Fourth Quarter 2017
Quarterly Monitoring Report
Former Zoe Chemical Site
1801 Falmouth Avenue
New Hyde Park, New York
Site No. 1-30-211

January 2018

Prepared for:

SEABOARD ESTATES, INC.
c/o BEVERIDGE & DIAMOND, LLC
477 Madison Avenue, 15th Floor
New York, NY 10022-5802

and

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation
625 Broadway, 12th Floor
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Prepared by:

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January 3, 2018

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
625 Broadway, 12th Floor
Albany, New York 12207

Attention: Brian Jankauskas, Project Manager

Re: **Quarterly Monitoring Report—Fourth Quarter 2017**
Former Zoe Chemical Site
1801 Falmouth Avenue, New Hyde Park, N.Y.
NYSDEC Site No.: 1-30-211

Dear Mr. Jankauskas:

Attached is a copy of our Fourth Quarter 2017, Quarterly Monitoring Report for the above-referenced Site. The Site currently operates a soil vapor extraction system (SVE) which treats the exhausted air with activated carbon. The system was started-up on September 27, 2016 and has been operating since that time. Carbon change-out were completed on December 1, 2016, April 14, 2017, August 3, 2017, and December 4, 2017.

Since the system began operating in 2016, weekly system checks have been conducted to ensure system operation, which have helped to maximize system operation time. The next quarterly system sampling and measurements are planned for March 2018.

If there are any questions regarding this report, please do not hesitate to call our office.

Sincerely,

CA RICH CONSULTANTS, INC.

Jessica Proscia
Project Manager

cc: see attached distribution

Distribution List

1801 Falmouth Avenue, New Hyde Park, NY - NYSDEC Site #1-30-211

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Fourth Quarter 2017
Quarterly Monitoring Report
Former Zoe Chemical Site
1801 Falmouth Avenue
New Hyde Park, New York
NYSDEC Site No.: 1-30-211

1.0 INTRODUCTION

The following Quarterly Monitoring Report (the Report) has been prepared by CA RICH Consultants, Inc. (CA RICH) for the Former Zoe Chemical Site located at 1801 Falmouth Avenue, New Hyde Park, New York (Figure 1) on behalf of Seaboard Estates, Inc. in accordance with Order on Consent Agreement Index No. W1-1165-12-06. This Report addresses the remediation of the soil vapor beneath the Former Zoe Chemical Site. The goal of this Report is to describe the progress of the on-site soil vapor remediation program at the Former Zoe Chemical Site, which is illustrated on the Site Plan (Figure 2).

1.1 Contaminants of Concern

For the purposes of this Quarterly Monitoring Report, the Contaminants Of Concern (COCs) are Volatile Organic Compounds (VOCs) and include 1,1,1-trichloroethane (TCA) and its degradation products.

1.2 Former Source Areas

As discussed in the Site Characterization Report, (Ref. 1), the primary source suspected for a possible release is the former cesspool(s) that serviced the building prior to Zoe Chemical's connection to municipal sewers in June 1987. Figure 3 of this document illustrates the locations of these suspected former source areas.

1.3 Previous Groundwater Investigations

Four permanent on-Site groundwater monitoring wells were installed in April 2013 as part of the Site Characterization (Ref. 1). The results of the analysis of these samples indicated that the highest contamination occurred in monitoring well MW-4 for TCA at a concentration of 962 ug/l (ppb). The compound perchloroethene (PCE) was detected at 8.0 ug/L in MW-2 and 13.2 ug/L in MW-4. Both MW-1 and MW-4 are located on the eastern half of the Site.

A map illustrating the locations of previous groundwater samples is included on Figure 4.

1.4 Previous Soil Investigations

Interior and exterior soil borings were installed in April, September and October 2013 as part of the Site Characterization (Ref. 1). The soil sampling performed during this investigation did not reveal detections of TCA above Part 375 Commercial Soil Cleanup Objectives (SCOs) either below the floor of the building or in the subject Property lot. No other VOCs or Semi-Volatile Organic Compounds (SVOCs) exceeded their respective Part 375 Commercial SCOs. There were exceedances of pesticides and metals that were identified exceeding their Part 375 Commercial SCOs, which were found in the soil located within the area of the former cesspool. A map illustrating the locations of all the soil boring locations is included on Figure 5.

1.5 Previous Soil Vapor Investigation

Four exterior soil vapor points (SV-1 through SV-4) were installed to eight feet below grade in the eastern parking lot of the Property in September 2013 as part of the Site Characterization (Ref. 1). The results of the soil vapor sampling indicated that the concentration of TCA ranged from 11 ug/m^3 in SV-3 to 3,260 ug/m^3 in SV-4. Acetone, benzene, chloromethane, cyclohexane, dichlorodifluoromethane, ethanol, ethylbenzene, ethyl acetate, 4-ethyltoluene, heptane, hexane, isopropyl alcohol, methyl ethyl ketone, styrene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2,2,4-tremethylpentane, tetrachloroethylene, tetrahydrofuran, toluene, trichloroethylene, trichlorofluoromethane, m & p-xylene, and o-xylene were detected at low concentrations in the indoor air sample. Additionally, similar compounds were detected in the ambient air. TCA was not detected in the ambient air sample.

Four interior sub-slab soil vapor points (SSV-1 through SSV-4) were installed in September 2013 as part of the Site Characterization (Ref. 1). The results for the sub-slab vapor were compared to the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York. The concentration of TCA in SSV-1 was 182,000 ug/m^3 and SSV-2 was 18,800 ug/m^3, which according to the NYSDOH Decision Matrices are both in the '"Mitigation" range. The sub-slab vapor at the SSV-3 location contained a TCA concentration of 31 ug/m^3, which is in the "No Further Action" range. Additionally, the sub-slab vapor concentration of TCA in SSV-4 was 400 ug/m^3, which is in the "Monitor" range.

A map illustrating the locations of all the interior sub-slab soil vapor points and exterior soil vapor points are included on Figure 6.

1.6 Former Sanitary System Sampling

The former sanitary system was investigated in April 2013 as part of the Site Characterization (Ref. 1). Once the covers were removed, the two 7-foot diameter pools, designated S-1 and S-2 were investigated and found to contain solid bottoms and were likely used as holding tanks. However, as the perched water sample contained detections of contaminants similar to those detected in the soil from the sanitary structures some degree of leakage from the pools may have occurred. On April 25, 2013 a Geoprobe drilling system was utilized to obtain a sample from each of the pools. The Geoprobe drilling identified a solid bottom in sanitary pool S-1 at seven feet and at five feet in S-2. The structures appear to have been backfilled with soil, and therefore, observations detailing the bottom of the structures could not be made. One sample was obtained from each of the pools at the deepest depth above the pool bottoms and sent to the laboratory for analysis. The results indicated that no VOCs were detected exceeding their Part 375 commercial use SCOs in S-1 or S-2. However, S-1 contained ethylbenzene, toluene, and xylenes. S-2 (the pool closest to the building) contained TCA at a concentration of 1,110 ug/kg.

In February 2015, the former cesspools were removed. During this activity, the western pool was found to contain a solid bottom (septic tank), whereas the eastern pool contained perforated walls and a sediment bottom (leaching pool). Confirmatory endpoint samples were collected from the excavation. The endpoint samples were acceptable and the excavation was backfilled with clean quarry sand.

A map illustrating the locations of all the former sanitary systems is included on Figure 3.

2.0 OPERATIONAL HISTORY OF THE REMEDIATION SYSTEM

Installation of the remediation system began in August 2016 and was completed in September 2016. A start-up test was conducted on September 21, 2016. The system was activated and baseline vacuum, flow, and samples were collected. The system was operating properly at the time, but was turned off upon departure.

The components of the system consist of three SVE wells (SVE-1, SVE-2, and SVE-3) located in the parking area to the east of the building and three sub-slab depressurization vents (SSD-4, SSD-5, and SSD-6) located within the building. A detailed description of the system is included in the Construction Completion Report – Part B, (Ref. 2); and system layout drawing is included as Figure 7.

The soil vapor is extracted using an Airtech® Vacuum 4.62 HP regenerative blower located in the storage room within the building. The soil vapor passes through a moisture knock-out drum, into the blower and flows through two vapor-phase carbon drums located in the storage room. The treated air is discharged through a 4-inch PVC pipe that extends above the roof.

The SVE blower has remained in continuous operation since September 27, 2016 to the present-day with the exception of periodic equipment repairs and carbon change-outs as outlined on the maintenance log outlined below.

Maintenance Log

Dates	SVE system	Comments
September 21, 2106	Off	System turned on for startup test, system samples collected, system turned off upon departure.
September 27, 2016	On	System turned on upon arrival and left operating upon departure.
October 12, 2016	On	Monthly system samples collected
November 22, 2016	On	Monthly system samples collected
December 1, 2016	On	Carbon change out.
December 21, 2016	On	Monthly system samples collected
January 27, 2017	On	Monthly system samples collected
February 24, 2017	On	Monthly system samples collected
March 30, 2017	On	Monthly system samples collected
April 14, 2017	On	Carbon change out.
April 28, 2017	On	Monthly system samples collected
May 26, 2017	On	Monthly system samples collected
June 30, 2017	On	Monthly system samples collected

August 3, 2017	On	Carbon change out
September 15, 2017	On	Quarterly system samples collected (Untreated, Mid, and Treated)
October 19, 2017	On	Leaking ball valve repaired
December 4, 2017	On	Carbon change out
December 8, 2017	On	Quarterly system samples collected
December 27, 2017	On	Telemetry System installed

Prior work completed at the Site is summarized on the attached monthly progress reports included in Appendix A.

3.0 SYSTEM MONITORING PROCEDURES AND RESULTS

The system is equipped with gauges and meters that are designed to directly measure flow, vacuum and system run time. Flow and temperature readings are manually collected from the system and PID readings are collected from the pre-carbon, mid-carbon, and post-carbon sampling ports. There are three exterior SVE points and three interior SSD points. Vacuum and flow readings are collected directly from well heads at the SVE points and from the riser at the SSD points. The data acquired during the quarterly monitoring events along with system uptime is summarized on Table 1. The following summarizes the system data acquired during the most recent (December 2017) monitoring event.

December 2017

Vent/Well	Vacuum (inches of water)	Flow (scfm)
SVE-1	-7.4	13
SVE-2	-7.0	7.0
SVE-3	-7.0	6.0
SSD-4	-7.2	60
SSD-5	-7.2	57
SSD-6	-7.2	56
System	-28	95

System Hour Meter = 9,317.1 hours at 09:00
System influent temperature = 65^{o}F
System effluent temperature = 94^{o}F
Pre-carbon = 24.0 ppm
Mid-carbon = 0.0 ppm
Post-carbon = 0.0 ppm

3.1 System Sampling

The system is equipped with two 55-gallon drums that contain activated carbon used to treat the soil vapor. Three sample ports were installed within the system piping to collect soil vapor samples for laboratory analysis. One sample port is located on the PVC pipe prior to the first carbon treatment drum, and is identified as the "Untreated Soil Vapor" sample. The second sample port is located on the PVC pipe that connects the first carbon drum to the second carbon drum, and is identified as the "Mid-Carbon" sample. The third and final sample port is located on the PVC vent pipe located up-flow of the second carbon drum, and is identified as the "Treated Soil Vapor" sample. Each of these three soil vapor samples are collected using a six-liter SUMMA canister that is setup to collect a grab sample. In addition, PID readings are measured from each sample port using a 11.7 ev bulb. A copy of the laboratory data is included as Appendix B

Untreated Soil Vapor – The first soil vapor sample collected from the system was conducted on September 21, 2016. The initial untreated soil vapor sample contained a TCA concentration of 87,800 ug/m^3. At the end of the fourth quarter 2016, the concentration of TCA was 8,350 ug/m^3. The most recent sample collected on December 8, 2017 detected a TCA concentration of 1,630 ug/m^3.

