropene	ND		ug/l	1.0	0.33	2
cis-1,3-Dichloropropene	ND		ug/l	1.0	0.29	2
Bromoform	ND		ug/l	4.0	1.3	2
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	0.33	2
Benzene	63		ug/l	1.0	0.32	2
Toluene	14		ug/l	5.0	1.4	2
Ethylbenzene	270		ug/l	5.0	1.4	2
Chloromethane	ND		ug/l	5.0	1.4	2
Bromomethane	ND		ug/l	5.0	1.4	2
Vinyl chloride	ND		ug/l	2.0	0.14	2
Chloroethane	ND		ug/l	5.0	1.4	2
1,1-Dichloroethene	ND		ug/l	1.0	0.34	2
trans-1,2-Dichloroethene	ND		ug/l	5.0	1.4	2
Trichloroethene	ND		ug/l	1.0	0.35	2
1,2-Dichlorobenzene	ND		ug/l	5.0	1.4	2

Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L2044380**Project Number:** B0345-015-001**Report Date:** 10/28/20**SAMPLE RESULTS**

Lab ID: L2044380-01 D

Date Collected: 10/15/20 11:45

Client ID: MW-2

Date Received: 10/15/20

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	5.0	1.4	2
1,4-Dichlorobenzene	ND		ug/l	5.0	1.4	2
Methyl tert butyl ether	2.7	J	ug/l	5.0	1.4	2
p/m-Xylene	480		ug/l	5.0	1.4	2
o-Xylene	17		ug/l	5.0	1.4	2
cis-1,2-Dichloroethene	ND		ug/l	5.0	1.4	2
Styrene	ND		ug/l	5.0	1.4	2
Dichlorodifluoromethane	ND		ug/l	10	2.0	2
Acetone	ND		ug/l	10	2.9	2
Carbon disulfide	ND		ug/l	10	2.0	2
2-Butanone	ND		ug/l	10	3.9	2
4-Methyl-2-pentanone	ND		ug/l	10	2.0	2
2-Hexanone	ND		ug/l	10	2.0	2
Bromochloromethane	ND		ug/l	5.0	1.4	2
1,2-Dibromoethane	ND		ug/l	4.0	1.3	2
1,2-Dibromo-3-chloropropane	ND		ug/l	5.0	1.4	2
Isopropylbenzene	23		ug/l	5.0	1.4	2
1,2,3-Trichlorobenzene	ND		ug/l	5.0	1.4	2
1,2,4-Trichlorobenzene	ND		ug/l	5.0	1.4	2
Methyl Acetate	ND		ug/l	4.0	0.47	2
Cyclohexane	83		ug/l	20	0.54	2
1,4-Dioxane	ND		ug/l	500	120	2
Freon-113	ND		ug/l	5.0	1.4	2
Methyl cyclohexane	30		ug/l	20	0.79	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	83		70-130

Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L2044380**Project Number:** B0345-015-001**Report Date:** 10/28/20**SAMPLE RESULTS**

Lab ID: L2044380-02
 Client ID: MW-3
 Sample Location: BUFFALO, NY

Date Collected: 10/15/20 12:30
 Date Received: 10/15/20
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 10/20/20 10:22
 Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	9.7		ug/l	0.50	0.16	1
Toluene	2.2	J	ug/l	2.5	0.70	1
Ethylbenzene	5.0		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L2044380**Project Number:** B0345-015-001**Report Date:** 10/28/20**SAMPLE RESULTS****Lab ID:** L2044380-02**Date Collected:** 10/15/20 12:30**Client ID:** MW-3**Date Received:** 10/15/20**Sample Location:** BUFFALO, NY**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	5.6		ug/l	2.5	0.70	1
o-Xylene	2.1	J	ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	3.2		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	3.6	J	ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	96		70-130

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001

Lab Number: L2044380
Report Date: 10/28/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/20/20 09:13
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1424356-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001

Lab Number: L2044380
Report Date: 10/28/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/20/20 09:13
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1424356-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001

Lab Number: L2044380
Report Date: 10/28/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/20/20 09:13
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1424356-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	100		70-130

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001

Lab Number: L2044380
Report Date: 10/28/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/28/20 08:49
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1427536-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001

Lab Number: L2044380
Report Date: 10/28/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/28/20 08:49
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1427536-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001

Lab Number: L2044380
Report Date: 10/28/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/28/20 08:49
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1427536-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 2424 HAMBURG TURNPIKE

Lab Number: L2044380

Project Number: B0345-015-001

Report Date: 10/28/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1424356-3 WG1424356-4								
Methylene chloride	93		96		70-130	3		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	110		100		63-132	10		20
1,2-Dichloropropane	99		98		70-130	1		20
Dibromochloromethane	90		96		63-130	6		20
1,1,2-Trichloroethane	92		97		70-130	5		20
Tetrachloroethene	65	Q	66	Q	70-130	2		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	130		130		62-150	0		20
1,2-Dichloroethane	99		100		70-130	1		20
1,1,1-Trichloroethane	110		100		67-130	10		20
Bromodichloromethane	98		100		67-130	2		20
trans-1,3-Dichloropropene	88		89		70-130	1		20
cis-1,3-Dichloropropene	92		94		70-130	2		20
Bromoform	82		85		54-136	4		20
1,1,2,2-Tetrachloroethane	92		94		67-130	2		20
Benzene	100		100		70-130	0		20
Toluene	98		100		70-130	2		20
Ethylbenzene	100		100		70-130	0		20
Chloromethane	84		80		64-130	5		20
Bromomethane	110		110		39-139	0		20
Vinyl chloride	100		100		55-140	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001

Lab Number: L2044380

Report Date: 10/28/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1424356-3 WG1424356-4								
Chloroethane	120		120		55-138	0		20
1,1-Dichloroethene	95		97		61-145	2		20
trans-1,2-Dichloroethene	100		98		70-130	2		20
Trichloroethene	99		100		70-130	1		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	110		100		70-130	10		20
Methyl tert butyl ether	90		95		63-130	5		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		105		70-130	5		20
cis-1,2-Dichloroethene	100		95		70-130	5		20
Styrene	100		105		70-130	5		20
Dichlorodifluoromethane	98		97		36-147	1		20
Acetone	82		89		58-148	8		20
Carbon disulfide	97		96		51-130	1		20
2-Butanone	72		98		63-138	31	Q	20
4-Methyl-2-pentanone	74		81		59-130	9		20
2-Hexanone	72		80		57-130	11		20
Bromochloromethane	96		100		70-130	4		20
1,2-Dibromoethane	92		97		70-130	5		20
1,2-Dibromo-3-chloropropane	75		84		41-144	11		20
Isopropylbenzene	100		100		70-130	0		20
1,2,3-Trichlorobenzene	91		92		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001

Lab Number: L2044380

Report Date: 10/28/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1424356-3 WG1424356-4								
1,2,4-Trichlorobenzene	93		93		70-130	0		20
Methyl Acetate	82		86		70-130	5		20
Cyclohexane	95		93		70-130	2		20
1,4-Dioxane	86		94		56-162	9		20
Freon-113	110		110		70-130	0		20
Methyl cyclohexane	100		100		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		98		70-130
Toluene-d8	97		99		70-130
4-Bromofluorobenzene	97		94		70-130
Dibromofluoromethane	98		102		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 2424 HAMBURG TURNPIKE

Lab Number: L2044380

Project Number: B0345-015-001

Report Date: 10/28/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1427536-3 WG1427536-4								
Methylene chloride	110		100		70-130	10		20
1,1-Dichloroethane	110		100		70-130	10		20
Chloroform	110		110		70-130	0		20
Carbon tetrachloride	120		110		63-132	9		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	100		99		63-130	1		20
1,1,2-Trichloroethane	93		95		70-130	2		20
Tetrachloroethene	100		98		70-130	2		20
Chlorobenzene	97		96		75-130	1		20
Trichlorofluoromethane	110		100		62-150	10		20
1,2-Dichloroethane	110		100		70-130	10		20
1,1,1-Trichloroethane	110		100		67-130	10		20
Bromodichloromethane	110		110		67-130	0		20
trans-1,3-Dichloropropene	93		91		70-130	2		20
cis-1,3-Dichloropropene	100		100		70-130	0		20
Bromoform	100		100		54-136	0		20
1,1,2,2-Tetrachloroethane	88		89		67-130	1		20
Benzene	110		100		70-130	10		20
Toluene	98		96		70-130	2		20
Ethylbenzene	98		95		70-130	3		20
Chloromethane	100		100		64-130	0		20
Bromomethane	120		110		39-139	9		20
Vinyl chloride	120		110		55-140	9		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001

Lab Number: L2044380

Report Date: 10/28/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1427536-3 WG1427536-4								
Chloroethane	150	Q	140	Q	55-138	7		20
1,1-Dichloroethene	110		98		61-145	12		20
trans-1,2-Dichloroethene	110		100		70-130	10		20
Trichloroethene	110		110		70-130	0		20
1,2-Dichlorobenzene	95		97		70-130	2		20
1,3-Dichlorobenzene	100		99		70-130	1		20
1,4-Dichlorobenzene	96		98		70-130	2		20
Methyl tert butyl ether	100		100		63-130	0		20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	110		100		70-130	10		20
Styrene	95		95		70-130	0		20
Dichlorodifluoromethane	91		82		36-147	10		20
Acetone	110		110		58-148	0		20
Carbon disulfide	110		99		51-130	11		20
2-Butanone	110		110		63-138	0		20
4-Methyl-2-pentanone	88		90		59-130	2		20
2-Hexanone	82		86		57-130	5		20
Bromochloromethane	120		110		70-130	9		20
1,2-Dibromoethane	94		92		70-130	2		20
1,2-Dibromo-3-chloropropane	86		85		41-144	1		20
Isopropylbenzene	96		95		70-130	1		20
1,2,3-Trichlorobenzene	90		96		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001

Lab Number: L2044380

Report Date: 10/28/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1427536-3 WG1427536-4								
1,2,4-Trichlorobenzene	94		95		70-130	1		20
Methyl Acetate	100		100		70-130	0		20
Cyclohexane	100		95		70-130	5		20
1,4-Dioxane	84		82		56-162	2		20
Freon-113	110		100		70-130	10		20
Methyl cyclohexane	100		98		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		93		70-130
Toluene-d8	90		88		70-130
4-Bromofluorobenzene	92		90		70-130
Dibromofluoromethane	100		98		70-130

Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L2044380**Project Number:** B0345-015-001**Report Date:** 10/28/20**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2044380-01A	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L2044380-01B	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L2044380-01C	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L2044380-02A	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L2044380-02B	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L2044380-02C	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)

Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L2044380**Project Number:** B0345-015-001**Report Date:** 10/28/20

GLOSSARY

Acronyms

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

Report Format: DU Report with 'J' Qualifiers

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001

Lab Number: L2044380
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Footnotes

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

Terms

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

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

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. 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 method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: DU Report with 'J' Qualifiers



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Project Number: B0345-015-001

Lab Number: L2044380
Report Date: 10/28/20

Data Qualifiers

the identification is based on a mass spectral library search.