Results of the untreated soil vapor sampling program are summarized on Table 2. In addition, plots of the laboratory results versus days in operation are included.

Mid-Carbon Soil Vapor – This sample is used to determine when breakthrough occurs at the first carbon drum, which in turn provides sufficient information to determine when the carbon drums should be replaced. The fourth quarter 2017 mid-carbon sample was collected on December 8, 2017 and revealed a TCA concentration of 1.1 ug/m^3. Results of the mid-carbon sampling are summarized on Table 3.

Treated Soil Vapor – A treated soil vapor sample was also collected on December 8, 2017 using a SUMMA canister. The sample revealed a TCA concentration of 3.40 ug/m^3. A summary of the laboratory data is summarized on Table 4.

Mass Removal Calculations – The initial TCA concentration at the system startup date (September 21, 2016) equaled 87,800 ug/m^3 for the influent sample port. The TCA concentration at the end of the fourth quarter 2017 was 1,630 ug/m^3. Based upon the measured discharge rate and a linear interpretation of the TCA concentration in the untreated soil vapor, the mass of TCA removed from September 15, 2017 to December 8, 2017 is estimated to be 3.23 pounds and the amount of TCA removed to date equals 59.80 pounds. A summary of TCA removal by the system is included on Table 5.

4.0 REMEDIATION SYSTEM EQUIPMENT TERMINATION CRITERIA

4.1 SVE Unit Termination Criteria

The termination criteria for the SVE system are outlined in the Construction Completion Report Part B. The following termination criteria have been established:

- Once the levels of total VOCs in the raw influent decreases to a near constant or asymptotic concentration (as approved by NYSDEC) and it is demonstrated that shutdown of the system will not result in the migration of unacceptable concentrations of residual vapors to the on-site and off-site structures (as approved by NYSDOH), operation of the system will be suspended.

- A shutdown plan will be submitted to the NYSDEC for review and approval. This plan will discuss the conversion of the system to a soil vapor intrusion mitigation system or proposed sampling activities for complete shutdown of the system. The plan will include concurrent sub-slab vapor/indoor air sampling within occupied spaces to determine whether exposure concerns related to soil vapor intrusion remain.

- The overall remedy must meet the remedial action objectives of the project, and the soil vapor measurements must remain protective of the contemplated use of the on-site and off-site structures. If any improvements or changes are made to the interior building layout in areas outside of the SVE system's radius of influence, additional soil vapor intrusion sampling and/or expansion of the SVE system may be warranted. The NYSDEC and NYSDOH will be notified in advance of any such plans.

5.0 CONCLUSIONS

The remediation system began operating in September 2016, with weekly system visits conducted to ensure system operation. The system has been in continuous operations since September 2016 with the exception of carbon drum change outs and unexpected system shutdowns. From September 15, 2017 to December 8, 2017 the system has been operating for 99.84 percent of the time. Additionally, a telemetry unit was installed in December 2017 to notify CA RICH of any unexpected system shutdowns.

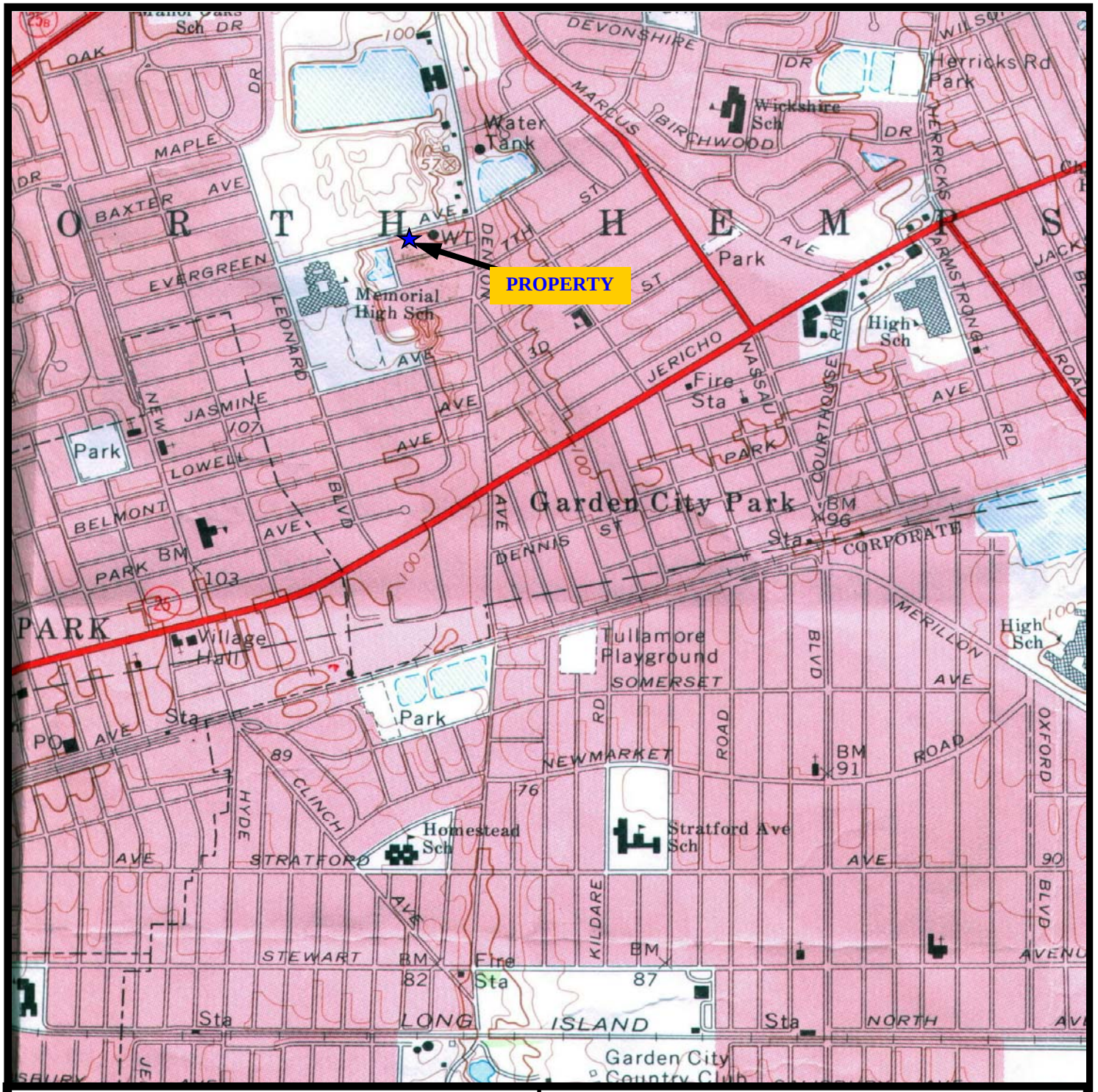
During the last quarter the system has removed approximately 3.23 pounds of TCA and 59.80 pounds since system start up in September 2016. The system shall remain in continuous operation. The next system sampling event is scheduled for March 2018.

REFERENCES

1. CA RICH Consultants, Inc., Site Characterization Report, Former Zoe Chemical, 1801 Falmouth Avenue, New Hyde Park, New York, NYSDEC Site # 130211, February 2014, Revised July 2014.

2. CA RICH Consultants, Inc., Construction Completion Report – Part B, Former Zoe Chemical, 1801 Falmouth Avenue, New Hyde Park, New York, NYSDEC Site # 130211, March 2017, Revised June 2017.

Figures



APPROX. SCALE (ft.)

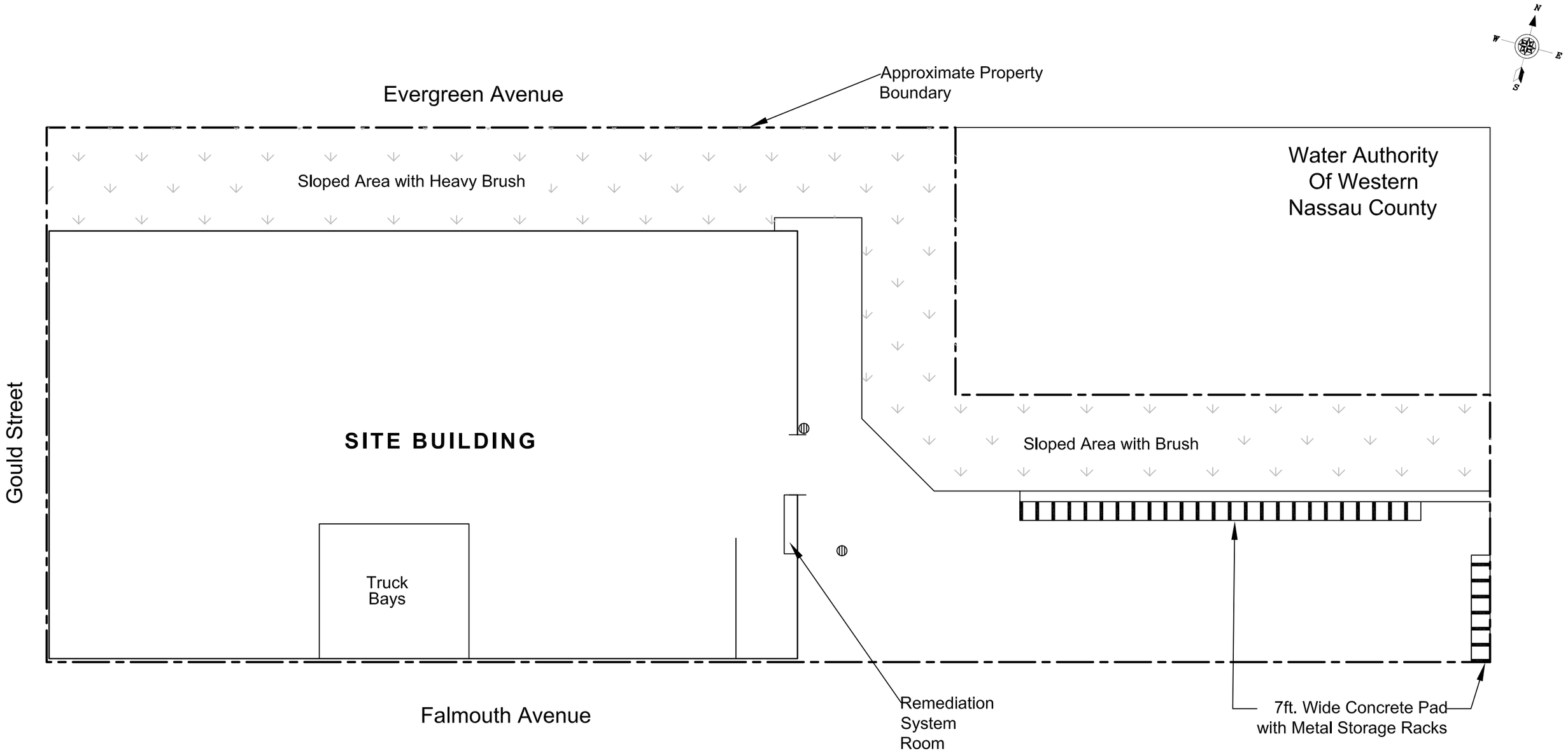
0 2,000 4,000

N

Adapted from 1969 USGS Lynbrook Quadrangle

CA RICH CONSULTANTS, INC.
17 Dupont Street,
Plainview, NY 11803

TITLE: Site Location Map		DATE: 9/29/2017
		SCALE: AS SHOWN
FIGURE: 1	Former Zoe Chemical 1801 Falmouth Avenue New Hyde Park, New York	DRAWN BY: JC
DRAWING:		APPR. BY: JP



LEGEND

◍ Dry well

0 20 40 60

Graphic Scale In Feet

CA RICH CONSULTANTS, INC. Environmental Specialists Since 1982 17 Dupont Street, Plainview, New York 11803	
TITLE: Site Plan	DATE: 9/29/2017 SCALE: AS SHOWN
FIGURE: 2 DRAWING NO: QMR 2017-1	Former Zoe Chemical Site 1801 Falmouth Avenue New Hyde Park, NY
DRAWN BY: J.T.C./T.R.B. APPR. BY: J.E.P.	