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

Report Format: DU Report with 'J' Qualifiers



Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001

Lab Number: L2044380
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REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

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.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 17

Published Date: 4/28/2020 9:42:21 AM

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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, Naphthalene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, 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.**EPA TO-12** Non-methane organics**EPA 3C** Fixed gases**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, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg. **EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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



ANALYTICAL REPORT

Lab Number:	L1954931
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Brock Greene
Phone:	(716) 856-0599
Project Name:	2424 HAMBURG TURNPIKE
Project Number:	B0345-015-001-012
Report Date:	11/22/19

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

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

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



Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Lab Number: L1954931
Report Date: 11/22/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1954931-01	INFLUENT AIR	SOIL_VAPOR	Not Specified	11/15/19 10:05	11/15/19

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Lab Number: L1954931
Report Date: 11/22/19

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: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Lab Number: L1954931
Report Date: 11/22/19

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on November 13, 2019. The canister certification results are provided as an addendum.

L1954931-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

The WG1312081-3 LCS recoveries for benzyl chloride (146%), n-butylbenzene (132%) and 1,2,4-trichlorobenzene (132%) are above the upper 130% acceptance limit. All samples associated with this LCS do not have reportable amounts of these analytes.

Petroleum Hydrocarbons in Air

L1954931-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

All significant concentrations of non-petroleum VOCs detected in the TO-15 analysis were subtracted from the corresponding hydrocarbon ranges.

WG1312083-5: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

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: 11/22/19

AIR

Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L1954931**Project Number:** B0345-015-001-012**Report Date:** 11/22/19**SAMPLE RESULTS**

Lab ID: L1954931-01 D

Client ID: INFLUENT AIR

Sample Location:

Date Collected: 11/15/19 10:05

Date Received: 11/15/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil_Vapor

Analytical Method: 48,TO-15

Analytical Date: 11/22/19 03:14

Analyst: EW

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	294.	--	ND	1450	--		1471
Chloromethane	ND	294.	--	ND	607	--		1471
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	294.	--	ND	2050	--		1471
Vinyl chloride	ND	294.	--	ND	752	--		1471
1,3-Butadiene	ND	294.	--	ND	650	--		1471
Bromomethane	ND	294.	--	ND	1140	--		1471
Chloroethane	ND	294.	--	ND	776	--		1471
Ethyl Alcohol	ND	7350	--	ND	13800	--		1471
Vinyl bromide	ND	294.	--	ND	1290	--		1471
Acetone	ND	1470	--	ND	3490	--		1471
Trichlorofluoromethane	ND	294.	--	ND	1650	--		1471
iso-Propyl Alcohol	ND	735.	--	ND	1810	--		1471
1,1-Dichloroethene	ND	294.	--	ND	1170	--		1471
tert-Butyl Alcohol	ND	735.	--	ND	2230	--		1471
Methylene chloride	ND	735.	--	ND	2550	--		1471
3-Chloropropene	ND	294.	--	ND	920	--		1471
Carbon disulfide	ND	294.	--	ND	916	--		1471
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	294.	--	ND	2250	--		1471
trans-1,2-Dichloroethene	ND	294.	--	ND	1170	--		1471
1,1-Dichloroethane	ND	294.	--	ND	1190	--		1471
Methyl tert butyl ether	ND	294.	--	ND	1060	--		1471
2-Butanone	ND	735.	--	ND	2170	--		1471
cis-1,2-Dichloroethene	ND	294.	--	ND	1170	--		1471



Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L1954931**Project Number:** B0345-015-001-012**Report Date:** 11/22/19**SAMPLE RESULTS**

Lab ID: L1954931-01 D

Client ID: INFLUENT AIR

Sample Location:

Date Collected: 11/15/19 10:05

Date Received: 11/15/19

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	735.	--	ND	2650	--		1471
Chloroform	ND	294.	--	ND	1440	--		1471
Tetrahydrofuran	ND	735.	--	ND	2170	--		1471
1,2-Dichloroethane	ND	294.	--	ND	1190	--		1471
n-Hexane	47000	294	--	166000	1040	--		1471
1,1,1-Trichloroethane	ND	294.	--	ND	1600	--		1471
Benzene	485	294	--	1550	939	--		1471
Carbon tetrachloride	ND	294.	--	ND	1850	--		1471
Cyclohexane	10600	294	--	36500	1010	--		1471
1,2-Dichloropropane	ND	294.	--	ND	1360	--		1471
Bromodichloromethane	ND	294.	--	ND	1970	--		1471
Xylene (Total)	27400	294	--	119000	1280	--		1471
1,4-Dioxane	ND	294.	--	ND	1060	--		1471
Trichloroethene	ND	294.	--	ND	1580	--		1471
2,2,4-Trimethylpentane	55300	294	--	258000	1370	--		1471
Heptane	32100	294	--	132000	1200	--		1471
cis-1,3-Dichloropropene	ND	294.	--	ND	1330	--		1471
4-Methyl-2-pentanone	ND	735.	--	ND	3010	--		1471
trans-1,3-Dichloropropene	ND	294.	--	ND	1330	--		1471
1,1,2-Trichloroethane	ND	294.	--	ND	1600	--		1471
Toluene	5020	294	--	18900	1110	--		1471
1,2-Dichloroethene (total)	ND	294.	--	ND	1170	--		1471
2-Hexanone	ND	294.	--	ND	1200	--		1471
Dibromochloromethane	ND	294.	--	ND	2500	--		1471
1,3-Dichloropropene, Total	ND	294.	--	ND	1330	--		1471
1,2-Dibromoethane	ND	294.	--	ND	2260	--		1471



Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L1954931**Project Number:** B0345-015-001-012**Report Date:** 11/22/19**SAMPLE RESULTS****Lab ID:** L1954931-01 D**Date Collected:** 11/15/19 10:05**Client ID:** INFLUENT AIR**Date Received:** 11/15/19**Sample Location:****Field Prep:** Not Specified**Sample Depth:**

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	ND	294	--	ND	1990	--		1471
Chlorobenzene	ND	294.	--	ND	1350	--		1471
Ethylbenzene	6200	294	--	26900	1280	--		1471
p/m-Xylene	22100	588	--	96000	2550	--		1471
Bromoform	ND	294.	--	ND	3040	--		1471
Styrene	ND	294.	--	ND	1250	--		1471
1,1,2,2-Tetrachloroethane	ND	294.	--	ND	2020	--		1471
o-Xylene	5310	294	--	23100	1280	--		1471
4-Ethyltoluene	2680	294	--	13200	1450	--		1471
1,3,5-Trimethylbenzene	3530	294	--	17400	1450	--		1471
1,2,4-Trimethylbenzene	8180	294	--	40200	1450	--		1471
Benzyl chloride	ND	294.	--	ND	1520	--		1471
1,3-Dichlorobenzene	ND	294.	--	ND	1770	--		1471
1,4-Dichlorobenzene	ND	294.	--	ND	1770	--		1471
1,2-Dichlorobenzene	ND	294.	--	ND	1770	--		1471
1,2,4-Trichlorobenzene	ND	294.	--	ND	2180	--		1471
Hexachlorobutadiene	ND	294.	--	ND	3140	--		1471

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					
Hexane, 2-methyl-	33000	NJ	ppbV		1471
Cyclohexane, methyl-	22000	NJ	ppbV		1471
Heptane, 3-methyl-	21000	NJ	ppbV		1471
Pentane, 3-methyl-	26000	NJ	ppbV		1471
Pentane, 2-methyl-	55000	NJ	ppbV		1471



Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L1954931**Project Number:** B0345-015-001-012**Report Date:** 11/22/19**SAMPLE RESULTS**

Lab ID: L1954931-01 D

Date Collected: 11/15/19 10:05

Client ID: INFLUENT AIR

Date Received: 11/15/19

Sample Location:

Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					
unknown alkane	24000	J	ppbV		1471
Butane, 2-Methyl-	23000	NJ	ppbV		1471
Pentane, 2,3,4-trimethyl-	34000	NJ	ppbV		1471
Hexane, 3-methyl-	37000	NJ	ppbV		1471
Cyclopentane, Methyl-	42000	NJ	ppbV		1471

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	96		60-140



Project Name: 2424 HAMBURG TURNPIKE

Lab Number: L1954931

Project Number: B0345-015-001-012

Report Date: 11/22/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 11/21/19 15:06

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1312081-4								
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
1,2-Dichloro-1,1,2,2-tetrafluoroethane	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
Ethyl Alcohol	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
iso-Propyl Alcohol	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
tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--		1



Project Name: 2424 HAMBURG TURNPIKE

Lab Number: L1954931

Project Number: B0345-015-001-012

Report Date: 11/22/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 11/21/19 15:06

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1312081-4								
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
1,1,2-Trichloro-1,2,2-Trifluoroethane	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
Xylene (Total)	ND	0.200	--	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
Isopropyl Ether	ND	0.200	--	ND	0.836	--		1
Ethyl-Tert-Butyl-Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,3-Dichloropropene, Total	ND	0.200	--	ND	0.908	--		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



Project Name: 2424 HAMBURG TURNPIKE

Lab Number: L1954931

Project Number: B0345-015-001-012

Report Date: 11/22/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 11/21/19 15:06

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1312081-4								
Cyclohexane	ND	0.200	--	ND	0.688	--		1
Tertiary-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
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



Project Name: 2424 HAMBURG TURNPIKE

Lab Number: L1954931

Project Number: B0345-015-001-012

Report Date: 11/22/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 11/21/19 15:06

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1312081-4								
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
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane (C9)	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
o-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
p-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 (C10)	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



Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L1954931**Project Number:** B0345-015-001-012**Report Date:** 11/22/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 11/21/19 15:06

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1312081-4								
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane (C12)	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

Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds				

No Tentatively Identified Compounds

Lab Control Sample Analysis

Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001-012

Lab Number: L1954931

Report Date: 11/22/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1312081-3								
Chlorodifluoromethane	93		-		70-130	-		
Propylene	109		-		70-130	-		
Propane	92		-		70-130	-		
Dichlorodifluoromethane	111		-		70-130	-		
Chloromethane	89		-		70-130	-		
1,2-Dichloro-1,1,2,2-tetrafluoroethane	104		-		70-130	-		
Methanol	91		-		70-130	-		
Vinyl chloride	108		-		70-130	-		
1,3-Butadiene	99		-		70-130	-		
Butane	86		-		70-130	-		
Bromomethane	114		-		70-130	-		
Chloroethane	105		-		70-130	-		
Ethyl Alcohol	81		-		40-160	-		
Dichlorofluoromethane	107		-		70-130	-		
Vinyl bromide	103		-		70-130	-		
Acrolein	87		-		70-130	-		
Acetone	84		-		40-160	-		
Acetonitrile	88		-		70-130	-		
Trichlorofluoromethane	128		-		70-130	-		
iso-Propyl Alcohol	83		-		40-160	-		
Acrylonitrile	86		-		70-130	-		
Pentane	86		-		70-130	-		
Ethyl ether	93		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001-012