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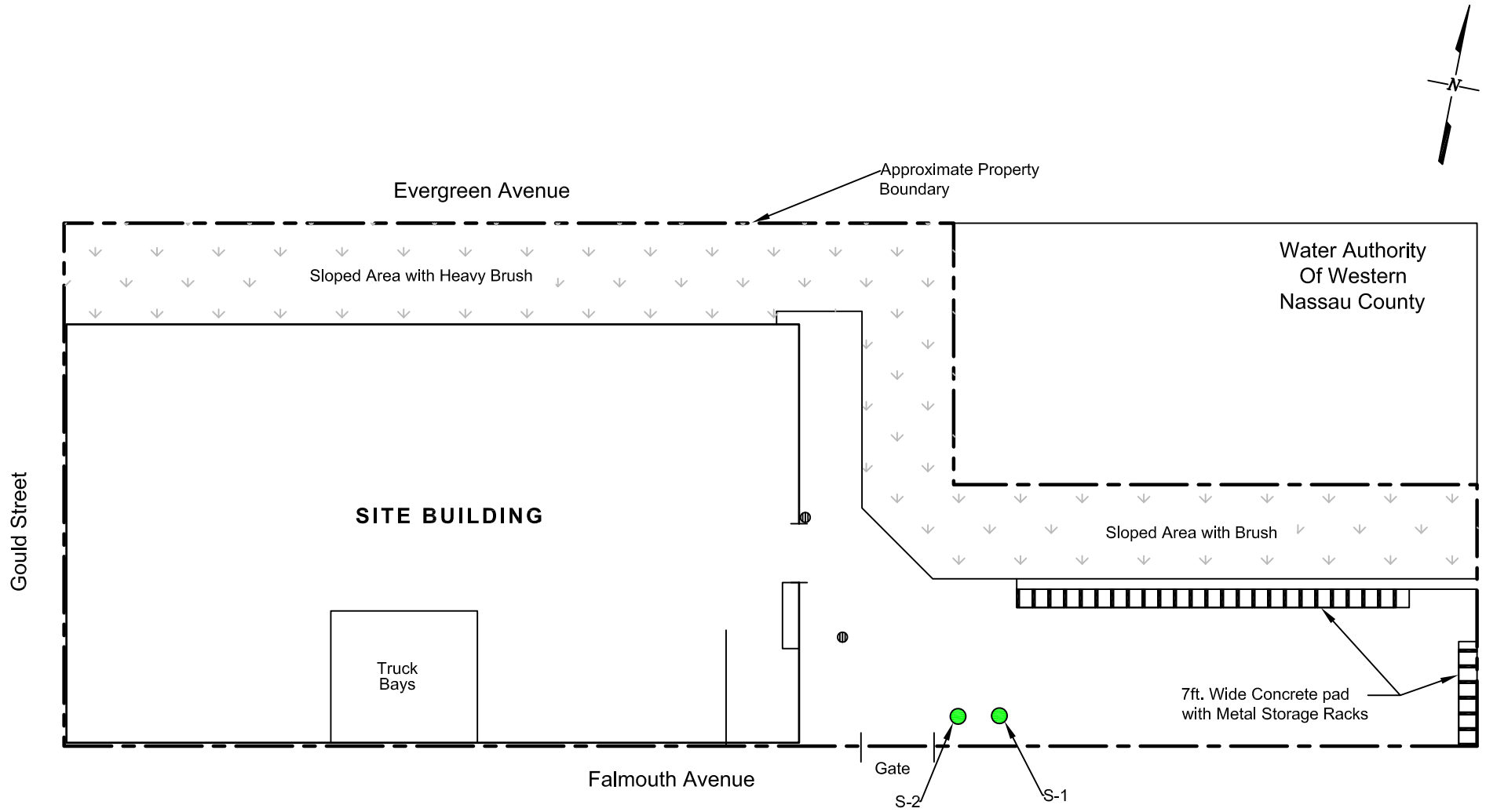

LEGEND

Former Cesspools

0 20 40 60

Graphic Scale In Feet

CA RICH CONSULTANTS, INC.

Environmental Specialists Since 1982

17 Dupont Street, Plainview, New York 11803

TITLE: Location of Former Cesspools	DATE: 9/29/2017
	SCALE: As Shown
FIGURE: 3	DRAWN BY: J.T.C./T.R.B.
DRAWING NO: QMR 2017-2	APPR. BY: J.E.P.

Former Zoe Chemical Site
1801 Falmouth Avenue
New Hyde Park, NY

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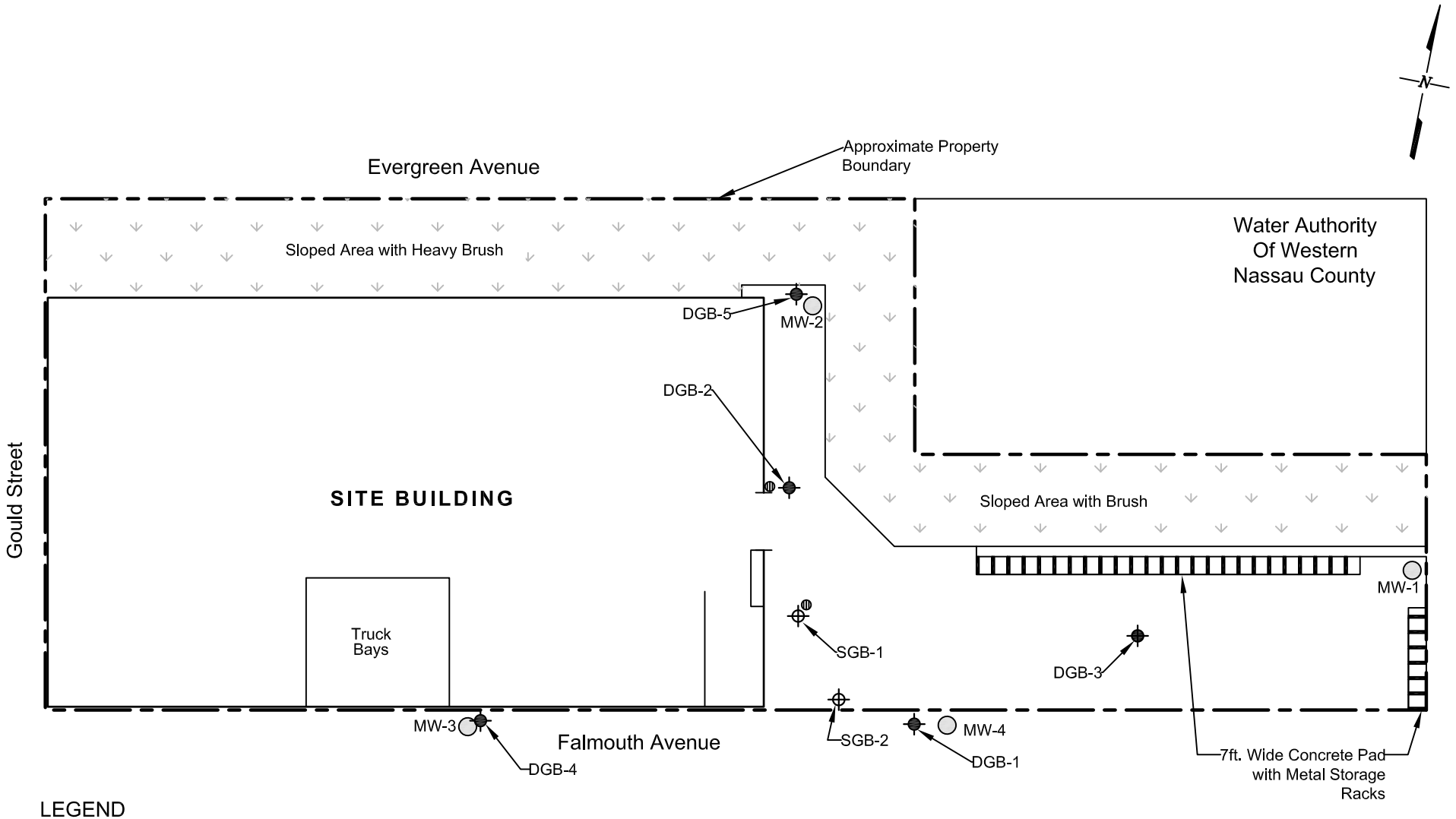

LEGEND

- 2" Diameter Groundwater Monitoring Well
- Temporary 55' or 85' Groundwater Boring
- 30' Groundwater Monitoring Well
- Temporary 30' Groundwater Boring
- Storm Drain

0 20 40 60
Graphic Scale In Feet

Note:
1. The groundwater samples depicted on this figure collected as part of the Site Characterization Report completed in July 2014.

CA RICH CONSULTANTS, INC.	
Environmental Specialists Since 1982 17 Dupont Street, Plainview, New York 11803	
TITLE: Previous Groundwater Sample Locations	DATE: 9/29/2017
	SCALE: As Shown
FIGURE: 4	Former Zoe Chemical Site 1801 Falmouth Avenue New Hyde Park, NY
DRAWING NO: QMR 2017-3	DRAWN BY: J.T.C./T.R.B.
	APPR. BY: J.E.P.

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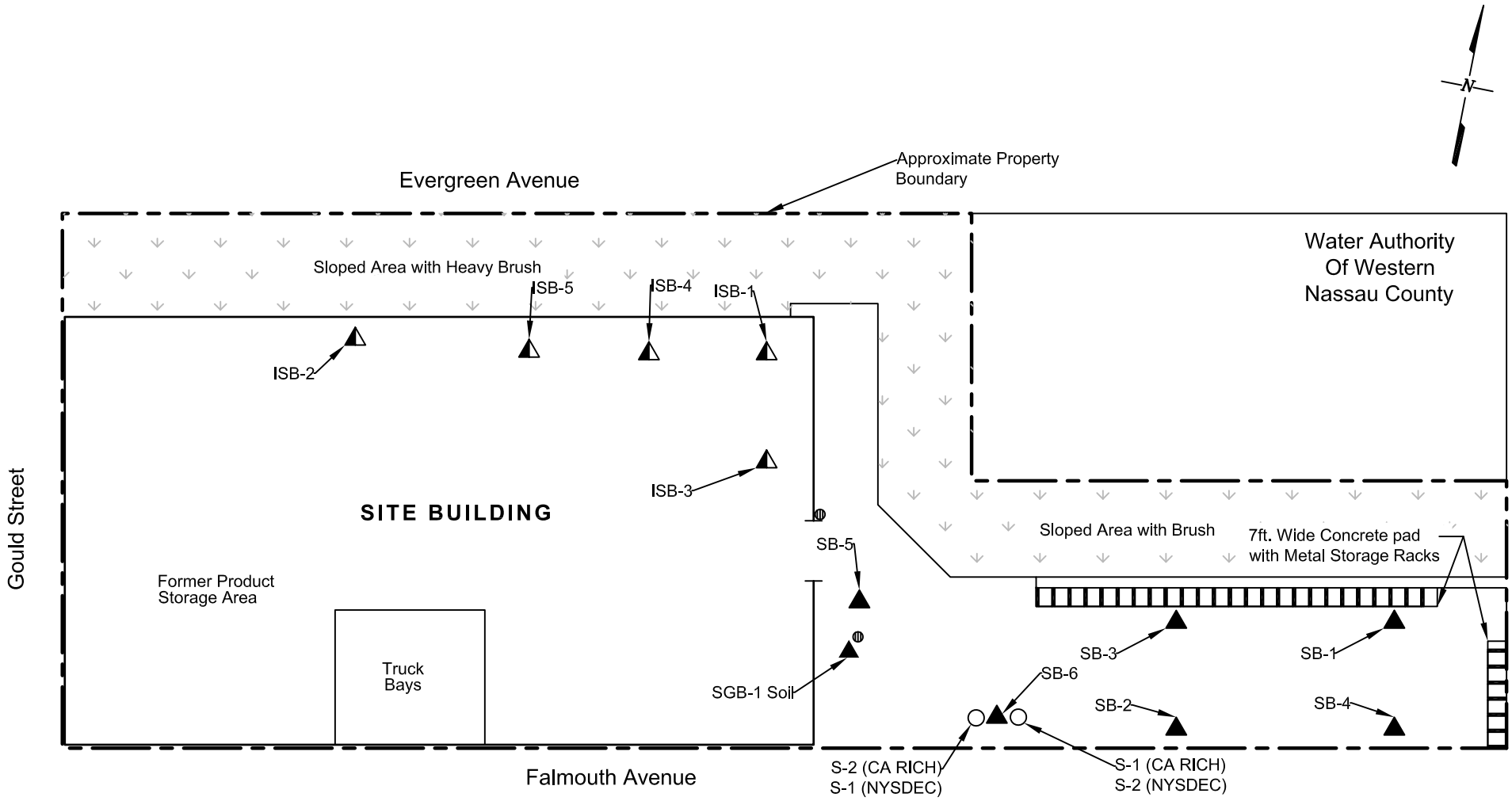