Lab Number: L1954931

Report Date: 11/22/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1312081-3								
1,1-Dichloroethene	109		-		70-130	-		
tert-Butyl Alcohol	94		-		70-130	-		
Methylene chloride	93		-		70-130	-		
3-Chloropropene	94		-		70-130	-		
Carbon disulfide	84		-		70-130	-		
1,1,2-Trichloro-1,2,2-Trifluoroethane	111		-		70-130	-		
trans-1,2-Dichloroethene	105		-		70-130	-		
1,1-Dichloroethane	109		-		70-130	-		
Methyl tert butyl ether	110		-		70-130	-		
Vinyl acetate	100		-		70-130	-		
2-Butanone	101		-		70-130	-		
cis-1,2-Dichloroethene	110		-		70-130	-		
Ethyl Acetate	123		-		70-130	-		
Chloroform	119		-		70-130	-		
Tetrahydrofuran	102		-		70-130	-		
2,2-Dichloropropane	110		-		70-130	-		
1,2-Dichloroethane	124		-		70-130	-		
n-Hexane	101		-		70-130	-		
Isopropyl Ether	102		-		70-130	-		
Ethyl-Tert-Butyl-Ether	101		-		70-130	-		
1,2-Dichloroethene (total)	108		-			-		
1,2-Dichloroethene (total)	108		-			-		
1,1,1-Trichloroethane	116		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001-012

Lab Number: L1954931

Report Date: 11/22/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1312081-3								
1,1-Dichloropropene	90		-		70-130	-		
Benzene	96		-		70-130	-		
Carbon tetrachloride	120		-		70-130	-		
Cyclohexane	102		-		70-130	-		
Tertiary-Amyl Methyl Ether	93		-		70-130	-		
Dibromomethane	101		-		70-130	-		
1,2-Dichloropropane	101		-		70-130	-		
Bromodichloromethane	109		-		70-130	-		
1,4-Dioxane	111		-		70-130	-		
Trichloroethene	110		-		70-130	-		
2,2,4-Trimethylpentane	107		-		70-130	-		
Methyl Methacrylate	73		-		40-160	-		
Heptane	91		-		70-130	-		
cis-1,3-Dichloropropene	99		-		70-130	-		
4-Methyl-2-pentanone	96		-		70-130	-		
trans-1,3-Dichloropropene	89		-		70-130	-		
1,1,2-Trichloroethane	107		-		70-130	-		
Toluene	102		-		70-130	-		
1,3-Dichloropropane	89		-		70-130	-		
2-Hexanone	84		-		70-130	-		
Dibromochloromethane	118		-		70-130	-		
1,2-Dibromoethane	100		-		70-130	-		
Butyl Acetate	79		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001-012

Lab Number: L1954931

Report Date: 11/22/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1312081-3								
Octane	98		-		70-130	-		
Tetrachloroethene	106		-		70-130	-		
1,1,1,2-Tetrachloroethane	106		-		70-130	-		
Chlorobenzene	104		-		70-130	-		
Ethylbenzene	106		-		70-130	-		
p/m-Xylene	110		-		70-130	-		
Bromoform	120		-		70-130	-		
Styrene	103		-		70-130	-		
1,1,2,2-Tetrachloroethane	119		-		70-130	-		
o-Xylene	112		-		70-130	-		
1,2,3-Trichloropropane	98		-		70-130	-		
Nonane (C9)	87		-		70-130	-		
Isopropylbenzene	103		-		70-130	-		
Bromobenzene	98		-		70-130	-		
o-Chlorotoluene	104		-		70-130	-		
n-Propylbenzene	110		-		70-130	-		
p-Chlorotoluene	108		-		70-130	-		
4-Ethyltoluene	111		-		70-130	-		
1,3,5-Trimethylbenzene	117		-		70-130	-		
tert-Butylbenzene	118		-		70-130	-		
1,2,4-Trimethylbenzene	121		-		70-130	-		
Decane (C10)	119		-		70-130	-		
Benzyl chloride	146	Q	-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Lab Number: L1954931

Project Number: B0345-015-001-012

Report Date: 11/22/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1312081-3								
1,3-Dichlorobenzene	119		-		70-130	-		
1,4-Dichlorobenzene	121		-		70-130	-		
sec-Butylbenzene	114		-		70-130	-		
p-Isopropyltoluene	115		-		70-130	-		
1,2-Dichlorobenzene	125		-		70-130	-		
n-Butylbenzene	132	Q	-		70-130	-		
1,2-Dibromo-3-chloropropane	125		-		70-130	-		
Undecane	114		-		70-130	-		
Dodecane (C12)	94		-		70-130	-		
1,2,4-Trichlorobenzene	132	Q	-		70-130	-		
Naphthalene	129		-		70-130	-		
1,2,3-Trichlorobenzene	114		-		70-130	-		
Hexachlorobutadiene	123		-		70-130	-		

Lab Duplicate Analysis Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001-012

Lab Number: L1954931

Report Date: 11/22/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1312081-5 QC Sample: L1954931-01 Client ID: INFLUENT AIR						
Dichlorodifluoromethane	ND	ND	ppbV	NC		25
Chloromethane	ND	ND	ppbV	NC		25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ND	ppbV	NC		25
Vinyl chloride	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
Ethyl Alcohol	ND	ND	ppbV	NC		25
Vinyl bromide	ND	ND	ppbV	NC		25
Acetone	ND	ND	ppbV	NC		25
Trichlorofluoromethane	ND	ND	ppbV	NC		25
iso-Propyl Alcohol	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
tert-Butyl Alcohol	ND	ND	ppbV	NC		25
Methylene chloride	ND	ND	ppbV	NC		25
3-Chloropropene	ND	ND	ppbV	NC		25
Carbon disulfide	ND	ND	ppbV	NC		25
1,1,2-Trichloro-1,2,2-Trifluoroethane	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