LEGEND

- ▲ Exterior 20' Soil Boring
- ◭ Interior Shallow Soil Boring
- ○ Former Cesspools
- ⓓ Storm Drain

Note:
1. The soil samples depicted on this figure collected as part of the Site Characterization Report completed in July 2014.

0 20 40 60
Graphic Scale In Feet

CA RICH CONSULTANTS, INC.
Environmental Specialists Since 1982
17 Dupont Street, Plainview, New York 11803

TITLE: Previous Soil Sample Locations	DATE: 9/29/2017
	SCALE: As Shown
FIGURE: 5	DRAWN BY: J.T.C./T.R.B.
DRAWING NO: QMR 2017-4	APPR. BY: J.E.P.

Former Zoe Chemical Site
1801 Falmouth Avenue
New Hyde Park, NY

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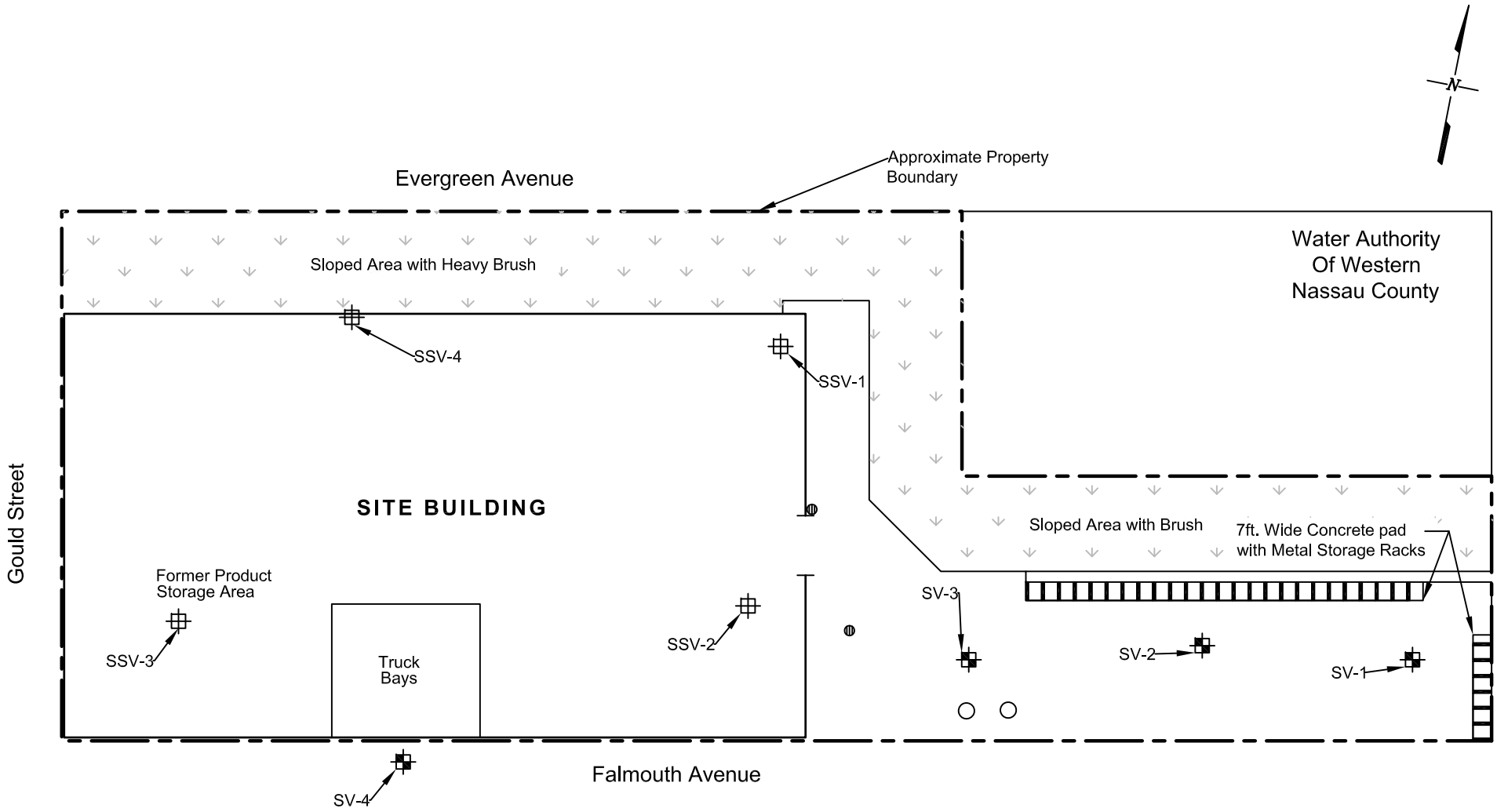

LEGEND

- 1" Sub-Slab Soil Vapor Sample
- 8' Soil Vapor Sample
- Former Cesspools

Note:
1. The soil vapor samples depicted on this figure collected as part of the Site Characterization Report completed in July 2014.

0 20 40 60
Graphic Scale In Feet

CA RICH CONSULTANTS, INC.
Environmental Specialists Since 1982
17 Dupont Street, Plainview, New York 11803

TITLE: Previous Soil Vapor Sample Locations		DATE: 9/29/2017
		SCALE: As Shown
FIGURE: 6	Former Zoe Chemical Site 1801 Falmouth Avenue New Hyde Park, NY	DRAWN BY: J.T.C./T.R.B.
DRAWING NO: QMR 2017-5		APPR. BY: J.E.P.

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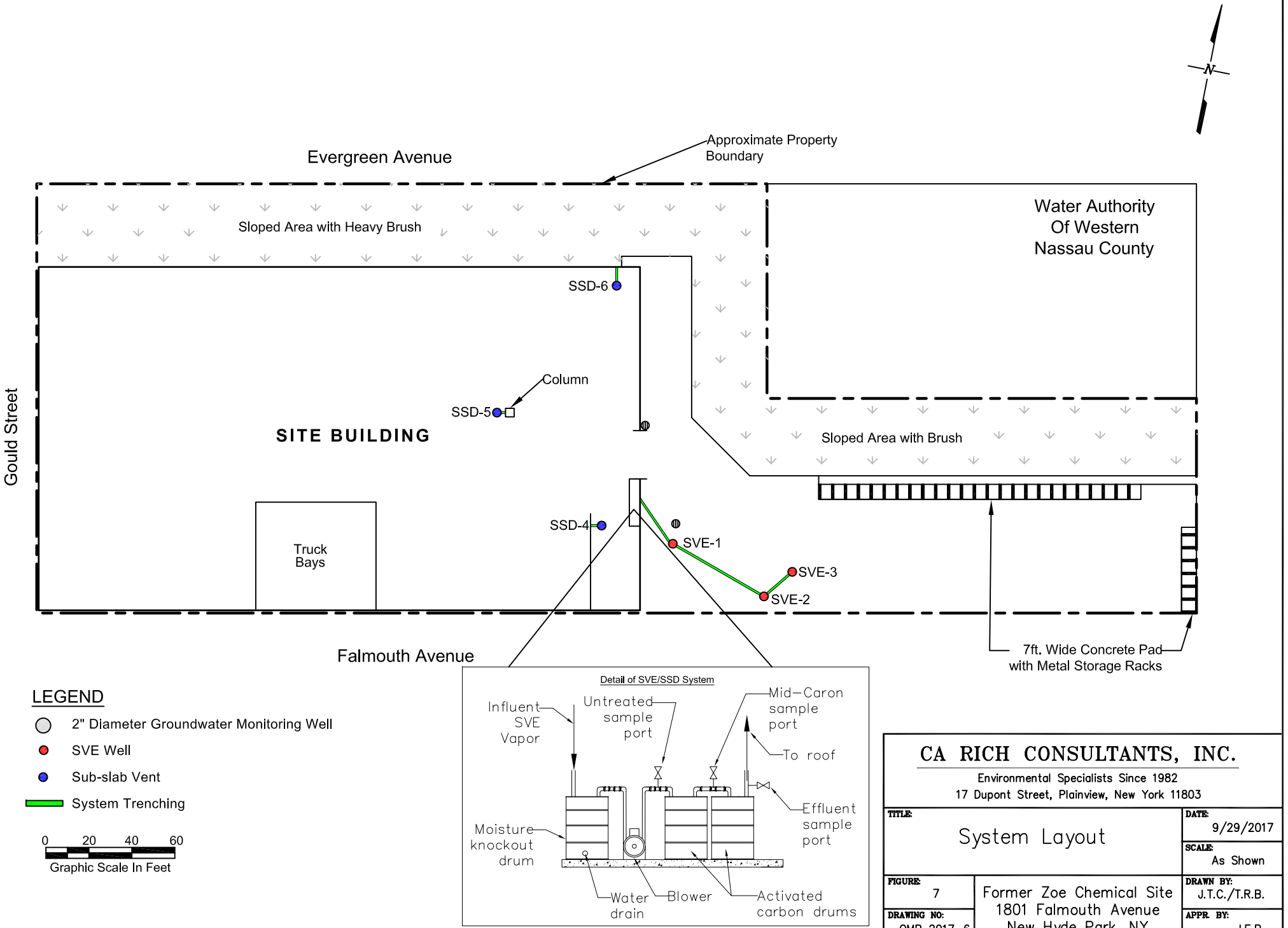

CA RICH CONSULTANTS, INC.
Environmental Specialists Since 1982
17 Dupont Street, Plainview, New York 11803

TITLE: System Layout	DATE: 9/29/2017
	SCALE: As Shown
FIGURE: 7	DRAWN BY: J.T.C./T.R.B.
DRAWING NO: QMR 2017-6	APPR. BY: J.E.P.

Former Zoe Chemical Site
1801 Falmouth Avenue
New Hyde Park, NY

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Tables and Data Plots

Table 1

Former Zoe Chemical

1801 Falmouth Avenue

New Hyde Park, NY

Site No. 1-30-211

SVE System Data Log Field Form

Date		**5/17/2017**	**9/15/2017**	**12/8/2017**
System Status on Arrival		On	On	On
System Status on Departure		On	On	On
Control Panel Hours		5057.9	7304.4	9317.1
Control Panel Hours - Time Recorded		0900	0900	0900
Operating Hours Since Last Visit		----	2246.5	2012.70
Hours Available Since Last Visit		----	2904.0	2016.00
Percent Operation (quarterly)		----	77.4	99.84
Moisture Separator Liquid Level (inches)		None	None	4 inch
Vacuum				
	SVE-1 ("WC) at Wellhead	-2.51	-2.9	-7.4
	SVE-2 ("WC) at Wellhead	-0.008	-0.120	-7.0
	SVE-3 ("WC) at Wellhead	-0.066	-0.103	-7.0
	SVE-4 ("WC) at Wellhead	-4.0	-4.1	-7.2
	SVE-5 ("WC) at Wellhead	-3.9	-4.1	-7.2
	SVE-6 ("WC) at Wellhead	-3.9	-4.1	-7.2
	System Influent ("WC)	-4.0	-24.0	-28.0
Temperature				
	Influent Temp (°F)	76.2	91	65
	Effluent Temp (°F)	105	115	94
Airflow				
	SVE-1 (CFM) at Wellhead	47.00	51.69	13.0
	SVE-2 (CFM) at Wellhead	NA	0.10	7.0
	SVE-3 (CFM) at Wellhead	2.20	0.25	6.0
	SVE-4 (CFM) at Wellhead	16.0	30	60
	SVE-5 (CFM) at Wellhead	46.0	35	57
	SVE-6 (CFM) at Wellhead	43.0	45	56
	System Influent (SCFM)	117.0	87.2	95.0
Volatile Organic Compounds				
	Pre-Carbon (ppm)	10.1	0.6	24.0
	Mid-Carbon (ppm)	1.2	1.5	0.0
	Post-Carbon (ppm)	2.0	0.4	0.0

Notes:

Carbon changeout (Both vessels) conducted on 12/1/16, 4/14/17, 8/3/17, 12/4/17

Magnehelic guage used for SVE-1, SVE-2, SVE-3, SVE-4, SVE-5, SVE-6

Table 2

Former Zoe Chemical Site
1801 Falmouth Avenue
New Hyde Park, New York
Site No. 1-30-211

System Analytical Data for Untreated Air in ug/cubic meter

Date	Days Since System Start Up	PCE	TCE	Vinyl Chloride	Cis-1,2-DCE	1,1,1-TCA	1,1-DCA	Chloroethane	Comments
9/27/2016	0	509	967	1,140	290	87,800	57,900	92,400	System startup
10/12/2016	15	519	408	77.2	< 89.6	23,500	5,910	3,560	
11/22/2016	55	374	494	66.0	170	10,400	3,920	2,930	
12/21/2016	84	249	490	< 24.3	130	8,350	2,290	837	
1/27/2017	120	200	463	< 10.2	55.5	6,380	1,150	124	
2/24/2017	147	112	133	< 5.11	18.4	2,500	595	44.6	
3/30/2017	183	71.9	81.7	< 5.11	< 7.93	4,190	627	41.2	
4/28/2017	211	118	128	< 5.11	14.6	2,610	17.2	44.3	
5/26/2017	239	89.5	88.1	< 2.89	9.36	1,940	413	29.6	
6/30/2017	273	192	138	< 5.11	19.9	2,020	676	49.6	
9/15/2017	348	175	164	< 5.11	18.8	3,090	615	78.1	
12/8/2017	431	114	107	15.6	14.2	1,630	337	282	

Notes:
< Non-detect above laboratory reporting limits
All samples recorded in micrograms per cubic meter
Time 0 = System activation date- 9/27/2016

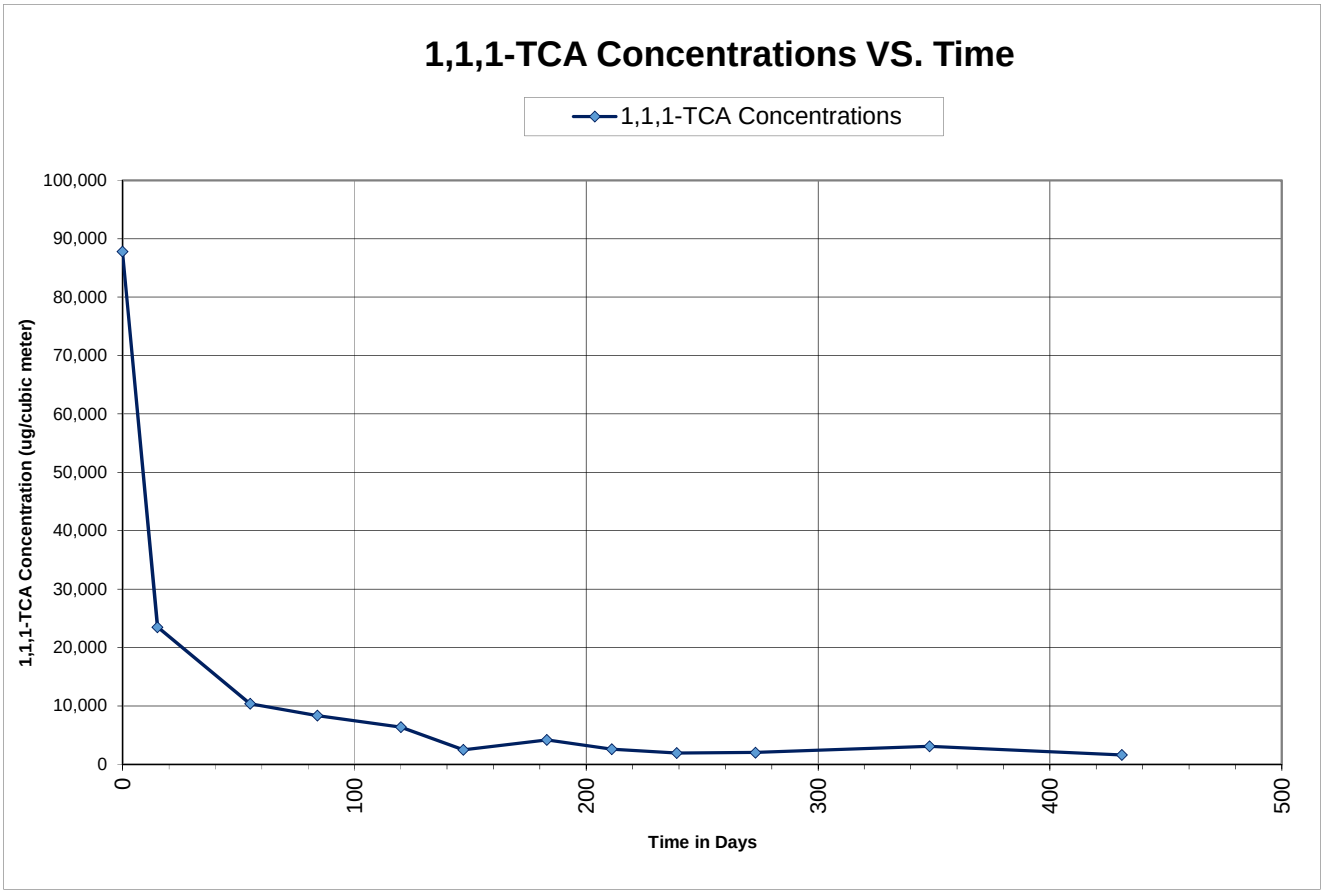


Table 3

Former Zoe Chemical Site
1801 Falmouth Avenue
New Hyde Park, New York
Site No. 1-30-211

System Analyticl Data for Mid Carbon Samples in ug/cubic meter

Date	Days Since System Start Up	PCE	TCE	Vinyl Chloride	Cis-1,2-DCE	1,1,1-TCA	1,1-DCA	Chloroethane	Comments
9/27/2016	0	No sample collected							System startup
10/12/2016	15	No sample collected							
11/22/2016	55	43.4	123	24.6	57.9	5,350	1,790	997	
12/21/2016	84	< 3.39	< 2.69	4.96	6.90	507	395	351	
1/27/2017	120	52.5	235	< 5.11	31.4	2,920	510	48.8	
2/24/2017	147	88.2	167	< 5.11	22.0	1,840	429	28.8	
3/30/2017	183	6.10	15.0	< 1.71	4.08	1,330	429	48.6	
4/28/2017	211	< 1.36	< 1.07	0.787	< 0.793	1.11	< 0.809	26.4	
5/26/2017	239	< 7.12	< 5.64	< 2.68	11.3	2,040	386	26.1	
6/30/2017	273	100	113	< 10.3	17.5	1,710	571	36.9	
9/15/2017	348	< 13.6	22.6	< 5.11	35.6	3,940	1,010	61.0	
12/8/2017	431	< 1.36	< 1.07	11.6	< 0.793	1.10	< 0.809	192	

Notes:
< Non-detect above laboratory reporting limits
All samples recorded in micrograms per cubic meter
Time 0 = System activation date- 9/27/2016

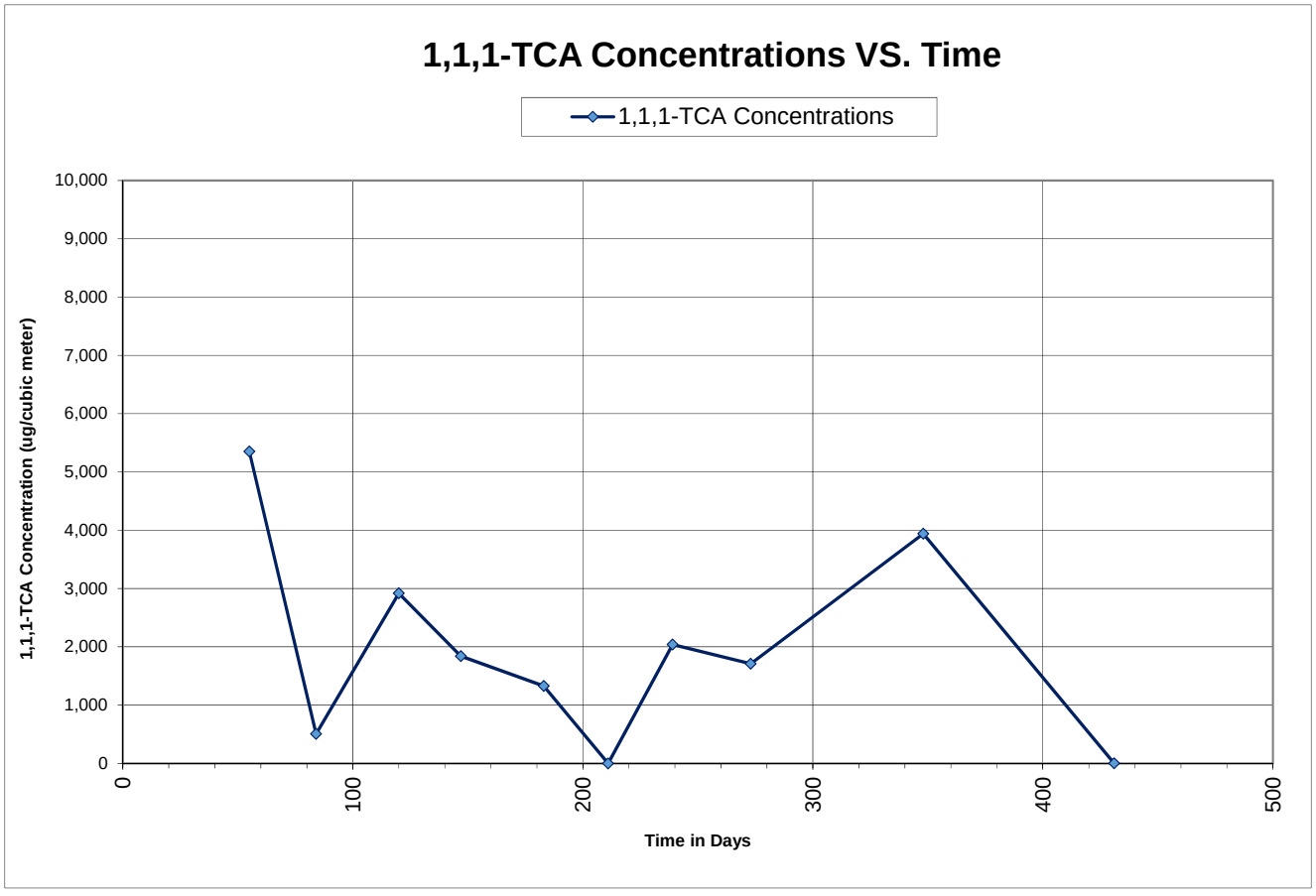


Table 4

Former Zoe Chemical Site
1801 Falmouth Avenue
New Hyde Park, New York
Site No. 1-30-211