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001-012

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L1954931

Report Date: 11/22/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1312081-5 QC Sample: L1954931-01 Client ID: INFLUENT AIR						
2-Butanone	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
Ethyl Acetate	ND	ND	ppbV	NC		25
Chloroform	ND	ND	ppbV	NC		25
Tetrahydrofuran	ND	ND	ppbV	NC		25
1,2-Dichloroethane	ND	ND	ppbV	NC		25
n-Hexane	47000	48000	ppbV	2		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Benzene	485	498	ppbV	3		25
Carbon tetrachloride	ND	ND	ppbV	NC		25
Cyclohexane	10600	10800	ppbV	2		25
1,2-Dichloropropane	ND	ND	ppbV	NC		25
Xylene (Total)	27400	26600	ppbV	3		25
Bromodichloromethane	ND	ND	ppbV	NC		25
1,4-Dioxane	ND	ND	ppbV	NC		25
Trichloroethene	ND	ND	ppbV	NC		25
2,2,4-Trimethylpentane	55300	56100	ppbV	1		25
Heptane	32100	32400	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

Lab Duplicate Analysis

Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001-012

Lab Number: L1954931

Report Date: 11/22/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1312081-5 QC Sample: L1954931-01 Client ID: INFLUENT AIR						
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Toluene	5020	5080	ppbV	1		25
1,2-Dichloroethene (total)	ND	ND	ppbV	NC		25
2-Hexanone	ND	ND	ppbV	NC		25
Dibromochloromethane	ND	ND	ppbV	NC		25
1,3-Dichloropropene, Total	ND	ND	ppbV	NC		25
1,2-Dibromoethane	ND	ND	ppbV	NC		25
Tetrachloroethene	ND	294	ppbV	NC		25
Chlorobenzene	ND	ND	ppbV	NC		25
Ethylbenzene	6200	6140	ppbV	1		25
p/m-Xylene	22100	21400	ppbV	3		25
Bromoform	ND	ND	ppbV	NC		25
Styrene	ND	ND	ppbV	NC		25
1,1,1,2-Tetrachloroethane	ND	ND	ppbV	NC		25
o-Xylene	5310	5130	ppbV	3		25
4-Ethyltoluene	2680	2740	ppbV	2		25
1,3,5-Trimethylbenzene	3530	3220	ppbV	9		25
1,2,4-Trimethylbenzene	8180	6870	ppbV	17		25
Benzyl chloride	ND	ND	ppbV	NC		25
1,3-Dichlorobenzene	ND	ND	ppbV	NC		25
1,4-Dichlorobenzene	ND	ND	ppbV	NC		25

Lab Duplicate Analysis

Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001-012

Lab Number: L1954931

Report Date: 11/22/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1312081-5 QC Sample: L1954931-01 Client ID: INFLUENT AIR						
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: 2424 HAMBURG TURNPIKE**Lab Number:** L1954931**Project Number:** B0345-015-001-012**Report Date:** 11/22/19**SAMPLE RESULTS**

Lab ID: L1954931-01 D

Client ID: INFLUENT AIR

Sample Location:

Date Collected: 11/15/19 10:05

Date Received: 11/15/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil_Vapor

Analytical Method: 96,APH

Analytical Date: 11/22/19 03:14

Analyst: EW

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	750	--	1500
Methyl tert butyl ether	ND		ug/m3	1000	--	1500
Benzene	1900		ug/m3	900	--	1500
C5-C8 Aliphatics, Adjusted	5200000		ug/m3	15000	--	1500
Toluene	19000		ug/m3	1400	--	1500
Ethylbenzene	27000		ug/m3	1400	--	1500
p/m-Xylene	95000		ug/m3	1400	--	1500
o-Xylene	22000		ug/m3	1400	--	1500
Naphthalene	ND		ug/m3	1600	--	1500
C9-C12 Aliphatics, Adjusted	330000		ug/m3	15000	--	1500
C9-C10 Aromatics Total	160000		ug/m3	15000	--	1500

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		50-200
Bromochloromethane	99		50-200
Chlorobenzene-d5	98		50-200

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Lab Number: L1954931
Report Date: 11/22/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 96,APH
 Analytical Date: 11/21/19 15:06
 Analyst: EW

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01 Batch: WG1312083-4					
1,3-Butadiene	ND		ug/m3	0.50	--
Methyl tert butyl ether	ND		ug/m3	0.70	--
Benzene	ND		ug/m3	0.60	--
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--
Toluene	ND		ug/m3	0.90	--
Ethylbenzene	ND		ug/m3	0.90	--
p/m-Xylene	ND		ug/m3	0.90	--
o-Xylene	ND		ug/m3	0.90	--
Naphthalene	ND		ug/m3	1.1	--
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--
C9-C10 Aromatics Total	ND		ug/m3	10	--

Lab Control Sample Analysis Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001-012

Lab Number: L1954931

Report Date: 11/22/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1312083-3								
1,3-Butadiene	118		-		70-130	-		
Methyl tert butyl ether	106		-		70-130	-		
Benzene	114		-		70-130	-		
C5-C8 Aliphatics, Adjusted	115		-		70-130	-		
Toluene	98		-		70-130	-		
Ethylbenzene	101		-		70-130	-		
p/m-Xylene	102		-		70-130	-		
o-Xylene	104		-		70-130	-		
Naphthalene	131		-		50-150	-		
C9-C12 Aliphatics, Adjusted	110		-		70-130	-		
C9-C10 Aromatics Total	98		-		70-130	-		