System Analytical Data for Treated Air in ug/cubic meter

Date	Days Since System Start Up	PCE	TCE	Vinyl Chloride	Cis-1,2-DCE	1,1,1-TCA	1,1-DCA	Chloroethane	Comments
9/27/2016	0	No Sample Collected							System startup
10/12/2016	15	< 13.6	< 10.7	34.5	< 7.93	< 10.9	< 8.09	1,830	
11/22/2016	55	< 13.6	< 10.7	14.0	9.44	117	1,940	530	
12/21/2016	84	< 6.78	< 5.37	5.73	< 3.96	< 5.46	< 4.05	594	
1/27/2017	120	< 1.70	< 1.34	1.44	< 0.991	5.38	130	56.7	
2/24/2017	147	< 13.6	< 10.7	< 5.11	64.6	5,320	2,670	54.9	
3/30/2017	183	< 4.52	6.56	1.98	12.6	1,740	220	91.8	
4/28/2017	211	< 1.36	< 1.07	0.856	< 0.793	< 1.09	< 0.809	41.7	
5/26/2017	239	< 2.94	< 2.33	< 1.11	< 1.72	< 2.36	< 1.75	19.3	
6/30/2017	273	< 4.52	< 3.58	1.71	18.8	1,030	1,060	35.9	
9/15/2017	348	< 1.36	< 1.07	1.13	< 0.793	5.67	3.33	81.5	
12/8/2017	431	< 1.36	< 1.07	11.7	< 0.793	3.40	0.850	147	

Notes:
< Non-detect above laboratory reporting limits
All samples recorded in micrograms per cubic meter
Time 0 = System activation date- 9/27/2016

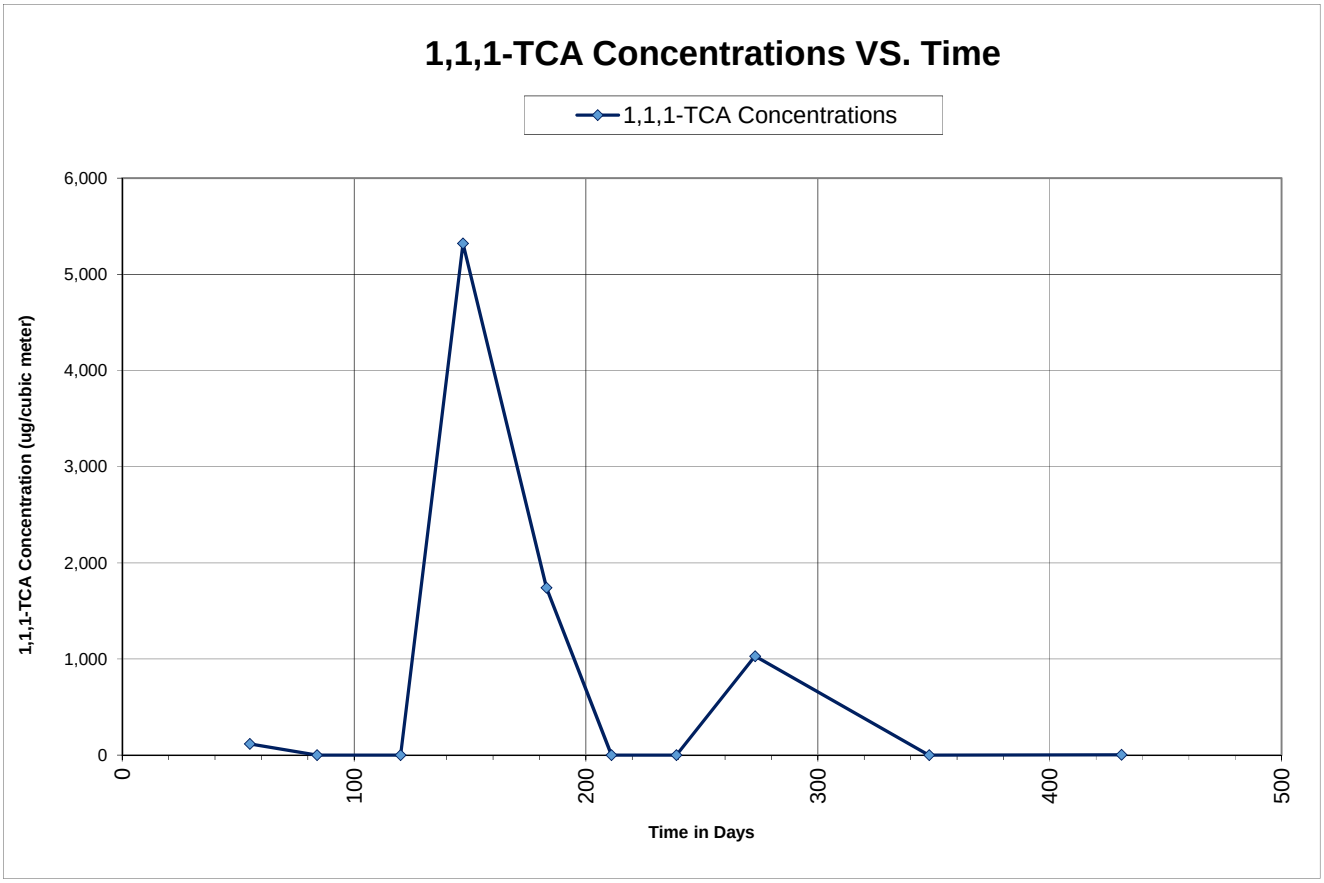


Table 5

Former Zoe Chemical Site
1801 Falmouth Avenue
New Hyde Park, New York
Site No. 1-30-211

Mass Calculation Removals for 1,1,1 TCA

Start Date	End Date	Beginning Influent Results (ug/m3)	Ending Influent Results (ug/m3)	Influent Flow (scfm)	Influent Results (lb/cf)	Influent Flow (lb/min)	Days of Operation	Minutes of Operation	Mass Removed (Pounds)	Mass Removed to Date (Pounds)
9/21/2016	10/12/2016	87,800	23,500	220	6.21473E-06	0.001367241	15	21600	29.53	15.63
10/12/2016	11/22/2016	23,500	10,400	156	1.79169E-06	0.000279504	41	59040	16.50	32.13
11/22/2016	12/21/2016	10,400	8,350	156	9.09891E-07	0.000141943	29	41760	5.93	38.06
12/21/2016	1/27/2016	8,350	6,380	156	7.20422E-07	0.000112386	36	51840	5.83	43.89
1/27/2017	2/24/2017	6,380	2,500	156	4.76327E-07	7.43071E-05	28	40320	3.00	46.88
2/24/2017	3/30/2017	2,500	4,190	156	2.86858E-07	4.47498E-05	28	40320	1.80	48.69
3/30/2017	4/28/2017	4,190	2,610	156	3.43043E-07	5.35147E-05	29	41760	2.23	50.92
4/28/2017	5/26/2017	2,610	1,940	156	2.23493E-07	3.48649E-05	28	40320	1.41	52.33
5/26/2017	6/30/2017	1,940	2,020	156	1.84163E-07	2.87295E-05	35	50400	1.45	53.77
6/30/2017	9/15/2017	2,020	3,090	87.2	2.22557E-07	2.51934E-05	77	110880	2.79	56.57
9/15/2017	12/8/2017	3,090	1,630	95.0	2.43782E-07	2.67023E-05	84	120960	3.23	59.80

Notes:
1. Mass removed is determined by adding the influent and effluent results and dividing by two for an average during that time period.

Appendix A

Monthly Progress Reports

e-mail: JProscia@carichinc.com

November 1, 2017

brian.jankauskas@dec.ny.gov

NYSDEC
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233-7015

Attention: Brian Jankauskas

Re: **Monthly Progress Report – October 2017**
Former Zoe Chemical Site
1801 Falmouth Avenue, New Hyde Park, NY
Agreement Index No.: W1-1165-12-06

Dear Mr. Jankauskas:

In accordance with the above-referenced Agreement, CA RICH is pleased to provide you with this Monthly Progress Report.

The following activities were performed this past month:

- Weekly site visits continue to be performed. The SVE system has been running with no issues.
- On October 5, 2017, the first Quarterly Monitoring Report was submitted to the NYSDEC and NYSDOH.
- On October 18, 2017, The Remedial Investigation Work Plan was submitted to the NYSDEC and NYSDOH.
- On October 19, 2017, the leaking ball valve (that was discussed in the October 2017 Quarterly Monitoring Report) was repaired.

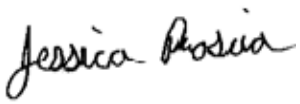
The following will be performed this month:

- Weekly site visits will continue to be performed to ensure the SVE system is running.
- As per the approved Construction Completion Report – Part B, a raw, mid, and effluent sample will be obtained from the system on a quarterly basis (December 2017).

If there are any questions regarding this letter, please do not hesitate to call our Office.

Sincerely,

CA RICH CONSULTANTS, INC.



Jessica Proscia
Project Manager

cc: Jacqueline E. Nealon
Alali Tamuno, Esq.
Michael Murphy, Esq.
Laurence Gordon
John Paul, Esq.
Mark Sergott
Charlotte Bethoney

ca RICH Environmental Specialists

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Laurence Gordon	fmrc@optonline.net
John Paul, Esq.	JPaul@bdlaw.com
Charlotte Bethoney	charlotte.bethoney@health.ny.gov

e-mail: JProscia@carichinc.com

December 4, 2017

brian.jankauskas@dec.ny.gov

NYSDEC
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233-7015

Attention: Brian Jankauskas

Re: **Monthly Progress Report – November 2017**
Former Zoe Chemical Site
1801 Falmouth Avenue, New Hyde Park, NY
Agreement Index No.: W1-1165-12-06

Dear Mr. Jankauskas:

In accordance with the above-referenced Agreement, CA RICH is pleased to provide you with this Monthly Progress Report.

The following activities were performed this past month:

- Weekly site visits continue to be performed. The SVE system has been running with no issues.
- On November 30, 2017 a proposal was signed to install a telemetry unit for the SVE system. Associated parts are being ordered.

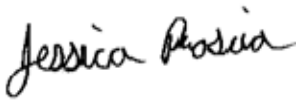
The following will be performed this month:

- A carbon change out will be performed on December 4, 2017.
- A telemetry unit will be installed for the SVE system. Weekly site visits will continue until the unit is installed to ensure the SVE system is running.
- As per the approved Construction Completion Report – Part B, a raw, mid, and effluent sample will be obtained from the system on a quarterly basis. The quarterly monitoring assignment will be performed on December 8, 2017.

If there are any questions regarding this letter, please do not hesitate to call our Office.

Sincerely,

CA RICH CONSULTANTS, INC.



Jessica Proscia
Project Manager

cc: Jacqueline E. Nealon
Alali Tamuno, Esq.
Michael Murphy, Esq.
Laurence Gordon
John Paul, Esq.
Mark Sergott
Charlotte Bethoney

email list

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Charlotte Bethoney	charlotte.bethoney@health.ny.gov

Appendix B

Laboratory Data for System Air Samples

ANALYTICAL REPORT

Lab Number:	L1745489
Client:	CA RICH CONSULTANTS, INC. 17 Dupont St. Plainview, NY 11803
ATTN:	Jessica Proscia
Phone:	(516) 576-8844
Project Name:	Not Specified
Project Number:	Not Specified
Report Date:	12/18/17

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), 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 #P330-13-00067), USFWS (Permit #LE2069641).

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

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1745489-01	RAW AIR (12/8/17)	SOIL_VAPOR	1801 FALMOUTH AVE., NEW HYDE PARK, NY	12/08/17 09:30	12/11/17
L1745489-02	MID AIR (12/8/17)	SOIL_VAPOR	1801 FALMOUTH AVE., NEW HYDE PARK, NY	12/08/17 09:45	12/11/17
L1745489-03	EFFLUENT AIR (12/8/17)	SOIL_VAPOR	1801 FALMOUTH AVE., NEW HYDE PARK, NY	12/08/17 10:00	12/11/17

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on December 7, 2017. The canister certification results are provided as an addendum.

L1745489-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

The WG1073306-5 Laboratory Duplicate RPD for dichlorodifluoromethane (31%), performed on L1745489-02, is above the acceptance criteria; however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

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

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative Date: 12/18/17

AIR

Project Name: ***Lab Number:*** L1745489

Project Number: Not Specified ***Report Date:*** 12/18/17

SAMPLE RESULTS

Lab ID:	L1745489-01 D	Date Collected:	12/08/17 09:30
Client ID:	RAW AIR (12/8/17)	Date Received:	12/11/17
Sample Location:	1801 FALMOUTH AVE., NEW HYDE P	Field Prep:	Not Specified
Matrix:	Soil_Vapor		
Anaytical Method:	48,TO-15		
Analytical Date:	12/16/17 03:30		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	2.00	--	ND	9.89	--		10
Chloromethane	ND	2.00	--	ND	4.13	--		10
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.00	--	ND	14.0	--		10
Vinyl chloride	6.12	2.00	--	15.6	5.11	--		10
1,3-Butadiene	ND	2.00	--	ND	4.42	--		10
Bromomethane	ND	2.00	--	ND	7.77	--		10
Chloroethane	107	2.00	--	282	5.28	--		10
Ethyl Alcohol	ND	50.0	--	ND	94.2	--		10
Vinyl bromide	ND	2.00	--	ND	8.74	--		10
Acetone	10.5	10.0	--	24.9	23.8	--		10
Trichlorofluoromethane	ND	2.00	--	ND	11.2	--		10
iso-Propyl Alcohol	ND	5.00	--	ND	12.3	--		10
1,1-Dichloroethene	3.90	2.00	--	15.5	7.93	--		10
tert-Butyl Alcohol	ND	5.00	--	ND	15.2	--		10
Methylene chloride	ND	5.00	--	ND	17.4	--		10
3-Chloropropene	ND	2.00	--	ND	6.26	--		10
Carbon disulfide	ND	2.00	--	ND	6.23	--		10
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	2.00	--	ND	15.3	--		10
trans-1,2-Dichloroethene	ND	2.00	--	ND	7.93	--		10
1,1-Dichloroethane	83.2	2.00	--	337	8.09	--		10
Methyl tert butyl ether	ND	2.00	--	ND	7.21	--		10
2-Butanone	ND	5.00	--	ND	14.7	--		10
cis-1,2-Dichloroethene	3.57	2.00	--	14.2	7.93	--		10
Ethyl Acetate	ND	5.00	--	ND	18.0	--		10

Project Name: ***Lab Number:*** L1745489

Project Number: Not Specified ***Report Date:*** 12/18/17

SAMPLE RESULTS

Lab ID: L1745489-01 D
Client ID: RAW AIR (12/8/17)
Sample Location: 1801 FALMOUTH AVE., NEW HYDE P

Date Collected: 12/08/17 09:30
Date Received: 12/11/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chloroform	5.30	2.00	--	25.9	9.77	--		10
Tetrahydrofuran	ND	5.00	--	ND	14.7	--		10
1,2-Dichloroethane	ND	2.00	--	ND	8.09	--		10
n-Hexane	ND	2.00	--	ND	7.05	--		10
1,1,1-Trichloroethane	298	2.00	--	1630	10.9	--		10
Benzene	ND	2.00	--	ND	6.39	--		10
Carbon tetrachloride	ND	2.00	--	ND	12.6	--		10
Cyclohexane	ND	2.00	--	ND	6.88	--		10
1,2-Dichloropropane	ND	2.00	--	ND	9.24	--		10
Bromodichloromethane	ND	2.00	--	ND	13.4	--		10
1,4-Dioxane	ND	2.00	--	ND	7.21	--		10
Trichloroethene	19.9	2.00	--	107	10.7	--		10
2,2,4-Trimethylpentane	ND	2.00	--	ND	9.34	--		10
Heptane	ND	2.00	--	ND	8.20	--		10
cis-1,3-Dichloropropene	ND	2.00	--	ND	9.08	--		10
4-Methyl-2-pentanone	ND	5.00	--	ND	20.5	--		10
trans-1,3-Dichloropropene	ND	2.00	--	ND	9.08	--		10
1,1,2-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Toluene	ND	2.00	--	ND	7.54	--		10
2-Hexanone	ND	2.00	--	ND	8.20	--		10
Dibromochloromethane	ND	2.00	--	ND	17.0	--		10
1,2-Dibromoethane	ND	2.00	--	ND	15.4	--		10
Tetrachloroethene	16.8	2.00	--	114	13.6	--		10
Chlorobenzene	ND	2.00	--	ND	9.21	--		10
Ethylbenzene	ND	2.00	--	ND	8.69	--		10
p/m-Xylene	ND	4.00	--	ND	17.4	--		10
Bromoform	ND	2.00	--	ND	20.7	--		10
Styrene	ND	2.00	--	ND	8.52	--		10

Project Name: ***Lab Number:*** L1745489

Project Number: Not Specified ***Report Date:*** 12/18/17

SAMPLE RESULTS

Lab ID: L1745489-01 D
Client ID: RAW AIR (12/8/17)
Sample Location: 1801 FALMOUTH AVE., NEW HYDE P

Date Collected: 12/08/17 09:30
Date Received: 12/11/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1,1,2,2-Tetrachloroethane	ND	2.00	--	ND	13.7	--		10
o-Xylene	ND	2.00	--	ND	8.69	--		10
4-Ethyltoluene	ND	2.00	--	ND	9.83	--		10
1,3,5-Trimethylbenzene	ND	2.00	--	ND	9.83	--		10
1,2,4-Trimethylbenzene	ND	2.00	--	ND	9.83	--		10
Benzyl chloride	ND	2.00	--	ND	10.4	--		10
1,3-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,4-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,2-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,2,4-Trichlorobenzene	ND	2.00	--	ND	14.8	--		10
Hexachlorobutadiene	ND	2.00	--	ND	21.3	--		10

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	84		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	90		60-140

Project Name: ***Lab Number:*** L1745489

Project Number: Not Specified ***Report Date:*** 12/18/17

SAMPLE RESULTS

Lab ID:	L1745489-02	Date Collected:	12/08/17 09:45
Client ID:	MID AIR (12/8/17)	Date Received:	12/11/17
Sample Location:	1801 FALMOUTH AVE., NEW HYDE P	Field Prep:	Not Specified
Matrix:	Soil_Vapor		
Anaytical Method:	48,TO-15		
Analytical Date:	12/16/17 01:55		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.728	0.200	--	3.60	0.989	--		1
Chloromethane	0.306	0.200	--	0.632	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.219	0.200	--	1.53	1.40	--		1
Vinyl chloride	4.55	0.200	--	11.6	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	72.7	0.200	--	192	0.528	--		1
Ethyl Alcohol	9.33	5.00	--	17.6	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	1.01	1.00	--	2.40	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	1.40	0.500	--	4.86	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
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

Project Name: ***Lab Number:*** L1745489

Project Number: Not Specified ***Report Date:*** 12/18/17

SAMPLE RESULTS

Lab ID: L1745489-02 Date Collected: 12/08/17 09:45
Client ID: MID AIR (12/8/17) Date Received: 12/11/17
Sample Location: 1801 FALMOUTH AVE., NEW HYDE P Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	0.201	0.200	--	1.10	1.09	--		1
Benzene	0.253	0.200	--	0.808	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1

Project Name: ***Lab Number:*** L1745489

Project Number: Not Specified ***Report Date:*** 12/18/17

SAMPLE RESULTS

Lab ID: L1745489-02 Date Collected: 12/08/17 09:45

Client ID: MID AIR (12/8/17) Date Received: 12/11/17

Sample Location: 1801 FALMOUTH AVE., NEW HYDE P Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	81		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	85		60-140

Project Name: ***Lab Number:*** L1745489

Project Number: Not Specified ***Report Date:*** 12/18/17

SAMPLE RESULTS

Lab ID: L1745489-03
Client ID: EFFLUENT AIR (12/8/17)
Sample Location: 1801 FALMOUTH AVE., NEW HYDE P
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/16/17 03:00
Analyst: RY

Date Collected: 12/08/17 10:00
Date Received: 12/11/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.814	0.200	--	4.03	0.989	--		1
Chloromethane	0.338	0.200	--	0.698	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	4.57	0.200	--	11.7	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	55.7	0.200	--	147	0.528	--		1
Ethyl Alcohol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	0.523	0.500	--	1.82	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	0.210	0.200	--	0.850	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1

Project Name: ***Lab Number:*** L1745489

Project Number: Not Specified ***Report Date:*** 12/18/17

SAMPLE RESULTS

Lab ID: L1745489-03 Date Collected: 12/08/17 10:00
Client ID: EFFLUENT AIR (12/8/17) Date Received: 12/11/17
Sample Location: 1801 FALMOUTH AVE., NEW HYDE P Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	0.624	0.200	--	3.40	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1

Project Name: ***Lab Number:*** L1745489

Project Number: Not Specified ***Report Date:*** 12/18/17

SAMPLE RESULTS

Lab ID: L1745489-03 Date Collected: 12/08/17 10:00
Client ID: EFFLUENT AIR (12/8/17) Date Received: 12/11/17
Sample Location: 1801 FALMOUTH AVE., NEW HYDE P Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	81		60-140
Bromochloromethane	86		60-140
chlorobenzene-d5	82		60-140

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/15/17 14:35

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1073306-4								
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: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/15/17 14:35

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1073306-4								
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
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
1,1,1-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
Tertiary-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/15/17 14:35

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1073306-4								
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

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/15/17 14:35

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1073306-4								
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
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

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/15/17 14:35

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1073306-4								
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: Not Specified

Project Number: Not Specified

Lab Number: L1745489

Report Date: 12/18/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1073306-3								
Chlorodifluoromethane	84		-		70-130	-		
Propylene	91		-		70-130	-		
Propane	79		-		70-130	-		
Dichlorodifluoromethane	97		-		70-130	-		
Chloromethane	93		-		70-130	-		
1,2-Dichloro-1,1,2,2-tetrafluoroethane	108		-		70-130	-		
Methanol	76		-		70-130	-		
Vinyl chloride	100		-		70-130	-		
1,3-Butadiene	98		-		70-130	-		
Butane	82		-		70-130	-		
Bromomethane	105		-		70-130	-		
Chloroethane	98		-		70-130	-		
Ethyl Alcohol	78		-		70-130	-		
Dichlorofluoromethane	98		-		70-130	-		
Vinyl bromide	105		-		70-130	-		
Acrolein	81		-		70-130	-		
Acetone	103		-		70-130	-		
Acetonitrile	84		-		70-130	-		
Trichlorofluoromethane	118		-		70-130	-		
iso-Propyl Alcohol	96		-		70-130	-		
Acrylonitrile	90		-		70-130	-		
Pentane	84		-		70-130	-		
Ethyl ether	78		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L1745489