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001-012

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L1954931

Report Date: 11/22/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1312083-5 QC Sample: L1954931-01 Client ID: INFLUENT AIR						
1,3-Butadiene	ND	ND	ug/m3	NC		30
Methyl tert butyl ether	ND	ND	ug/m3	NC		30
Benzene	1900	2000	ug/m3	5		30
C5-C8 Aliphatics, Adjusted	5200000	5200000	ug/m3	0		30
Toluene	19000	20000	ug/m3	5		30
Ethylbenzene	27000	27000	ug/m3	0		30
p/m-Xylene	95000	92000	ug/m3	3		30
o-Xylene	22000	22000	ug/m3	0		30
Naphthalene	ND	ND	ug/m3	NC		30
C9-C12 Aliphatics, Adjusted	330000	310000	ug/m3	6		30
C9-C10 Aromatics Total	160000	150000	ug/m3	6		30

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001-012

Serial_No:11221915:57
Lab Number: L1954931

Report Date: 11/22/19

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 Controller Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1954931-01	INFLUENT AIR	01567	SV200	11/13/19	307272		-	-	-	Pass	211	187	12
L1954931-01	INFLUENT AIR	145	2.7L Can	11/13/19	307272	L1952252-06	Pass	-28.8	-1.4	-	-	-	-

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

Lab Number: L1952252
Report Date: 11/22/19

Air Canister Certification Results

Lab ID: L1952252-06
Client ID: CAN 487 SHELF 13
Sample Location:

Date Collected: 11/05/19 09:00
Date Received: 11/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15
Analytical Date: 11/05/19 21:36
Analyst: TS

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
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
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

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

Lab Number: L1952252
Report Date: 11/22/19

Air Canister Certification Results

Lab ID: L1952252-06
Client ID: CAN 487 SHELF 13
Sample Location:

Date Collected: 11/05/19 09:00
Date Received: 11/05/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
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
Dibromomethane	ND	0.200	--	ND	1.42	--		1



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

Lab Number: L1952252
Report Date: 11/22/19

Air Canister Certification Results

Lab ID: L1952252-06
Client ID: CAN 487 SHELF 13
Sample Location:

Date Collected: 11/05/19 09:00
Date Received: 11/05/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,2-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
o-Xylene	ND	0.200	--	ND	0.869	--		1



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

Lab Number: L1952252
Report Date: 11/22/19

Air Canister Certification Results

Lab ID: L1952252-06
Client ID: CAN 487 SHELF 13
Sample Location:

Date Collected: 11/05/19 09:00
Date Received: 11/05/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,2,3-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**Lab Number:** L1952252**Project Number:** CANISTER QC BAT**Report Date:** 11/22/19**Air Canister Certification Results**

Lab ID: L1952252-06

Date Collected: 11/05/19 09:00

Client ID: CAN 487 SHELF 13

Date Received: 11/05/19

Sample Location:

Field Prep: Not Specified

Sample Depth:

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

Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds				
No Tentatively Identified Compounds				

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	89		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	91		60-140

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

Lab Number: L1952252
Report Date: 11/22/19

Air Canister Certification Results

Lab ID: L1952252-06
Client ID: CAN 487 SHELF 13
Sample Location:

Date Collected: 11/05/19 09:00
Date Received: 11/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15-SIM
Analytical Date: 11/05/19 21:36
Analyst: TS

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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: L1952252
Report Date: 11/22/19

Air Canister Certification Results

Lab ID: L1952252-06
Client ID: CAN 487 SHELF 13
Sample Location:

Date Collected: 11/05/19 09:00
Date Received: 11/05/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,1,2,2-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:** L1952252**Project Number:** CANISTER QC BAT**Report Date:** 11/22/19**Air Canister Certification Results**

Lab ID: L1952252-06

Date Collected: 11/05/19 09:00

Client ID: CAN 487 SHELF 13

Date Received: 11/05/19

Sample Location:

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
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	88		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	91		60-140



Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Serial_No:11221915:57
Lab Number: L1954931
Report Date: 11/22/19

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(*)
L1954931-01A	Canister - 2.7 Liter	N/A	NA			Y	Absent		APH-10(30),TO15-LL(30)

Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L1954931**Project Number:** B0345-015-001-012**Report Date:** 11/22/19

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.
LCS D	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
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

Report Format: Data Usability Report

Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L1954931**Project Number:** B0345-015-001-012**Report Date:** 11/22/19

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

Terms

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

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

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. 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 Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- 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.

Report Format: Data Usability Report

Project Name: 2424 HAMBURG TURNPIKE

Lab Number: L1954931

Project Number: B0345-015-001-012

Report Date: 11/22/19

Data Qualifiers

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Lab Number: L1954931
Report Date: 11/22/19

REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

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.



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 15

Department: **Quality Assurance**

Published Date: 8/15/2019 9:53:42 AM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

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), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, 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, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B, SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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



ANALYTICAL REPORT

Lab Number:	L1953964
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Brock Greene
Phone:	(716) 856-0599
Project Name:	2424 HAMBURG TURNPIKE
Project Number:	B0345-015-001-012
Report Date:	11/19/19

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Lab Number: L1953964
Report Date: 11/19/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1953964-01	INFLUENT	WATER	Not Specified	11/12/19 12:05	11/12/19

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Lab Number: L1953964
Report Date: 11/19/19

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: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Lab Number: L1953964
Report Date: 11/19/19

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

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:

Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative

Date: 11/19/19

ORGANICS

VOLATILES

Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L1953964**Project Number:** B0345-015-001-012**Report Date:** 11/19/19**SAMPLE RESULTS**