Report Date: 12/18/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1073306-3								
1,1-Dichloroethene	103		-		70-130	-		
tert-Butyl Alcohol	86		-		70-130	-		
Methylene chloride	104		-		70-130	-		
3-Chloropropene	97		-		70-130	-		
Carbon disulfide	107		-		70-130	-		
1,1,2-Trichloro-1,2,2-Trifluoroethane	120		-		70-130	-		
trans-1,2-Dichloroethene	93		-		70-130	-		
1,1-Dichloroethane	97		-		70-130	-		
Methyl tert butyl ether	87		-		70-130	-		
Vinyl acetate	97		-		70-130	-		
2-Butanone	88		-		70-130	-		
cis-1,2-Dichloroethene	96		-		70-130	-		
Ethyl Acetate	101		-		70-130	-		
Chloroform	109		-		70-130	-		
Tetrahydrofuran	82		-		70-130	-		
2,2-Dichloropropane	94		-		70-130	-		
1,2-Dichloroethane	104		-		70-130	-		
n-Hexane	89		-		70-130	-		
Isopropyl Ether	88		-		70-130	-		
Ethyl-Tert-Butyl-Ether	79		-		70-130	-		
1,1,1-Trichloroethane	100		-		70-130	-		
1,1-Dichloropropene	88		-		70-130	-		
Benzene	94		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L1745489

Report Date: 12/18/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1073306-3								
Carbon tetrachloride	108		-		70-130	-		
Cyclohexane	88		-		70-130	-		
Tertiary-Amyl Methyl Ether	80		-		70-130	-		
Dibromomethane	96		-		70-130	-		
1,2-Dichloropropane	95		-		70-130	-		
Bromodichloromethane	102		-		70-130	-		
1,4-Dioxane	94		-		70-130	-		
Trichloroethene	103		-		70-130	-		
2,2,4-Trimethylpentane	94		-		70-130	-		
Methyl Methacrylate	93		-		70-130	-		
Heptane	85		-		70-130	-		
cis-1,3-Dichloropropene	97		-		70-130	-		
4-Methyl-2-pentanone	89		-		70-130	-		
trans-1,3-Dichloropropene	83		-		70-130	-		
1,1,2-Trichloroethane	105		-		70-130	-		
Toluene	100		-		70-130	-		
1,3-Dichloropropane	96		-		70-130	-		
2-Hexanone	94		-		70-130	-		
Dibromochloromethane	115		-		70-130	-		
1,2-Dibromoethane	105		-		70-130	-		
Butyl Acetate	85		-		70-130	-		
Octane	86		-		70-130	-		
Tetrachloroethene	106		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L1745489

Report Date: 12/18/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1073306-3								
1,1,1,2-Tetrachloroethane	102		-		70-130	-		
Chlorobenzene	104		-		70-130	-		
Ethylbenzene	102		-		70-130	-		
p/m-Xylene	103		-		70-130	-		
Bromoform	117		-		70-130	-		
Styrene	100		-		70-130	-		
1,1,2,2-Tetrachloroethane	115		-		70-130	-		
o-Xylene	107		-		70-130	-		
1,2,3-Trichloropropane	97		-		70-130	-		
Nonane (C9)	86		-		70-130	-		
Isopropylbenzene	100		-		70-130	-		
Bromobenzene	95		-		70-130	-		
o-Chlorotoluene	102		-		70-130	-		
n-Propylbenzene	105		-		70-130	-		
p-Chlorotoluene	97		-		70-130	-		
4-Ethyltoluene	110		-		70-130	-		
1,3,5-Trimethylbenzene	111		-		70-130	-		
tert-Butylbenzene	107		-		70-130	-		
1,2,4-Trimethylbenzene	117		-		70-130	-		
Decane (C10)	99		-		70-130	-		
Benzyl chloride	113		-		70-130	-		
1,3-Dichlorobenzene	118		-		70-130	-		
1,4-Dichlorobenzene	116		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1073306-3								
sec-Butylbenzene	107		-		70-130	-		
p-Isopropyltoluene	99		-		70-130	-		
1,2-Dichlorobenzene	116		-		70-130	-		
n-Butylbenzene	108		-		70-130	-		
1,2-Dibromo-3-chloropropane	106		-		70-130	-		
Undecane	107		-		70-130	-		
Dodecane (C12)	122		-		70-130	-		
1,2,4-Trichlorobenzene	129		-		70-130	-		
Naphthalene	110		-		70-130	-		
1,2,3-Trichlorobenzene	115		-		70-130	-		
Hexachlorobutadiene	122		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1073306-5 QC Sample: L1745489-02 Client ID: MID AIR (12/8/17)						
Dichlorodifluoromethane	0.728	0.530	ppbV	**31**	Q	25
Chloromethane	0.306	0.325	ppbV	6		25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.219	0.209	ppbV	5		25
Vinyl chloride	4.55	4.45	ppbV	2		25
1,3-Butadiene	ND	ND	ppbV	NC		25
Bromomethane	ND	ND	ppbV	NC		25
Chloroethane	72.7	73.4	ppbV	1		25
Ethyl Alcohol	9.33	9.22	ppbV	1		25
Vinyl bromide	ND	ND	ppbV	NC		25
Acetone	1.01	1.08	ppbV	7		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	1.40	1.39	ppbV	1		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

Lab Duplicate Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1073306-5 QC Sample: L1745489-02 Client ID: MID AIR (12/8/17)						
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	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	0.201	ND	ppbV	NC		25
Benzene	0.253	0.237	ppbV	7		25
Carbon tetrachloride	ND	ND	ppbV	NC		25
Cyclohexane	ND	ND	ppbV	NC		25
1,2-Dichloropropane	ND	ND	ppbV	NC		25
Bromodichloromethane	ND	ND	ppbV	NC		25
1,4-Dioxane	ND	ND	ppbV	NC		25
Trichloroethene	ND	ND	ppbV	NC		25
2,2,4-Trimethylpentane	ND	ND	ppbV	NC		25
Heptane	ND	ND	ppbV	NC		25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC		25
4-Methyl-2-pentanone	ND	ND	ppbV	NC		25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1073306-5 QC Sample: L1745489-02 Client ID: MID AIR (12/8/17)						
Toluene	ND	ND	ppbV	NC		25
2-Hexanone	ND	ND	ppbV	NC		25
Dibromochloromethane	ND	ND	ppbV	NC		25
1,2-Dibromoethane	ND	ND	ppbV	NC		25
Tetrachloroethene	ND	ND	ppbV	NC		25
Chlorobenzene	ND	ND	ppbV	NC		25
Ethylbenzene	ND	ND	ppbV	NC		25
p/m-Xylene	ND	ND	ppbV	NC		25
Bromoform	ND	ND	ppbV	NC		25
Styrene	ND	ND	ppbV	NC		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25
o-Xylene	ND	ND	ppbV	NC		25
4-Ethyltoluene	ND	ND	ppbV	NC		25
1,3,5-Trimethylbenzene	ND	ND	ppbV	NC		25
1,2,4-Trimethylbenzene	ND	ND	ppbV	NC		25
Benzyl chloride	ND	ND	ppbV	NC		25
1,3-Dichlorobenzene	ND	ND	ppbV	NC		25
1,4-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2,4-Trichlorobenzene	ND	ND	ppbV	NC		25
Hexachlorobutadiene	ND	ND	ppbV	NC		25

Project Name:

Lab Number: L1745489

Project Number:

Report Date: 12/18/17

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1745489-01	RAW AIR (12/8/17)	1680	6.0L Can	12/07/17	254722	L1744034-01	Pass	-29.8	-1.0	-	-	-	-
L1745489-02	MID AIR (12/8/17)	2053	6.0L Can	12/07/17	254722	L1744034-01	Pass	-29.6	-1.0	-	-	-	-
L1745489-03	EFFLUENT AIR (12/8/17)	1610	6.0L Can	12/07/17	254722	L1744034-01	Pass	-29.7	-4.2	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1744034
Report Date: 12/18/17

Air Canister Certification Results

Lab ID: L1744034-01
Client ID: CAN 2123 SHELF 52
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/01/17 16:11
Analyst: AR

Date Collected: 11/30/17 16:00
Date Received: 12/01/17
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1744034
Report Date: 12/18/17

Air Canister Certification Results

Lab ID: L1744034-01
Client ID: CAN 2123 SHELF 52
Sample Location:
Date Collected: 11/30/17 16:00
Date Received: 12/01/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
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
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
1,1,1-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
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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1744034
Report Date: 12/18/17

Air Canister Certification Results

Lab ID: L1744034-01
Client ID: CAN 2123 SHELF 52
Sample Location:
Date Collected: 11/30/17 16:00
Date Received: 12/01/17
Field Prep: Not Specified

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1744034
Report Date: 12/18/17

Air Canister Certification Results

Lab ID: L1744034-01
Client ID: CAN 2123 SHELF 52
Sample Location:
Date Collected: 11/30/17 16:00
Date Received: 12/01/17
Field Prep: Not Specified

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

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1744034
Report Date: 12/18/17

Air Canister Certification Results

Lab ID: L1744034-01
Client ID: CAN 2123 SHELF 52
Sample Location:
Date Collected: 11/30/17 16:00
Date Received: 12/01/17
Field Prep: Not Specified

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

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1744034
Report Date: 12/18/17

Air Canister Certification Results

Lab ID: L1744034-01
Client ID: CAN 2123 SHELF 52
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/01/17 16:11
Analyst: AR

Date Collected: 11/30/17 16:00
Date Received: 12/01/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		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: L1744034
Report Date: 12/18/17

Air Canister Certification Results

Lab ID: L1744034-01
Client ID: CAN 2123 SHELF 52
Sample Location:
Date Collected: 11/30/17 16:00
Date Received: 12/01/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1744034
Report Date: 12/18/17

Air Canister Certification Results

Lab ID: L1744034-01
Client ID: CAN 2123 SHELF 52
Sample Location:
Date Collected: 11/30/17 16:00
Date Received: 12/01/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
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	97		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	91		60-140

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L1745489
Report Date: 12/18/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1745489-01A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L1745489-02A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L1745489-03A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)

*Values in parentheses indicate holding time in days

Project Name:	Not Specified	**Lab Number:**	L1745489
Project Number:	Not Specified	**Report Date:**	12/18/17

GLOSSARY

Acronyms

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).
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.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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

Terms

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

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

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

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

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

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report

Project Name:	Not Specified	**Lab Number:**	L1745489
Project Number:	Not Specified	**Report Date:**	12/18/17

Data Qualifiers

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.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L1745489
Report Date: 12/18/17

REFERENCES

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

AIR ANALYSIS

PAGE 1 OF 1

ALPHA ANALYTICAL — CHAIN OF CUSTODY

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

Date Rec'd in Lab: 12/12/17

ALPHA Job #: L1745489

Client Information

Client: Ca Rich Consultants
Address: 17 DuPont Street Plainview NY 11803
Phone: 516-576-8844
Fax:
Email: JPrascia@carichinc.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name:
Project Location: 1801 Falmouth Ave New Hyde Park, NY
~~Project #~~:
Project Manager: Jessica Prascia
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	TO-15	TO-15 SIM	APH (Subject Non-petroleum HCs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
45489-01	Raw Air (12/8/17)	12/8/17	9:30	9:30	-30	4	SV	JP	6L	1680	/	X					
02	Mid Air (12/8/17)	12/8/17	9:45	9:45	-30	4	SV	JP	6L	2053	/	X					
03	Effluent Air (12/8/17)	12/8/17	10:00	10:00	-30	4	SV	JP	6L	1610	/	X					

*SAMPLE MATRIX CODES

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

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
12/12 0700	12/12/17 1925	12/12	12/12/17 1144
12/12/17 0700		12/12/17 0700	

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