Lab ID: L1953964-01 D

Date Collected: 11/12/19 12:05

Client ID: INFLUENT

Date Received: 11/12/19

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 11/16/19 19:02

Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	21		ug/l	5.0	1.6	10
Toluene	230		ug/l	25	7.0	10
Ethylbenzene	300		ug/l	25	7.0	10
Methyl tert butyl ether	ND		ug/l	25	7.0	10
p/m-Xylene	1200		ug/l	25	7.0	10
o-Xylene	420		ug/l	25	7.0	10
n-Butylbenzene	20	J	ug/l	25	7.0	10
sec-Butylbenzene	12	J	ug/l	25	7.0	10
tert-Butylbenzene	ND		ug/l	25	7.0	10
Isopropylbenzene	39		ug/l	25	7.0	10
p-Isopropyltoluene	7.8	J	ug/l	25	7.0	10
n-Propylbenzene	100		ug/l	25	7.0	10
1,3,5-Trimethylbenzene	320		ug/l	25	7.0	10
1,2,4-Trimethylbenzene	1100		ug/l	25	7.0	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	93		70-130

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Lab Number: L1953964
Report Date: 11/19/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/16/19 12:45
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1309934-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 2424 HAMBURG TURNPIKE

Project Number: B0345-015-001-012

Lab Number: L1953964

Report Date: 11/19/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1309934-3 WG1309934-4								
Benzene	83		82		70-130	1		20
Toluene	92		90		70-130	2		20
Ethylbenzene	94		93		70-130	1		20
Methyl tert butyl ether	76		82		63-130	8		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
n-Butylbenzene	100		100		53-136	0		20
sec-Butylbenzene	100		100		70-130	0		20
tert-Butylbenzene	110		100		70-130	10		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	110		100		70-130	10		20
n-Propylbenzene	100		100		69-130	0		20
1,3,5-Trimethylbenzene	100		100		64-130	0		20
1,2,4-Trimethylbenzene	100		100		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		108		70-130
Toluene-d8	104		104		70-130
4-Bromofluorobenzene	108		107		70-130
Dibromofluoromethane	99		98		70-130

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Serial_No:11191910:08
Lab Number: L1953964
Report Date: 11/19/19

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1953964-01A	Vial HCl preserved	A	NA		2.8	Y	Absent		NYCP51-8260(14)
L1953964-01B	Vial HCl preserved	A	NA		2.8	Y	Absent		NYCP51-8260(14)
L1953964-01C	Vial HCl preserved	A	NA		2.8	Y	Absent		NYCP51-8260(14)

Project Name: 2424 HAMBURG TURNPIKE**Lab Number:** L1953964**Project Number:** B0345-015-001-012**Report Date:** 11/19/19

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.
LCS D	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
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

Report Format: DU Report with 'J' Qualifiers

Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Lab Number: L1953964
Report Date: 11/19/19

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

Terms

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

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

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

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

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

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 Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- 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. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. 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 method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- 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.

Report Format: DU Report with 'J' Qualifiers



Project Name: 2424 HAMBURG TURNPIKE
Project Number: B0345-015-001-012

Lab Number: L1953964
Report Date: 11/19/19

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

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.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 15

Published Date: 8/15/2019 9:53:42 AM

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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), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, 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, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

[illegible]

APPENDIX D

CARBON RECYCLING DOCUMENTATION

CARBON ACTIVATED CORP.

3774 Hoover Rd Blasdell NY 14219
Phone (716) 821 7830
Fax (716) 821 0790
Email: carbonactivated@earthlink.net

CERTIFICATE OF REACTIVATION

Customer : Benchmark Turnkey
Site: 2424 Hamburg Turnpike

Date	Pick Up Location	Grade	Quantity Approx.	Approval Code
6/24/2020	CAC - NY	Liquid	500 lb. Vessel	SPA-PL-20-010

Carbon Activated Corporation certifies that the shipments above were received into to our Blasdell NY reactivation facility and the carbon has been added to our pool and will be processed through our reactivation plant which operates under New York State Department of Environmental Conservation Permit No. 9-1448-00042/00022.

Regards

Christopher Allen
Director – Carbon Activated Corp.

APPENDIX E

GROUNDWATER MONITORING LOGS

EQUIPMENT CALIBRATION LOG

PROJECT INFORMATION:

Project Name: 2424 HAMBURG TURNPIKE

Date: 10/15/2020

Project No.: B0345-015-001

Client: 2424 HAMBURG TURNPIKE, LLC

Instrument Source: ☒ BM ☐ Rental

METER TYPE	UNITS	TIME	MAKE/MODEL	SERIAL NUMBER	CAL. BY	STANDARD	POST CAL. READING	SETTINGS
☒ pH meter	units	8:00	Myron L Company Ultra Meter 6P	6213516 ☐	CCB	4.00	4.03	
				6243084 ☐		7.00	7.04	
				6212375 ☒				
				6243003 ☐		10.01	10.06	
				6223973 ☐				
☒ Turbidity meter	NTU	8:00	Hach 2100P or 2100Q Turbidimeter	06120C020523 (P) ☐	CCB	10 NTU verification	9.89	
				13120C030432 (Q) ☒		< 0.4		
				17110C062619 (Q) ☐		20		
						100		
						800		
☒ Sp. Cond. meter	uS mS	8:00	Myron L Company Ultra Meter 6P	6213516 ☐ 6243084 ☐ 6212375 ☐ 6243003 ☐ 6223973 ☐	CCB	_7000_ mS @ 25 °C	7079	
☐ PID	ppm		MinRAE 2000			open air zero		MIBK response factor = 1.0
						_____ ppm Iso. Gas		
☐ Dissolved Oxygen	ppm		HACH Model HQ30d	080700023281 ☐	NOT AVAILABLE	100% Satuartion		
				100500041867 ☐				
				140200100319 ☐				
☐ Particulate meter	mg/m ³					zero air		
☐ Radiation Meter	uR/H					background area		

ADDITIONAL REMARKS:

PREPARED BY: CCB

DATE: 10/15/2020

